Health and access to health services

of rural-to-urban migrant populations in Viet Nam

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Dekan

Dedicated to my family and friends

and especially to my husband.

Tặng gia đình và bạn bè của tôi

đặc biệt dành riêng tặng chồng tôi.

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Summary

Viet Nam has increasing internal migration since the Renovation (*Doi Moi*) in 1986. Migration flows – particularly rural-to-urban migration – have positive and negative effects to migrants, their family, and socio-economics in their places of origin and of destination. On the one hand, migration is an opportunity for improving wages of migrants, for ensuring economic security of their family, and for contributing to social and economic developments of the country. On the other hand, migration bears risks to migrants – especially health-related risks – and pressures on infrastructure development and social services at destinations. Many studies on health issues of migrants suggested that rural-to-urban migrants are more vulnerable to ill-health and have less access to health services than non-migrants. However, studies up to date did not use population-based and comparative approaches between migrant and non-migrant populations nor validated study tools. The studies of this dissertation examined the health status of non-migrants and 03 groups of rural-to-urban migrants: migrants working in industrial zones (IZ), migrants working in private small enterprise (PSE), and seasonal migrants. In addition, studies have assessed the access to health services and identified barriers to the access of migrants.

The dissertation used a mixed qualitative-quantitative approach in four subsequent study phases. **Phase 1** analyzed secondary data from the 1989, 1999, and 2009 national censuses to characterize trends and patterns of rural-to-urban migration in Viet Nam. We could show that inter-provincial migration flows have changed dramatically over time. There was an increase in relative and absolute migration flows, an inversion of the male-female ratio with higher proportions of women in 2009 than in previous years, and a decrease in the average age of migrants. We could also confirm the relationship between migration and provincial socio-economic status (i.e. monthly income per capita) and urbanization (i.e. proportion of urban population). These findings reflect an unequally growing labor market in Vietnamese provinces. The increase of migration flows challenges the national health system to ensure access to health care services and health insurances, as well as to develop health services adapted to these populations.

In **Phase 2** we have evaluated the health status of migrants by using the Short Form 36 version 2 (SF-36v2). The SF-36v2 is a validated and widely used health status assessment form. In this phase, we have also compared health status and the access to health services of migrants with those of non-migrants. Findings confirmed the reliability of the Vietnamese SF-36v2. Findings also showed that seasonal migrants were more likely to have physical ill-health than other groups, while migrants working in IZ were more likely to have mental ill-health than non-migrants and other migrant populations. Health insurance registration was an important factor related to the utilization of health care services and migrants were less likely to use health services than non-migrants in the same municipalities.

Among migrant populations, seasonal migrants had the lowest health service utilization frequency. Indeed, low income is the main obstacle of the utilization of health care services for seasonal migrants. The outcomes of this are that they pay less attention to their health, attend in available health programs at the destination, and are less health care insured. These, in return, encourage self-treatment of seasonal migrants.

Findings from Phase 1 and Phase 2 also showed that female migrants accounted for the highest proportion of the whole migrant population. They faced many health risks, particularly reproductive health of female migrants working in IZ. **Phase 3**, therefore, focused on the evaluation of access to health services for reproductive tract infections (RTIs) among female migrants working in IZ. Findings of this phase showed that health insurance was an important factor influencing the utilization of health services, but also social-cultural factors such as traditional norms – that integrate reproductive health problems with sexual relationship. The latter led to shame of female migrants to seek health services for RTIs and other reproductive health services. Finally, in **Phase 4**, we have designed an intervention proposal for improved utilization of reproductive health services for female migrants aged 18-49 working in IZ in Viet Nam. This intervention program will use available resources and should increase health insurance coverage and their application to reproductive health care services of female migrants. It also aims to increase knowledge of these health issues and possibilities of the access to health care services of female migrants.

Based on the findings of my dissertation, I could formulate recommendations for future interventions and research, for policy makers, health service providers at destination, employers

of migrants, and migrants. Briefly, policy makers should recognize that migrants are vulnerable to ill-health, including both physical and mental health. For specific interventions such as reproductive health (e.g. RTIs) they are a priority group. Health service providers should integrate adapted health programs for migrants into their routine health programs, for example, periodic gynaecological examination programs, expanded program on immunization (EPI), and other health promotion programs – which better ensures sustainability of intervention programs. Employers should comply with laws of social and health insurance for employees, especially migrant employees. Moreover, they should strengthen the capacity of their health care units and collaborate with local health systems to provide health care services to migrant employees. Finally, migrants should register for temporary residence at the destination because this will provide them rights in accessing social and health services. Also, they should have knowledge about benefits of health insurance and available kinds of health insurances. Migrants should have better access to health promotion programs and pay more attention to their health.

Zusammenfassung

Gesundheit und Zugang zu Gesundheitsdiensten von Land-Stadt Migranten in Vietnam

Seit der 'Renovation' (*Doi Moi*) in 1986 nimmt die Zahl der internen Migration in Vietnam zu. Migration, hauptsächlich vom Land zur Stadt, hat sowohl positive als auch negative Einflüsse auf Migranten, deren Familien, und auf die sozioökonomischen Umstände in der Herkunfts- als auch den Destinationsgebieten. Migration ist eine Gelegenheit um das Einkommen zu verbessern, um die wirtschaftliche Sicherheit der Familie zu verbessern, und um zur wirtschaftlichen Entwicklung des Landes beizutragen. Migration birgt hingegen auch Risiken, u.a. Gesundheitsrisiken. Die Anforderungen an die Infrastruktur und die sozialen Dienste in den Destinationsgebieten werden erhöht. Frühere Studien über Migrationspolitik in Vietnam haben gezeigt, dass Land-Stadt Migranten anfälliger für Krankheiten sind und dass sie weniger Zugang zu Gesundheitsdiensten haben als die sesshafte Bevölkerung. Aber bisher hat keine Studie eine Bevölkerungs-basierte Stichprobe benutzt und die Studien waren nicht vergleichend zwischen Migranten und Nicht-Migranten konzipiert. Ebenfalls wurden keine validierten Ansätze, um den Gesundheitszustand zu bestimmen, benutzt. Diese Dissertation beschreibt vergleichend die Gesundheit von Migranten und Nicht-Migranten. Migranten waren in drei Gruppen gegliedert: jene, die in Industriezonen arbeiten; Migranten, die in kleinen privaten Unternehmungen arbeiten und saisonale Migranten. Neben ihrem Gesundheitsstatus wurde ihr Zugang zu Gesundheitsdiensten untersucht.

Wir haben qualitative und quantitative Ansätze benutzt. In einer **ersten Phase** wurden zugängliche Daten von den nationalen Volkszählungen 1989, 1999, and 2009 ausgewertet um Muster und Trends von Land-Stadt Migration in Vietnam zu beschreiben. Migrationsflüsse zwischen Provinzen haben stark zugenommen, wie auch der absolute und relative Anteil von Migranten in der Bevölkerung. Der Anteil der Frauen unter den Migranten war 2009 erstmals grösser als jener der Männer, und das Durchschnittsalter der Migranten hat kontinuierlich abgenommen. Wir konnten die Migrationsflüsse in Bezug mit dem durchschnittlichem Monatseinkommen einer Provinz und dem Verstädterungsgrad darstellen. Dies deutet auf einen ungleich wachsenden Arbeitsmarkt in Vietnameischen Provinzen hin. Die Zunahme der

Migration stellt Herausforderungen an das nationale Gesundheitssystem dar, welches den Zugang zu Gesundheitsdiensten und Krankenversicherungen gewährleisten soll, aber auch angepasste Ansätze für Migranten entwickeln.

In der **zweiten Phase** haben wir den Gesundheitszustand von Migranten mit dem Fragebogen ‚Short Form 36 version 2' evaluiert. Der SF-36v2 ist ein weit benutzter und validiertes Werkzeug. Wir haben den Gesundheitszustand mit dem Zugang zu Gesundheitsdiensten zwischen Migranten und Nicht-Migranten verglichen. So konnten wir auch die Zuverlässigkeit vom Vietnameischen SF-36v2 bestätigen. Saisonale Migranten hatten öfters physische Leiden als die anderen Gruppen, wobei Migranten in Industriezonen öfters psychische Leiden hatten. Eine Krankenversicherung war ein wichtiger erklärender Faktor für die Benutzung der Gesundheitsdienste und Migranten haben diese seltener als Nicht-Migranten in den gleichen Gemeinden benutzt.

Unter den drei Gruppen von Migranten haben saisonale Migranten die Gesundheitsdienste am seltensten benutzt. Ihr tiefes Einkommen war ein Haupthindernis. Sie geben ihrer Gesundheit auch weniger Achtung, nehmen seltener in Gesundheitsprogrammen teil und sind meist nicht versichert.

Die Ergebnisse von der ersten und zweiten Phase zeigten auch das Migrantinnen, die den grössten Anteil heute stellen, mehrere spezifische Gesundheitsrisiken wie reproduktionsmedizinische Probleme haben, gerade in den Industriezonen. In der **dritten Phase** haben wir darum speziell Fortpflanzungstraktinfektionen bei Migrantinnen untersucht. Auch hier war der Besitz einer Krankenversicherung ein wichtiger erklärender Faktor für die Benutzung von Gesundheitsdiensten, aber auch sozio-kulturelle Faktoren wie traditionelle Normen, die die Beziehungen zwischen Infektionen und Geschlechtsverkehr bestimmen. Letzteres führt oft zu Schamgefühlen von Migrantinnen um die Dienste für Reproduktionsmedizin aufzusuchen. In der **vierten Phase** haben wir ein Interventionsprogramm für verbesserte Benutzung von reproduktionsmedizinischer Vorsorge von Migrantinnen im Alter von 18-49 Jahren und in Industriezonen arbeiten entwickelt. Dieses Interventionsprogramm wird bestehende Ressourcen besser einbinden und zielt darauf ab, die Deckung mit Krankenversicherungen zu vergrössern, wie auch die Benutzung der Dienste der Migrantinnen zu verbessern. Es soll auch das Wissen der Migrantinnen um Fortpflanzungsgesundheit verbessern, indem die Information an für sie

günstigen Orten und Zeiten zugänglich gemacht wird. Es muss beachtet werden, dass sie lange Arbeitstage haben. Die Migrantinnen selber haben gewünscht, dass die Information am Arbeitsplatz verteilt wird.

Gemäss den Resultaten meiner Dissertation konnte ich Empfehlungen für zukünftige Interventionen und Forschung formulieren, jeweils für Politiker, Gesundheitsdienste in den Destinationsgebieten, für Arbeitgeber, und Migranten. Zusammenfassend sind dies: Politiker sollen sich über die grössere Anfälligkeit zu physischen und psychischen Krankheiten der Migranten bewusst sein. Für spezifische Gesundheitsinterventionen, wie z.B. für Reproduktionsgesundheit, sind sie die Prioritätsbevölkerung. Die Gesundheitsdienste sollen in ihre bestehenden Programme angepasste Interventionen für Migranten integrieren, wie beispielsweise regelmässige gynäkologische Untersuchungen, Impfdienste und Gesundheitspromotion. Eine Integration in bestehende Programme gewährleistet besser die nachhaltige Verfügbarkeit im Vergleich zu parallelen Interventionsprogrammen. Arbeitgeber sollen die Anwendung der gesetzlichen Krankenversicherung für alle Angestellte gewährleisten. Sie sollen auch die bestehenden Gesundheitsdienste in den Betrieben (bisher fast nur auf Arbeitssicherheit ausgerichtet) ausbauen und mit den lokalen staatlichen Gesundheitsdiensten vermehrt zusammen arbeiten. Migranten sollen mehr darauf achten, dass sie eine temporäre Registrierung in den Destinationen haben. Dies gibt ihnen die benötigten Rechte um auf soziale und Gesundheitsdienste zurück zugreifen. Sie sollten auch besser über die Vorteile der Krankenversicherung und verschiedene Versicherungsmodelle informiert sein. Allgemein sollen sie ihre eigene Gesundheit nicht vernachlässigen.

Tóm tắt

Tình hình sức khỏe và tiếp cận dịch vụ y tế của người di cư tại Việt Nam

Tại Việt Nam, làn sóng di cư trong nước gia tăng nhanh chóng kể từ sau thời kỳ Đổi mới năm 1986. Làn sóng di cư này – đặc biệt là di cư từ nông thôn ra thành thị - đã đem đến nhiều tách động tích cực lẫn tiêu cực đối với chính bản thân người di cư, gia đình họ, và đối với kinh tế xã hội tại địa phương họ cư trú và nơi đến. Một mặt, di cư được xem là một cơ hội để người di cư tăng thêm thu nhập, bảo đảm kinh tế cho gia đình, và đóng góp vào việc phát triển xã hội. Mặt khác, di cư cũng đem đến nhiều nguy cơ – đặc biệt là các nguy cơ sức khỏe – cho người di cư và đem đến nhiều áp lực – bao gồm những áp lực cho việc phát triển cơ sở hạ tầng và các dịch vụ xã hội – tại nơi đến. Nhiều nghiên cứu về vấn đề sức khỏe của người di cư đã gợi ý rằng người di cư từ nông thôn ra thành thị dễ bị tổn thương về sức khỏe và ít cơ cơ hội tiếp cận dịch vụ y tế hơn người không di cư/người bản địa. Tuy nhiên, hầu hết các nghiên cứu này chưa sử dụng các phương pháp tiếp cận phù hợp, cũng chưa sử dụng các công cụ đã được chuẩn hóa trong việc đánh giá và so sánh tình hình sức khỏe và tiếp cận dịch vụ của người di cư và không di cư. Do đó, những nghiên cứu trong luận án này nhằm đánh giá tình trạng sức khỏe của người không di cư so với 3 nhóm người di cư từ nông thôn ra thành thị khác, đó là: người di cư làm việc tại các khu công nghiệp (KCN), người di cư làm việc tại các cơ sở sản xuất tư nhân nhỏ (CSTN), và người di cư mùa vụ. Ngoài ra, những nghiên cứu đó cũng cố gắng đánh giá và so sánh việc tiếp cận dịch vụ y tế và các khó khăn trong việc tiếp cận của người di cư.

Luận án sử dụng phương pháp nghiên cứu kết hợp qua 4 giai đoạn tùy theo 4 mục tiêu nghiên cứu chính. Giai đoạn 1 phân tích số liệu thứ cấp từ các cuộc Tổng điều tra dân số năm 1989, 199, và 2009 để mô tả các xu hướng di cư từ nông thôn ra thành thị tại Việt Nam. Giai đoạn này đã cho thấy rằng những làn sóng di cư liên tỉnh thay đổi mạnh mẽ theo thời gian, những thay đổi này chủ yếu là việc gia tăng về số lượng người di cư, trong đó có sự ưu thế về số lượng của nhóm di cư nữ giới so với nam giới vào năm 2009, và tuổi trung bình của người di cư ngày càng giảm dần. Những phát hiện trong giai đoạn nghiên cứu này một lần nữa khẳng định mối liên quan giữa di cư với tình hình kinh tế xã hội của các địa phương (thể hiện qua thu nhập bình quân theo đầu người) và với tình trạng đô thị hóa (thể hiện qua sự gia tăng của số lượng dân cư thành

thị). Tất cả các kết quả này đã phản ánh ảnh hưởng của sự phát triển không cân đối của thị trường lao động giữa các tỉnh/thành lên làn sóng di cư. Sự gia tăng của làn sóng di cư đặt ra những thách thức với hệ thống y tế trong việc đảm bảo việc tiếp cận dịch vụ chăm sóc sức khỏe và bảo hiểm y tế của người di cư, cũng như phát triển các dịch vụ y tế phù hợp với quần thể di cư này.

Giai đoạn 2 của dự án nhằm mục đích đánh giá tình trạng sức khỏe của người di cư thông qua việc sử dụng bộ công cụ SF-36 phiên bản 2. Bộ công cụ này đã được xây dựng, chuẩn hóa và sử dụng rộng rãi trên thế giới. Giai đoạn này còn nhằm mục đích so sánh tình trạng sức khỏe và việc tiếp cận dịch vụ y tế giữa người di cư và không di cư. Các kết quả trong giai đoạn này đã chứng tỏ sự phù hợp và đáng tin cậy của bộ công cụ SF-36, và đã cho thấy rằng so với người không di cư và những nhóm người di cư khác, người lao động di cư mùa vụ thường có sức khỏe thể chất kém hơn và người di cư làm việc trong các khu công nghiệp thường có sức khỏe tinh thần kém hơn. Kết quả của giai đoạn này cũng cho thấy rằng bảo hiểm y tế là một yếu tố quan trọng liên quan đến việc sử dụng dịch vụ y tế của người di cư, và người di cư thường ít sử dụng dịch vụ y tế hơn so với người không di cư khi có các vấn đề về sức khỏe.

Trong các nhóm di cư, nhóm người di cư mùa vụ có tỷ lệ sử dụng dịch vụ y tế thấp nhất. Trong đó, thu nhập thấp là một rào cản chính đối với việc tiếp cận dịch vụ y tế của người di cư mùa vụ. Rào cản này cũng làm cho người di cư mùa vụ ít quan tâm đến sức khỏe của họ, các chương trình y tế hiện có tại cộng đồng sinh sống, và không quan tâm đến bảo hiểm y tế. Ngoài ra, rào cản này cũng làm gia tăng hành vi tự điều trị khi có vấn đề sức khỏe của họ.

Các kết quả trong Giai đoạn 2 và 3 của dự án cũng cho thấy rằng nữ lao động di cư chiếm tỷ lệ cao trong quần thể người di cư. Nữ lao động di cư – đặc biệt là nữ lao động di cư làm việc tại các KCN thường đối mặt với nhiều nguy cơ sức khỏe, nhất là sức khỏe sinh sản. Do đó, Giai đoạn 3 của dự án tập trung đánh giá việc tiếp cận dịch vụ y tế của các bệnh nhiễm khuẩn đường sinh sản (một trong những vấn đề thường gặp của sức khỏe sinh sản) của nữ lao động di cư trong các KCN. Kết quả của giai đoạn này đã chứng tỏ, bảo hiểm y tế là một yếu tố liên quan quan trọng đến việc sử dụng dịch vụ y tế, nhưng đó không phải là yếu tố duy nhất. Các yếu tố văn hóa xã hội khác như những quan niệm xã hội – quan niệm này thường liên kết việc có vấn đề sức khỏe sinh sản với việc có quan hệ tình dục – đóng một vai trò quan trọng. Điều này là do các quan điểm xã hội này sẽ làm người phụ nữ di cư cảm thấy e ngại và xấu hổ khi tiếp cận các dịch vụ

sức khỏe sinh sản. Từ những kết quả trong giai đoạn 3, giai đoạn 4 của dự án đã phát triển một đề cương can thiệp nhằm tăng cường việc tiếp cận dịch vụ sức khỏe sinh sản của nữ lao động di cư tuổi từ 18-49 làm việc tại các KCN ở Việt Nam. Chương trình can thiệp nhằm tận dụng tối đa các nguồn lực/giải pháp sẵn có, đặc biệt là tăng mức độ bao phủ của bảo hiểm y tế, và tăng cường việc sử dụng bảo hiểm y tế cho dịch vụ sức khỏe sinh sản. Can thiệp cũng sẽ nhằm tăng cường kiến thức của nữ lao động di cư về các vấn đề sức khỏe sinh sản, để giúp họ vượt qua sự e ngại và xấu hổ khi tiếp cận các dịch vụ chăm sóc sức khỏe sinh sản.

Tất cả những kết quả của dự án nghiên cứu này đã đưa ra các khuyến nghị quan trọng cho các can thiệp và nghiên cứu trong tương lai, đưa ra những khuyến cáo cho các nhà hoạch định chính sách, cán bộ y tế địa phương nơi có nhiều dân di cư, những người sử dụng lao động tại các cơ sở sản xuất, và cho chính người di cư. Một cách ngắn ngọn, những nhà hoạch định chính sách cần phải nhận ra rằng người di cư là một đối tượng dễ bị tổn thương sức khỏe, cả sức khỏe thể chất lẫn tinh thần. Điều này sẽ giúp cho nhà hoạch định chính sách đặt nhóm người di cư vào nhóm ưu tiên trong các chương trình can thiệp cụ thể để từ đó có những chính sách và các giải pháp để nâng cao sức khỏe của họ. Ở các địa phương có nhiều người di cư, cán bộ y tế phải đưa các chương trình can thiệp nâng cao sức khỏe người di cư vào các hoạt động thường quy của địa phương, ví dụ như các chương trình khám sức khỏe định kỳ, chương trình tiêm chủng mở rộng, và nhiều chương trình nâng cao sức khỏe khác. Điều này sẽ góp phần bảo đảm tính bền vững của các chương trình can thiệp. Đối với người sử dụng lao động, họ phải tuân thủ các điều luật về bảo hiểm y tế và bảo hiểm xã hội cho người lao động, đặc biệt là người lao động di cư. Thêm vào đó, họ phải tăng cường năng lực phòng y tế của cơ quan và phối hợp tốt hơn với y tế địa phương để cung cấp các dịch vụ y tế cho người lao động di cư. Cuối cùng, người di cư cũng nên đăng ký tạm trú tại địa phương di cư đến để đảm bảo quyền lợi trong việc tiếp cận các dịch vụ y tế và xã hội. Ngoài ra, người di cư phải có kiến thức về lợi ích của bảo hiểm y tế và hiểu biết về các loại bảo hiểm y tế phù hợp với họ. Người di cư cũng phải có nhận thức tốt hơn về nâng cao sức khỏe và chú trọng hơn vào sức khỏe của bản thân. Tất cả những điều này phải được cung cấp thông qua các chương trình can thiệp trong tương lai.

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Part I General Introduction

Rationale of the study project

In 2010, the National Centre for Competence in Research North-South (NCCR), financed by the Swiss National Science Foundation and the Swiss Agency of Development and Cooperation, enrolled the research project "Social services and control of infectious diseases in mobile populations of Africa and Asia". The proposal was in the framework of the third phase of the NCCR and drawn from longstanding field research experiences of the Swiss Tropical and Public Health Institute (Swiss TPH) and the Centre Suisse de Recherches Scientifique en Côte d'Ivoire, across the NCCR North-South, in highly mobile pastoral communities of West Africa, notably Mauritania, Chad and Mali. In Asia, Viet Nam was chosen as a study site of this research project.

In Viet Nam, pastoral communities no longer exist; however, internal migration (i.e. migration within the country) has emerged as an important social issue since the Renovation period – *Doi Moi* – in 1986 (Djamba, Goldstein et al. 1999). Like other countries in Africa and Asia, migrant populations have usually been overlooked in policies for provision of social and health services because policy makers find it difficult to make predictions when the populations are not settled. In addition, the numbers of studies on internal migrants in Viet Nam remained limited; therefore, policy makers have lacked concrete evidences of difficulties and challenges in the life of migrants.

Moreover, some studies on migration and health in Viet Nam suggested that migrants, in general, were less healthy than non-migrants (GSO 2006; Liem and White 2007). However, these studies usually used simple self-reported questionnaires, rather than validated, widely applied measurements of health status. These studies also did not provide evidence about differences of health status among different migrant populations or between non-migrant and migrant populations. Hence, it was argued that it is neccessary to comprehensively review measurements of health status, and afterwards, to choose a validated measurement for assessing health status among different migrant populations.

Previous studies also failed to comprehensively evaluate the access of migrants to health care services – especially the access of female migrants to reproductive health services – at the destination. Meanwhile, reproductive health of female migrants is an important health issue due to the increasing trend of feminization of migration in Viet Nam. The access to health services is not only the utilization of health services of migrants (i.e. migrants do or do not seek for health care services at health facilities when ill/sick), but the access also involves many other aspects, including health system, health policies, and health facilities. Most previous studies did not consider these issues in investigating the access to health care services of migrants. These studies also did not investigate obstacles and needs of migrants in accessing health services. All of these might limit achievements of some current intervention programs in improving health and access to health services of migrants.

In fact, there has been great diversity in internal migration: rural-to-urban, rural-to-rural, urban-to-rural, and urban-to-urban migrants; permanent and temporary migrants; as well as intra-district, inter-district, and inter-province migrants (VanLandingham 2003; GSO 2004). Among internal migrants, rural-to-urban migrants account for the highest proportion. This group of migrants mostly includes migrants working in industrial zones (IZ), migrants working in private small enterprises (PSE – i.e. less than 200 employees), and seasonal migrants (i.e. those who usually are self-employed/freelance workers) (UNDP 2010). However, some previous studies on rural-to-urban migrants focused on migrants working in IZ, but did not consider migrants working in PSE and seasonal migrants. In particular, there is not a study that covers all three sub-populations. This has led to a lack of concrete understanding about social and health concerns of rural-to-urban migrants and differences in these issues among the sub-populations as well.

Given the knowledge gaps enumerated above, this project attempted to investigate the health status of migrant populations (including non-migrants, migrants working in IZ, migrants working in PSE, and seasonal migrants) through Short Form 36 version 2 – a validated measurement of health status that has been used globally. Moreover, the project aimed to capture the access to health care services, particularly reproductive health – of migrant populations through a comprehensive conceptual framework of the access to health care. Also, this project would assess barriers to and needs in health care services, and suggest recommendations for enhancing effectiveness of future intervention programs.

Structure of the dissertation

In Part I, chapters 1 to 4 will review issues related to migrants, including general information of internal migration in Viet Nam, laws on social and health insurance, health status of internal migrants and measurements of health status, and the access to health care services of migrants. Chapter 5 will express the objective of the study project in more detail.

Part II will cover the collaborations and capacity building in the project (Chapter 6) and the methodology of the project (Chapter 7).

Part III will report all results of the project. These results include articles that have been published, accepted or reviewed by peer-review journals.

Part IV will discuss the results of the study project and provide recommendations for policy makers, health service providers, employers, researchers, and migrants. In addition, the Outlook will be an intervention proposal approved by the Viet Nam Ministry of Health to improve reproductive health and access to reproductive health services for female migrants. Appendices include a summary of Master's theses encompassed in the project and abstracts (with English versions) of articles published in national peer-review journals.

Chapter 1 Internal migration in Viet Nam

Definition of mobile populations and migration

According to the United Nations Development Programme (UNDP), mobile populations/migrants are those who move from one place to another temporarily, seasonally or permanently, voluntarily or involuntarily. This definition involves both international (i.e. the movement of people from one country to another country) and internal or domestic migration (i.e. the movement of people from one place to another place within the same country) (UNAIDS 2001).

Research on population mobility/migration has faced the difficulty of definition because related concepts (e.g. temporary, seasonal, permanent, or floating migration) are used interchangeably (Djamba, Goldstein et al. 1999; Viet Nam National Assembly 2006; Alan de Brauw and Tomoko Harigaya 2007; GSO 2011; Le and Nguyen 2011). In addition, migration involves both a temporal and spatial context and studies on migration usually use different definitions in conjunction with different types of available data (Phuong 2008). Thus, there is no uniform definition of these terms in the literature; however, it is important to have a clear terminology for the Vietnamese context when looking into issues of mobile populations in Viet Nam.

Organized and spontaneous migration

In Viet Nam, migration is divided into two groups: organized or sponsored or government-controlled migration and spontaneous migration (Djamba, Goldstein et al. 1999). Sponsored migrants are people who migrate within the country and are directed by government plans. They are prepared to leave their regions where they have lost their land or where natural disasters occur, or they volunteer to go to a new economic zone. Spontaneous migrants, meanwhile, are people who migrate within the country, but whose movements are not organized by the government (Djamba, Goldstein et al. 1999). Before 1986, most internal migration in Viet Nam was organized and sponsored by the government. This kind of migration mainly involved resettlement of persons into newly developing rural areas - the new economic zones (*vung kinh te moi*) - and thus, migration became associated to job relocation (Djamba, Goldstein et al.

1999). However, the restructuring of the economy (Renovation - *Doi Moi*) began in 1986 and has led to a significant economic growth, poverty reduction and spontaneous migration flows (Phan and Coxhead 2010; UNDP 2010).

Indeed, the restructuring has shifted the country's socio-economic organization from a centrally planned economy based on public ownership of the means of production to a mixed economy that initially encouraged individual entrepreneurship and, after 1994, foreign investment (Phan and Coxhead 2010). During the *Doi Moi* period, Viet Nam's economy has experienced rapid growth, averaging 7% per year, accompanied by impressive poverty reduction. But growth and poverty reduction have been unevenly distributed, with regions such as Ho Chi Minh City and surrounding provinces (Binh Duong, Dong Nai, Ba Ria – Vung Tau) in the South, and Ha Noi, Hai Duong, Hai Phong and Quang Ninh in the North, that received large industrial capital, while regions such as Northern Mountains, North Central Coast, Central Highlands, and other rural areas fell behind in economic growth (Anh, Tavoli et al. 2003). This has triggered a flow of spontaneous internal migration, especially rural-to-urban migration.

Temporal aspect of migration – the Household registration system in Viet Nam:

Many previous studies on migration in Viet Nam have used the household registration system to classify migration into different sub-groups (GSO 2004; GSO 2011). Officially, there are some categories used to classify the population as residents and non-residents of a particular administrative unit. Before 2007, these categories included four kinds of KT ("***K****hu vuc* ***T****huong tru*" in Vietnamese): KT1 - *permanent registration ("thuong tru"*, i.e. non-migrants who have a household registration book – "*ho khau"* – and reside in the registered district), KT2 - *permanent registration* but with intra-district movement (i.e. persons who have a household registration book in a district but reside in another district within the same province), KT3 - *temporary registration* ("*tam tru"* – i.e. migrants who reside in a place, independently or with relatives, without a household registration book, 6-12 months temporal registration with extension), KT4 - *floating migration* ("*luu tru"* – i.e. migrants who reside in guest house or temporary dwelling, without a household registration book, 1-3 months), and *non-registration*.

In 2007 the KT system was replaced by a new registration system which includes four categories: *permanent registration* (i.e. non-migrants who have a household registration book and permanently live at the registered address), *temporal registration* (i.e. migrants who stay in

destination areas over 1 month, residing independently or with relatives, with a *temporary household registration book*), *floating registration* (i.e. migrants who stay in destination areas less than 1 month, residing in guest houses or temporary dwellings, without a temporary household registration book), and *non-registration* (i.e. migrants who are not registered in destination areas) (Viet Nam National Assembly 2006).

In fact, for the latter registration system, the *names* of the 4 types were changed, but the classification did not truly change. The group of "*permanent registration*" includes the groups KT1 and KT2 of the former system. Similarly, "*temporal registration*" is KT3, and "*Floating registration*" is KT4. Therefore, though the new system has been enforced since 2007, some cities/provinces in Viet Nam still use the KT system.

It is important to note that both classification systems do not cover the concept of spatial movement – a major context of population mobility – and therefore the systems have rarely been used as migration definition in research.

Spatial aspect of migration – Definition from the National Census

In the National Housing and Population Census 2009 (the 2009 Census) migrants were defined as people "*changing their usual residential place to a different administrative territorial unit in the 5 years before the census point-time*" (GSO 2011). In the census, internal migration was classified into three groups of migrants: (i) *intra-district migrant* - a person moving from a commune to another commune but within a district, (ii) *intra-province migrant* - a person moving from a district to another district but within a province, and (iii) *inter-province migrant* - a person moving from a province to another province but within a country. Based on the place of residence 5 years prior to time census and the current place of residence, inter-provincial migration flows were grouped in four categories: rural-to-rural, rural-to-urban, urban-to-urban, and urban-to-rural migration (GSO 2011).

We combined the temporal and spatial classifications as described above to define migrants in this study project. As a result, this project included *non-migrants*, *permanent migrants* – including migrants working in IZ and migrants working in PSE, and *temporary migrants* – seasonal migrants.

General characteristics of internal migration in Viet Nam

According to the 2009 Census, Viet Nam's population was 85,789,573 people (25,374,268 – accounting for 29.6% of the whole population – in urban areas and 60,415,311 in rural areas). The proportion of 15-59 years old (i.e. working age) was 66%; meanwhile, the proportions of people under 15 and over 60 years old were 25% and 9%, respectively (GSO 2009).

Viet Nam has 6 social-economic regions, including Northern midlands and mountain regions, Red River Delta, North Central regions and Central coastal region, Central Highlands, South East, and Mekong River Delta. The national population is unevenly distributed, whereby the populations in the Red River Delta and Mekong River Delta is around 43% of the whole population, while the population in the Northern midlands and mountain region and Central Highlands is about 19%. In these 6 regions, the South East has the highest urbanization, followed by the Red River Delta. The main economic centers of these 2 regions are Ho Chi Minh City, Dong Nai, and Ba Ria – Vung Tau (in South East), and Quang Ninh, Hai Phong, and Ha Noi (in Red River Delta) (GSO 2009).

Since the beginning of the *Renovation (Doi Moi)* 20 years ago, Viet Nam has experienced economic growth and improvement in people's living conditions (Phan and Coxhead 2010). However, Viet Nam has also faced many social problems and a rapid increase in population mobility, particularly rural to urban areas. During the period of 1999 – 2009, an increase of rural-to-urban migration had contributed to the increase of the urban population. Annual increase of population in urban areas was 3.4% areas while the increase was 0.4% in rural areas. The highest population increase occurred in HoChiMinh City, Ha Noi, Hai Phong, Dong Nai, and Ba Ria Vung Tau, from 2.9% to 3.5%.

Migration is one of few available ways to access employment with better wages for people in rural areas (Phuong 2008; UNDP 2009). Migrants are also able to support their family through their remittances (Skeldon 1997; Deshingkar 2006; Guest 2006; UNDP 2009). This is an important benefit of migration. As a consequence, internal migration contributed to the rapid economic growth and poverty reduction in Viet Nam during the past twenty years. To date, the main reason for migration is poverty escape. The 2004 Viet Nam Migration Survey stated that over 70% of migrants cited economic reasons as the motive for their moves (71% in the Northeast Economic Zone and 79% in the Southeast Industrial Zone) (Guest 2006).

Few studies showed that internal migrants are young – especially rural-to-urban migrants (GSO 2004; Deshingkar 2006; Alan de Brauw and Tomoko Harigaya 2007; GSO 2011). The 2004 Viet Nam Migration Survey showed that more than-half of migrants are less than 25 years old. In addition, females account for higher proportions compared to males, particularly migrants working in industrial zones (IZ). Average income per month of migrants is about 2 – 2.5 millions VND (*Viet Nam Dong*), approximately 100 USD. This monthly income is much higher than the national poor line income (i.e. monthly income per capital less than 400.000 VND for rural areas and 500.000 VND for urban areas); however, migrants have to pay for many costs, including room rent, living electricity and water, and support to their family in rural areas (GSO 2004; Viet Nam Goverment 2011). They only have a small budget for foods and other fundamental living items (Anh, Lien et al. 2011).

Most migrants have live in poorer conditions at destination than non-migrants' (GSO 2004). The majority shares a renting house with limited facilities. For instance, they live in either semi-permanent, or wood frame, or simple structured houses, which have poor sanitation and sharing toilet (16% and 36% of Northeast and in the Southeast Industrial Zone, respectively) (GSO 2004). Other living facilities of migrants are simple, such as a small bed, fabric cabinet, and a fan. In addition, migrants usually have neither television nor a radio (Anh, Lien et al. 2011). This not only affects their spare time, but also limits their access to social and health information.

Difficulties of living conditions as discussed above have brought not only pressures of earning money, but also risks of getting ill-health to migrants. Also, these difficulties have prevented migrants from health care services and available health promotion programs at the destination. All these will be discuss in following chapters.

Chapter 2 Internal migration and laws on social insurance and health insurance

In Viet Nam, terms such as *migrant/immigrant* are not introduced in any legislation. There is only the definition of *permanent residence, temporary residence and floating residence registration* in habitation laws (Viet Nam National Assembly 2006). Migrants are defined only for residence management purposes as people who live at destination that is not the place of their permanent residence registration. In other words, they reside temporarily at destination with or without temporary residence registration. In principle, migrants have rights to access social services at destination. However, previous studies showed that migrants face much more obstacles in accessing social services than non-migrants (GSO 2006; Le and Nguyen 2011; Anh, Lien et al. 2012). Rights and legal benefits of migrants are inadequately protected because of the weak role of social and labor unions (UNFPA 2011).

In order to provide information on accessibility and utilization of social services for migrants, this chapter will review legislative documents, analyze their advantages and disadvantages in relation to migrants.

Overview of social services for workers in Vietnam

In Viet Nam, social service is known as "social welfare" – *an sinh xa hoi* (Viet Nam National Assembly 2006). Social welfare includes social insurance, health insurance, and social incentive and relief. The most important component is social insurance, which contributes to stabilize the live of workers and their family in case of illness, pregnancy, occupational injury and diseases, unemployment, and retirement.

Below we focus on two components, namely social insurance and health insurance. These components are primary legal rights and benefits for Vietnamese workers. According to the laws, the benefits apply to all workers.

Social insurance

Social insurance includes compulsory and voluntary insurances. As defined in Article 141 of the Labor Law 1994, amended in 2002, 2006, 2007 and the Law of Social Insurance 2006,

"Compulsory social insurance is applied for enterprises, companies and organizations which employ workers by contract for over 3 months and permanent contract. In these enterprises, companies and organizations, employers and employees have to pay for social insurance; and employees receive social support for illness, occupational injury and disease, pregnancy, retirement and death" (Viet Nam National Assembly 1994; Viet Nam National Assembly 2006). Hence, when migrants are employed more than 3 months with a labor contract, migrant or non-migrant workers and their employers are obligated to join compulsory social insurance providing the employees legal benefits of social insurance as laws. In addition, compulsory unemployment insurance is one scheme of social insurance since January 2009 and includes support for re-employment, and for career training and job seeking (Viet Nam National Assembly 2009).

In contrast, workers without a labor contract (i.e. seasonal workers with unstable stay and household helpers) do not have compulsory social insurance, but rather voluntary social insurance. Thus, if they want to participate in social insurance, they have to register, select the most suitable payment level and method to receive benefits from social insurance and cover the costs themselves. Voluntary social insurance only covers support for retirement and death. In the case of no compulsory or voluntary social insurance, workers will not receive any benefits from social insurance.

Health insurance

Types of health insurances

In Viet Nam, health insurance is the non-profit scheme to apply in health care. It is also called the "universal health insurance" given its broad coverage (Viet Nam National Assembly 2008). Health insurance includes 04 types: compulsory insurance – or social health insurance (SHI – for school and university students, employees with a labor contract for more than 3 months), free insurance for children younger than 6 years, voluntary health insurance (VHI), and health insurance for the poor/health care funds for the poor (HCFP) (for low-income people in accordance with national poverty classification) (Ekman, Liem et al. 2008). In 2007, health insurance coverage in general was 49%; in which, the coverage of SHI was 9%, of free health care for children was 11%, of VHI was 11%, and of HCFP was 18% (Ekman, Liem et al. 2008). Up to 2011, the health insurance coverage reached to 60% (MOH 2011).

Among these 04 kinds of health insurance, compulsory and voluntary health insurance is 02 main types available for migrants. Both compulsory and voluntary health insurance schemes are similar in benefits for the covered person. Like the Social Insurance Law, compulsory health insurance is applied to workers with a minimum of a 3-month contract or a permanent contract. The compulsory health insurance covers also retired people, people with social incentive and relief, and people living in some other special circumstances (Viet Nam National Assembly 2008).

The monthly membership fee of the compulsory health insurance is equal to 4.5% of the employee's monthly salary or allowance, whereby employers pay 2/3 and 1/3 the employee. The salary or allowance on which the health insurance fee is based is the one stated in the work contract. For employees in state-owned organizations, or their salary regime defined by the government, their health insurance fee is calculated the salary based on the occupation scale, military ranks and any other allowances for their job description, years of experience or technical skills. Employers are responsible to extract and pay periodically the amount of health insurance fee from employees' salary. Meanwhile, if employees join the voluntary health insurance themselves, they have to pay themselves the maximum amount equaling 6% of their basic salary.

Vietnamese regulations do not consider health services specialized for migration workers. Generally, health insurance is the insurance scheme for both non-migration employees and migration workers when seeking health examination and treatment services in health facilities. Health insurance is applied in health care with non-profit purpose and compensated for both employers and employees. When migration workers are not eligible for compulsory health insurance as mentioned above, they can join the voluntary health insurance with monthly fees that need to be paid by themselves.

Rights on health insurance

An insured employee will be provided with a health insurance card with a given period of validity. According to the guide of Health Insurance Company, employees will be able to select one health facility at commune or district levels (in the list of possible health facilities provided by the Company) and register for primary health care services (so called *"primary health care facility"*). The name of the primary health care facility will also be stated on the card.

Employees receive health examination and treatment in the health care facilities and if he or she has to leave work some days for treatment (at home or hospital), they will need a medical certificate to receive illness allowance from the social insurance fund. In other words, employees follow health insurance procedures for treatment in health care facilities, the fee is paid by the health insurance fund in accordance with its regulation and the missed work days by the social insurance fund.

Social incentive and relief

Social incentive is a special policy in social welfare; it is a special favor in kind and spirit of the government and society in remembrance of the great contribution from individuals and their relatives as well as organizations who have contributed importantly to the development and protection of country.

Social relief is for targets with especially difficult conditions such as alone elders, homeless people, people with a disability, and children with difficult lives. Beneficiaries can receive basic social services, for example health care and education. The 'reliefs' are clearly defined in legislative documents, including the Law for people with disability No. 51/2010/QH12, the Law for elder people No. 39/2009/QH12, the Decree No. 67/2007/ND-CP dated April 13rd 2007 of the government on the policy to support socially sponsored beneficiaries, and the Decree No. 13/2010/ND-CP dated February 27th 2010 on the amendment for some articles in the Decree no 67/2007/ND-CP (Viet Nam Goverment 2007; Viet Nam National Assembly 2009; Viet Nam Goverment 2010; Viet Nam National Assembly 2010). In association with investments for social welfare, several policies on direct support are also implemented such as immediate support for areas suffering from disasters, support for families losing houses, property, production equipment and suffering from hunger.

Application of regulations on health services for migration workers

In 2011, the Ministry of Health reported that there were many achievements in increasing the health insurance coverage and implementing health insurance regulations as well. However, many challenges and shortcomings for applying health insurance to all people, particularly migrants, remain (MOH 2011).

Employers avoid paying health insurance fee for employees

Employers, mostly in small business, tend to avoid paying insurance fee for employees. Employees – particularly migration workers – are inadequately aware of their rights and obligations due to low education level and insufficient knowledge on legal issues; thus, their rightful benefits are easily neglected by employers. According to the Social Insurance Company, it was estimated that there are over 12 millions employees in enterprises and businesses, but only 6.3 million employees (approximately 53%) were insured by December 2010. The government issued the Decree No. 92/2011/ND-CP on settlement for administrative violation of regulations on health insurance for employees and is in act since December 2011 (Viet Nam Goverment 2011).

Late issue of health insurance card for participants

According to the regulations, the social insurance agency will issue a health insurance card within 10 working days after reception of a complete document and insurance fee. However, this procedure usually takes longer. Re-issuing a health insurance card is also complicated and takes longer than issuing the original card. This greatly affects the benefits on health examination and treatment of workers.

Problems with health care procedures for migration workers using health insurance card

The health insurance fund will only cover the maximum health care cost if migrant workers seek health care services at the primary health care facility stated on the health insurance card. If they go to another primary health facility, only 70% of the cost will be paid by the health insurance. People have the right to change the primary health care facility, but the facility should be in the list of possible facilities provided by the Health Insurance Company.

In reality, migrant workers are unaware of their right to choose and change their primary health care facility. Employers tend to register the primary health care facility which is quite far from where their employees live – here again especially migrants. This partly makes it difficult for migrant people to seek health services at health facility. Hence, this situation hinders the idea of health insurance as well as affects the health of migration workers.

Different studies provided different data of health insurance coverage among migrant population due to the diversity of migration types. As discussed above, migrants with a labor contract would be more likely to have health insurance than migrants without a labor contract. The former group of migrants usually works in IZ or PSE while the latter group of migrants mainly is self-employed or freelance migrant workers. In other words, health insurance coverage is different among different migrant populations. Hence, this study project aimed to capture this difference of the coverage and this would be evidences for future interventions.

Chapter 3 Health status and its measurement

Migration is one of few ways available to access employment providing better wages for people in rural areas (Skeldon 1997; Deshingkar 2006; Guest 2006; UNDP 2009). However, migrants have faced many difficulties including poor and unsafe working and living condition, long working hours, no health insurance, low and irregular income, and much health-related risky behaviors (VanLandingham 2003; GSO 2006).

Health status of internal migrants

In 1979, Hull conceptualized the relationship between migration and health which implies that migrants seem to be healthier than non-migrants (Hull D. 1979). Some authors also called this phenomenon the *"healthy migrant effect"* and it was explained by: (i) migrants need to be healthy to overcome an arduous journey of migration and to comply with job requirements and working conditions at destination and (ii) migrants may get benefits from better health care services at destination (Syed and Vangen 2003; Thomas and Thomas 2004). However, many studies stated that migrants' health would fade out over time after migration because they are exposed to many health risk factors at destination and thus, migrants are more susceptible and vulnerable to ill-health effects than others (Kristiansen, Mygind et al. 2007; World Health Organisation 2010).

In the 1997 Migration and Health Survey, 2/3 of migrants reported that their health after migration remained unchanged or was better than before migration (Liem and White 2007). Health status of migrants varied depending on where they moved to and how long they stayed at the destination. The survey also showed there was no difference of ill-health status between migrants and non-migrants. In addition, the 2004 Migration Survey also seemed to confirm the "healthy migrant syndrome" stating that migrants appeared to be healthier than non-migrants (GSO 2006). To note is that the 2 surveys aimed to cover all kinds of migrants and were mainly conducted in provinces/cites with large industrial zones.

Meanwhile, numerous studies have stated that migrants are usually less healthy than non-migrants (VanLandingham 2003; Kristiansen, Mygind et al. 2007). The 2004 Migration Survey

identified migrant-associated health problems when compared to the general population, such as ill-health, less access to health care, and lack of knowledge about reproductive health and sexually transmitted infections (STIs) (GSO 2006). Research on rural–urban migration to Ho Chi Minh City in 2004 indicated that migrants coped with more difficulties than permanent residents at destination on most issues of health such as physiology, psychology, sentiment, exercise function, knowledge and conception about general health (VanLandingham 2003). Therefore, it can be argued that migration may bring economic benefits to the migrants' family in their hometown, but there are disadvantages for the migrants' health. Given the hardship of their way of life, migrants may be more at risk to health problems than other residents.

Such conflicts between previous studies suggest that further research on comparison of health status between non-migrants and migrants should be focused on certain migration groups or stratified by different kinds of migrants, and use better health status measurements than only rough categories as "very good", "good", "normal", "poor" and "very poor" health status.

Health status measurement – Short Form 36 version 2 (SF36v2)

Health-related quality of life

According to World Health Organization (WHO), health is defined as *"a state of complete physical, mental, and social well-being – not merely the absence of disease, or infirmity"* (WHO). During the first half of the 20s century, traditional health measurements were mainly focused on diseases, which was evaluated by physical examination and other objective tests (CDC). In the 1980s, health began to be measured by multidimensional instruments, which included physical, emotional function, life expectancy and subjective perceptions about present and future health (McHorney 1999).

Quality of life (QoL) is a multidimensional concept based on a subjective evaluation of many components of life (Maruish M. E. 2011). The QoL covers not only health status, but also numerous domains such as jobs, housing, schools, neighborhood, culture, and social relationships. In order to show effects of health on overall quality of life, the health-related quality of life (HRQoL) has been developed in the 1980ies (McHorney 1999). The HRQoL was seen so far as a health status measurement. The HRQoL generally uses subjective and self-assessed perceptions of individuals about their physical and mental health and other determinants

of health including functional status, health risks and conditions, social supports and socio-economic status. Self-assessed methods were shown to better assess the health status than objectives measurements.

There are two approaches to HRQoL measurement: general/generic and specific measurement. The generic approach provides a general summary of HRQoL, while the specific one focuses on health problems related either to a certain disease, a living function, a patient or patient groups (Maruish M. E. 2011). Among different generic measurements of HRQoL, there are the Short Form 36 (SF-36) Health Survey, the Sickness Impact Profile, and the Quality of Well-Being Scale. The SF-36 Health Survey has been a better measurement for the general population; rather than other measurements which have been appropriate for clinical settings and special population (Maruish M. E. 2011).

Short Form 36 version 2 (SF36v2)

The content of health measurements as well as techniques for constructing such measures has been improved over time. Psychometric methods of scale constructions were available in the 1970ies, but investigators did not use the methods for constructing health status measures. The psychometric techniques have been widely applied afterwards. The application had previously been based on the presence or absence of negative health statuses, functional limitations, or disease symptoms. But since the last half of the 20th century, investigators have more focused on measurements of functioning and well-being to measure health statuses. In addition, the developments of psychometric techniques such as item response theory (IRT) methodology and computerized adaptive testing (CAT), as well as of analytical techniques, particularly structural equation models for categorical data have made health status measurement achieve more realistic and better analysis of dimensionality (Maruish M. E. 2011).

The first application of psychometric approaches in developing health status surveys were implemented in the Health Insurance Experiment (HIE) that collected data from children and adults during the period of 1974 - 1981 in the United States. The HIE successfully demonstrated the potential of scales for measuring functional status and well-being concepts. It also reported the reliability and the validity of the measurements for assessing health status in the general population. However, the HIE had some disadvantages because it did not show applicability of the measurements to elderly populations or people with health problems, and the reliability of

measurement of scales. These challenges led to the Medical Outcome Study (MOS) in 1981. The MOS surveys were in fact applied in a multidimensional model of health as the HIE surveys; but the MOS greatly solved the disadvantages of the HIE. In addition, the MOS survey also covered 40 health concepts and thus it was more comprehensive than the HIE surveys.

Investigators of the MOS survey selected and adapted health concepts from its information form to develop the SF-36 health survey. Hence, the SF-36 health survey included eight of the most important health concepts in the MOS, including (1) limitations in physical activities because of health problems; (2) limitations in social activities because of physical or emotional problems; (3) limitations in usual role activities because of physical health problems; (4) bodily pain; (5) general mental health (psychological distress and well-being); (6) limitations in usual role activities because of emotional problems; (7) vitality (energy and fatigue); and (8) general health perceptions. The SF-36 Health Survey was widely used in national surveys in the United States such as in the Medicare Health Outcome Survey (HOS) in 1997 and the National Survey of Functional Health Status (NSFHS) in 1998 (Maruish M. E. 2011). Moreover, numerous validations on the SF-36 Health Survey stated that the questionnaire was a reliable and valid instrument for measuring health status in a general population (Brazier, Harper et al. 1992; Crispin Jenkinson, Angela Coulter et al. 1993; Ware JE Jr, Kosinski M et al. 1998; Crispin Jenkinson, Sarah Stewart-Brown et al. 1999; Brazier J.E., Robert J. et al. 2002; L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al. 2008).

One of the advances of the SF-36 Health Survey questionnaire was that it comprehensively measured functioning and well-being, or a generic health status. Another advance is that this measurement could be successfully translated into several languages (Maruish M. E. 2011). Therefore, the SF-36 Health Survey was used as the single health measures in the International Quality of Life Assessment (IQOLA) Project in 1991 (Ware JE Jr, Kosinski M et al. 1998). Up to 2006, over 70 countries in the world have translated and validated the SF-36 Health Survey. Based on experiences of using the SF-36 Health Survey in 10 years and experiences of translation and validation procedures of the IQOLA project, investigators have improved the wording and response categories of the SF-36 Health Survey. This improvement led to the development of the follow-up version SF-36v2 Health Survey (Maruish M. E. 2011).

The version 2 of the SF-36 Health Survey questionnaire is also a multi-purpose survey, with 8

health domain scales including 36 items as was the case in version 1. The version 2 has increased the number of response choices for some items and dropped responses for other items. In addition, the version 2 has minimized ambiguity and bias in item wording, improved the structure of questions and answers, and increased comparability of translations and cultural adaption. Such changes made the SF-36v2 easier to understand and implement, and substantially improved its reliability and validity. The use of norm-based scoring (NBS) technique also makes the SF-36v2 comparable with different versions of the SF-36 Health Survey because this technique is based on the theory that all health domain scales have a mean of 50 and a standard deviation of 10, which were derived from a large sample in the United States' general population in 1998 (Maruish M. E. 2011).

The validation studies in several countries, including studies in Asia, have demonstrated the reliability and validity of the SF-36 (Fukuhara S, Bito S et al. 1998; L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al. 2008). The SF-36v2 was shown more reliable and valid than the previous version. However, validation studies in China and Thailand noted that some mental health components such as the Social Functioning and Vitality had low internal consistency with Cronbach's alpha (under 0.7) (L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al. 2008). This may be caused by cultural differences in the concepts of mental health, social norms, and wording styles.

In Viet Nam, there has been only one study using the SF-36 Health Survey questionnaire (SF-36 version 1) up to date (VanLandingham 2003). This study also showed a low Cronbach's alpha in Bodily Pain, Social Functioning, and Role Emotional (i.e. role participation with emotional health problems). But the study included a small sample (69 migrants and 85 non-migrants in Ho Chi Minh City) which might be not sufficient to evaluate the validity of the SF-36. In 2008, a research on evaluating the SF-36v2 that was conducted in Elder Vietnamese Americans confirmed the reliability and validity of the form (Ngo-Metzger Q, Sorkin DH et al. 2008). In addition, the study showed the consistency of the SF-36 scales in the general study population with results in populations from Asian countries, rather than with the typical pattern in the United States. Compared to current studies on health statuses of migrants that mostly used simple self-assessment questions (i.e. *"how do you rate your own health: very good, good, normal, poor, and very poor"*), the SF-36 could be more updated and suitable measurement for research on health status assessment in the general and special populations.

Chapter 4 Access to health care services of internal migrants in Viet Nam

Access to health care services has always been an important concept in health policy and health service research. Improving access to health care is a key for achieving health equity for all. The huge gap in access to health care between different populations in both developed and developing countries is well established. In addition, investments in health care infrastructure are not evenly distributed across rich and poor people, urban and rural areas, and different vulnerable groups. For the sake of assessing, developing, and improving access to health care services, one has tried to have a concise definition of health care services and a definition of health care access. Not all definitions have been widely accepted, but they have derived in fundamental approaches to investigating and improving health care services.

What is access to health care services?

According to World Health Organization (WHO), health care services include *"all services dealing with the diagnosis and treatment of disease, or the promotion, maintenance and restoration of health. They include personal and non-personal health services"* (WHO 2012). The definition shows complexity of the health service context because it involves all stages of health care (promotion, prevention, diagnosis, treatment, restoration, and maintenance), and many types of service (private and public). Another definition of health care services is *"the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions"* (Patel, Ashrafian et al. 2011). These two definitions were expressed differently but their context is quite similar.

Access to health care services

Dictionary of Modern Medicine of McGraw-Hill (2002) states a short definition of health care access as *"the ability of a person to receive health care services, which is a function of (1) availability of personnel and supplies and (2) ability to pay for those services"* (McGraw-Hill 2002). However, studies on health care access have not involved availability and ability. Health care service is a part of a health system; hence, it includes providers, users, and general public,

and also relates to other functions of the health system. Consequently, access to health care services includes issues such as health system, policy, organization, community, and culture.

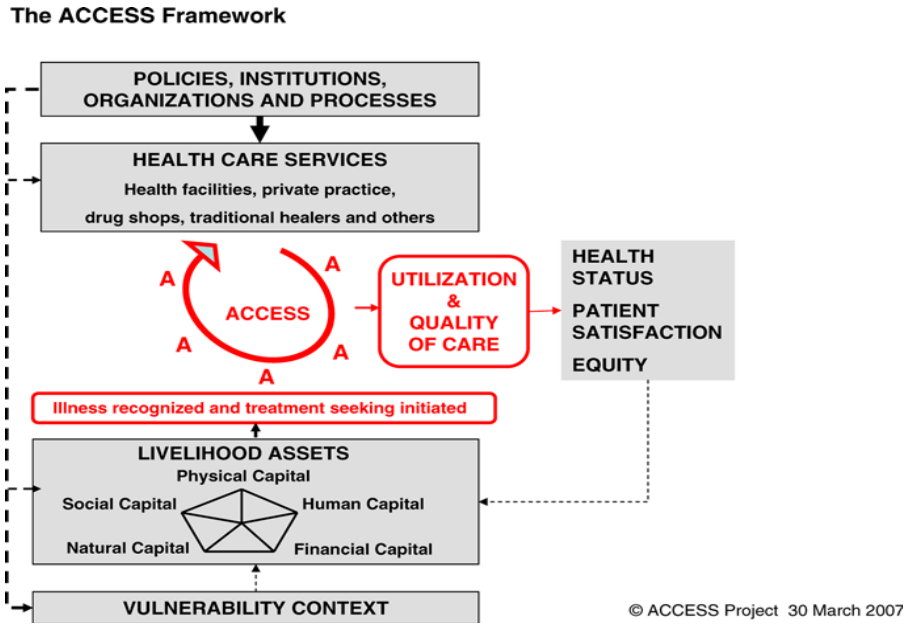
Access to health care services has had a political, rather than an operational meaning. It was commonly confusing how the access to health care has been evaluated (Hall, Lemak et al. 2008). From the 1970s onwards, researches on access to health care were based on two components: characteristics of the population such as family income, insurance coverage, attitudes towards health care as well as characteristics of the delivery system including health manpower and facilities (Aday and Andresen 1974; Andersen, McCutcheon et al. 1983; Kruk and Freedman 2008). However, these two components do not cover external validity, which could be explained through outcome indicators of the individual's circuit through the health system; for example showing utilization rates or satisfaction scores. To conceptualize the concept of access to health care, Aday and Andersen (1974) reviewed and constructed theoretical framework for the study of access (Aday and Andresen 1974). The framework consisted of 5 basic components: i) health policy, ii) characteristics of health delivery system, iii) characteristics of population at risk, iv) utilization of health services, and v) consumer satisfaction. The authors used "mutable" (or changeable) and "immutable" (or unchangeable) for describing nature of factors that affect access to health care. Obviously, one would want to use the framework not only to assess access to health care, but also to controle and improve access through dealing with "mutable" factors (Aday and Andresen 1974).

Since the 1990s, the concept of livelihoods is known as a new thinking about objectives, scope, and priorities for development. The livelihood approach is based on six principles that are fundamental for practice in several development interventions. These principles include i) people-centered, ii) responsive and participatory, iii) multi-level, iv) conducted in partnership, v) sustainable, and vi) dynamic (SDC/NADEL 2006). At the beginning, the livelihood concept was not applied in research on health service access, but rather to economic and agriculture issues. However, the concept has been widely used in different research topics because of its practical meaning. Chambers and Conway (1991) brought the concept of livelihood including financial, natural, human, social, and physical livelihood to health service research by describing their mutual interactions within an overall vulnerability context (Chambers R. and Conway G. R. 1991). These general contexts were used for exploring more recent frameworks of access to health care (Micheal S. Hendryx, Melissa M. Ahern et al. 2002).

One of the current logical frameworks called the Health Access Livelihood Framework covers all components of access to health care. The framework was created by Obrist et al in 2007. The framework includes five dimensions of access to health care such as availability, accessibility, affordability, adequacy, and acceptability. In addition, the framework involves other factors influencing health access (Obrist, Iteba et al. 2007). These factors are health care services (i.e. health facilities, private practice, drug shops, traditional healers and others), health system (i.e. policies, institutions, organizations, and processes) and livelihood assets (i.e. physical, human, financial, natural, and social capital) (Figure 4.1). The framework has been successfully used for exploring and improving access to health care in Africa (Hetzel, Iteba et al. 2007).

Research on access to health care services needs multiply entry points to evaluate it comprehensively. Most current studies on health of migrants in Viet Nam did not use a conceptual framework. We have decided to use the Health Access Livelihood Framework to obtain a better understanding about health service access of migrant population.

Figure 0.1. The Health Access Livelihood Framework



Source: Obrist, Iteba et al. (2007). Access to health care in contexts of livelihood insecurity: a framework for analysis and action. PLoS Medicine, Vol 4, Issue 10, e308, p1584-8

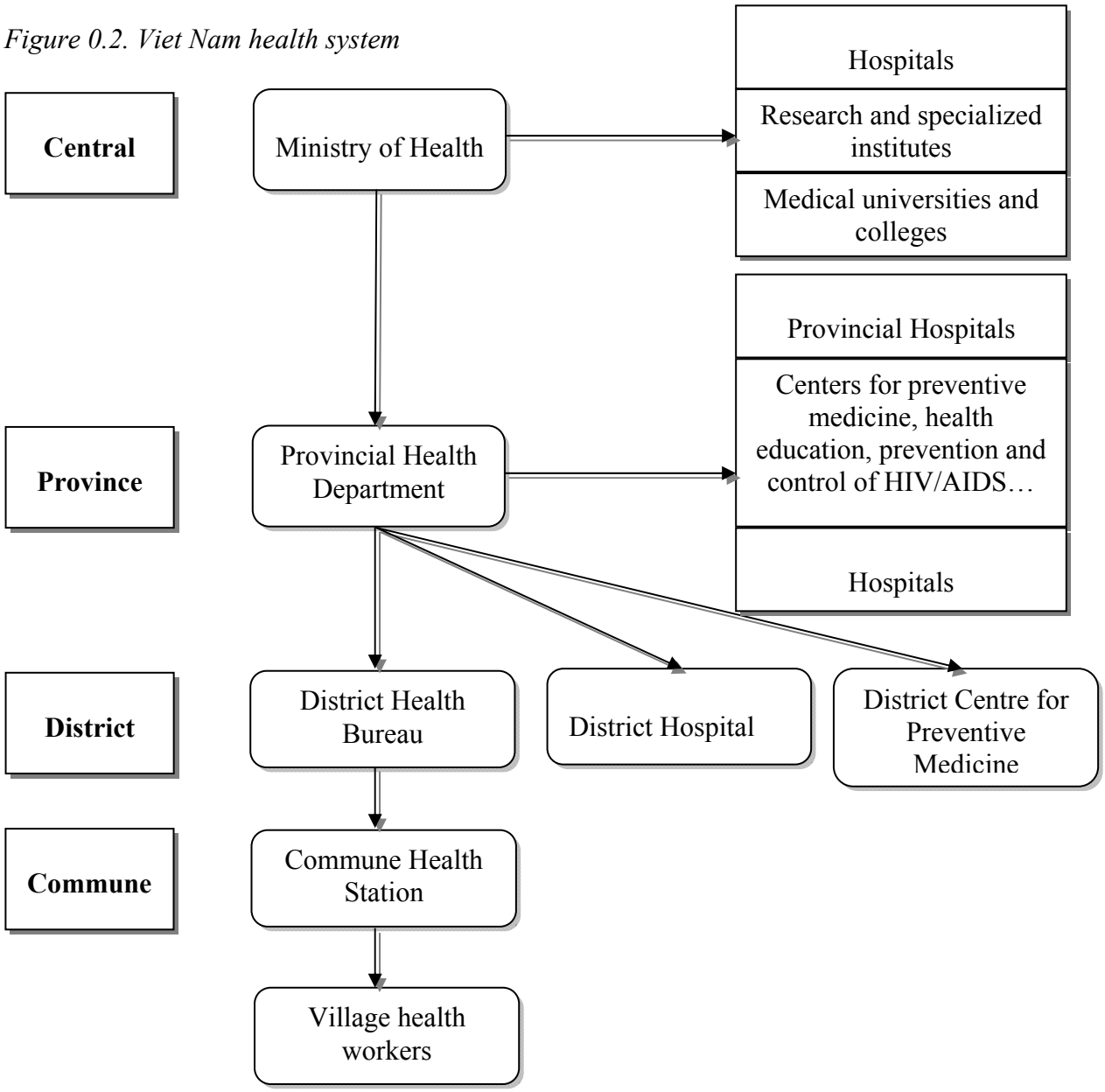
Health system in Viet Nam

According to the Joint Annual Health Review 2007 of the Ministry of Health (MoH) in Viet Nam, the organizational structure of the health system is divided into four parallel levels within the State administrative system: central, provincial, district and commune (Figure 4.2) (Ministry of Health 2008).

At the central level, the MoH is the government agency responsible for general management of all health aspects, including *"clinical medicine, preventive medicine, health promotion, rehabilitation, traditional medicine, prophylactic and treatment drugs, cosmetics, food safety and hygiene and medical equipment"*. The Ministry administers 70 institutes, including hospitals, preventive medicine and professional institutes, medical colleagues and universities.

At the provincial level, the Provincial Health Department (PHD) is the agency under the management of both the Provincial People's Committee (PPC) in administration, payrolls, and operations and MoH in technical and professional issues (e.g. health care guidelines and medical practices). Similarly, the District Health Bureau (DHB) is also under the management of both District People's Committee (DPC) and PHD (technical direction, administrative management, and inspection). In addition, District Hospitals and District Centers for Preventive Medicine are under the management of the PHD. At the last level – commune - the Commune Health Station (CHS) is a health care unit which is managed by the DHB and Commune People's Committee (CPC), and receives professional support from District Hospitals. Further, a large network of village health workers (1 person/village) is coordinated by CHS. This network is the closest contact point to the community.

Figure 0.2. Viet Nam health system



Source: Joint Annual Health Review 2007, Viet Nam MOH

Economic transition in the 1980s has led to considerable reforms in the Viet Nam health system (Ministry of Health 2008). Before the transition, the health system was subsidized by the Government and provided free health care services to the whole population. During the transition period, several reforms were implemented that aimed to realize the goal *"the government and people working together"*. The reforms have led to many health policies such as decrees on charging partial user fees, private health practice in 1989, and health insurance in 1992, and

reduction and exemption of user fees for the poor, ethnic minorities, and poor regions/areas in 1994. Since 2000, the government has issued many different health policies towards "social mobilization" or "socialization of health care activities". This has brought numerous improvements to health care system, as well as several new opportunities of health care access to the population. One can now choose between health care services with different prices and quality.

However, out-of-pocket household health expenditures have accounted for a large proportion of the total health expenditure. For instance, the proportions in 2004, 2005 and 2006 were 63.9%, 65.8% and 62.8%, respectively (Ministry of Health 2008). These high proportions had negative effects on the goals of equity and efficiency in health care. Most recently, the Viet Nam MoH approved a new cost norm for health services user fees and this cost norm is much higher than the previous (Ministry of Health and Ministry of Finance 2012). It is argued that this may affect significantly the poor and other vulnerable groups (e.g. migrants, patients of chronic diseases, and low-income population) because these groups would have decreased chances to access quality services with affordable prices.

Access to health care services of internal migrants

As mentioned in the Chapter 3, migrants may seem healthier than non-migrants at destination. In fact, it is difficult to generally compare migrant and non-migrant health due to diversity of the migrant population (VanLandingham 2003; GSO 2006). Migrants working in industrial zones, for example, may be younger and healthier than non-migrants; however, seasonal migrants may be less healthy, also because they are older. While health status of migrants and non-migrants is still debated, access to health care of migrants has been shown to be lower than of non-migrants (Yingchun Peng, Wenhu Chang et al. 2010; International Organization for Migration 2011). Among the migrants, the temporary/short-term/floating migrants were the most likely to self-treat, and their proportion going to see a doctor or to a medical facility was the lowest (GSO 2006; Anh, Lien et al. 2011). In 2010, UNDP in Viet Nam stated that ensuring equitable access to good quality and affordable health care, education and other social services for migrants is also a challenge (UNDP 2010).

In Viet Nam, only few studies on access to health care of migrants have been conducted. Some surveys – for example, the 2004 Migration Survey – stated a percentage of utilization of medical

facilities among migrants that was lower compared to non-migrants (GSO 2006). Several causes may explain this observation Firstly, migrants could not afford the medical fees; meanwhile, one buys medicine without prescription at on of the frequent drug stores (Yingchun Peng, Wenhu Chang et al. 2010; International Organization for Migration 2011). Migrants could keep thus their health service expenditure low. Secondly, migrants usually did not pay much attention to their health because of their low income (Anh, Lien et al. 2011). Finally, coverage of health insurance in the migration population was low. Proportions of having an health insurance was 31% and 42% migrant workers in the Northeast and Southeast Industrial Zones, respectively (GSO 2006).

Access to reproductive health services of female migrants

Females have accounted for a higher proportion of migration population, particularly rural-to-urban migration, than males since 1999 (see also Chapter 1) (GSO 2011), which is the result of moe labor opportunities for women in urban areas (Guest 2003).

Many studies indicated that female migrants are more likely to get sick than male migrants. Like male migrants, female migrants face lack of familiarity with new destinations, less support to access, and exposures of different lifestyles and influences (Oxfam and Actionaid 2009). Moreover, they usually work in more health-related risky environments than males (Nghi 2010). They also have less protective abilities than males, and may be more susceptible for abuse than males (Rushing 2006). Finally, living conditions may affect on health of females much more than males (Anh, Lien et al. 2011).

Essentially all research on health of female migrants stated they are vulnerable to reproductive health problems such as sexually transmitted infections (including HIV/AIDs), unwanted pregnancy, and unsafe abortions and other reproductive health issues (GSO 2006; Phuoc 2006; Anh 2007; Anh, Hung et al. 2008; Anh 2009). However, female migrants face difficulties in accessing to reproductive health care services. A literature review of UNFPA (2011) suggested that their reproductive health is influenced by socio-cultural factors such as (i) gender-related issues (e.g., patrilocal family systems and a strong matriarchal heritage), (ii) traditional norms, values and beliefs (e.g., perception of feminity, sex taboos, a belief in fate and karma), (iii) socio-cultural transition from rural to urban environments, and (iv) social and cultural segregation (UNFPA 2011). These factors may hinder female migrants from using health

services. In addition, the 2004 Migration Survey showed that health insurance coverage of female migrants was low (GSO 2006), which may further influence their utilization of reproductive health services.

Meanwhile, most of reproductive health-related policies in Viet Nam have not considered migrants, especially female migrants who would need protective and adapted policies. The Reproductive Health Strategy 2001-2010 did not include migrants in any plan or program (MOH 2001). Also, the national reproductive health program has been integrated in the family planning program, but this program has rarely targeted female migrants (UNDP 2010). Currently, the Population and Reproductive Health Strategy for 2011-2020 starts to cover migrant populations, but it does not state any specific way of provision for that population (MOH 2011).

In conclusion, the Government has so far kept a distance from voluntary internal migration and migration-related issues including health, despite the increasing trend of internal migration. As the increasing trend continues, the Government needs more evidence to recognize migrants as a priority group for health interventions in general and sexual and reproductive health interventions in particular. This requires further research on migrants' access to and needs of reproductive health care services.

Chapter 5 Objectives of the study

The goal of this dissertation was to evaluate the health status and the access to health care services of rural-to-urban migrants, and to identify main barriers and priority needs for the health service utilization of migrants in Viet Nam.

The specific **objectives** are to:

- Characterize trends of rural-to-urban migration and the relation between migration flows and provincial socio-economic status;
- Compare health status between non-migrants and rural-to-urban migrants;
- Compare the utilization of health care services among the migrant populations;
- Evaluate the access to health services for female migrants and explore barriers related to the access, as well as their needs for reproductive health care services;
- Develop an intervention proposal for improving access to reproductive health care services.

Part II Approach

Chapter 6 Collaborations and capacity building

This dissertation is a part of the research project "Social services and control of infectious diseases in mobile populations of Africa and Asia" in the framework of the third phase of the NCCR North-South that is co-funded by the Swiss National Science Foundation (SNF) and the Swiss Agency for Development and Cooperation (SDC).

In Viet Nam, the Hanoi School of Public Health (HSPH) is the partner institute of the NCCR North-South programme. I am a lecturer at the Department of Epidemiology and Biostatistics of HSPH and a PhD student of the University of Basel, Switzerland. Dr. Lan Vu-Hoang – Head of the Department at HSPH – and Dr. Esther Schelling of the Swiss Tropcial and Public Health Institute are my main scientific supervisors.

The Long Bien District Health Centre was the main 'operational' partner of the dissertation. The centre helped to implement the study in the district and enabled the contacts with other stakeholders such as the District People Committee, the Police, and the Labor – Invalids – Social Affairs throughout the study.

Ms. Lien Thi-Lan Pham and Mr. Nam Dac-Thanh Bui – two Masters' students at the Hanoi School of Public Health – contributed to conduct data collection process at study sites. They also conducted other components of study as their Masters' thesis. Ms. Lien achieved a high distinction score for her thesis on *"The utilization of health care services for RTIs among female migrants working in Sai Dong industrial zone, Long Bien, Ha Noi, 2011"*. Mr. Nam successfully defended his thesis of *"Obstacles for access to health care services among seasonal migrants in Ha Noi"* on October 2012.

Ms. Trang Vu-Thu – graduated from Ha Noi University of Law and worked at LEADCO Law Office in Ha Noi – contributed to conduct an overview of laws related the access to social and health services of migrants (Chapter 2).

At the beginning of the project, Asso. Prof. Anh Dang-Nguyen – Director of the Institute of Sociology and Dr. Liem Nguyen-Thanh – Deputy Director of the Institute of Population, Health, and Development – were invited as experts of the study project. They helped me to access available databases on migration and to understand the sociological issues of migration in Viet Nam.

A stakeholder workshop was conducted at the beginning of the study to share the study's goals and discuss potential approaches and interventions. The stakeholders were from (i) *government agencies* (Committee of Social Issue – Viet Nam Congressional Office, Department of Preventive Medicine and Environmental – Ministry of Health, Long Bien District Health Center, Thach Ban Health Unit); (ii) *State-owned enterprise*s (Bridge 14 Company); (iii) *foreign-owned enterprise*s (Sumi – Hanel Company); (iv) *non-governmental organizations* (International Organization of Migration in Viet Nam, and the Institute of Population, Health, and Development); (v) *social organizations* (Women Union, Labor Union and Youth Union); and (vi) *migrants.*

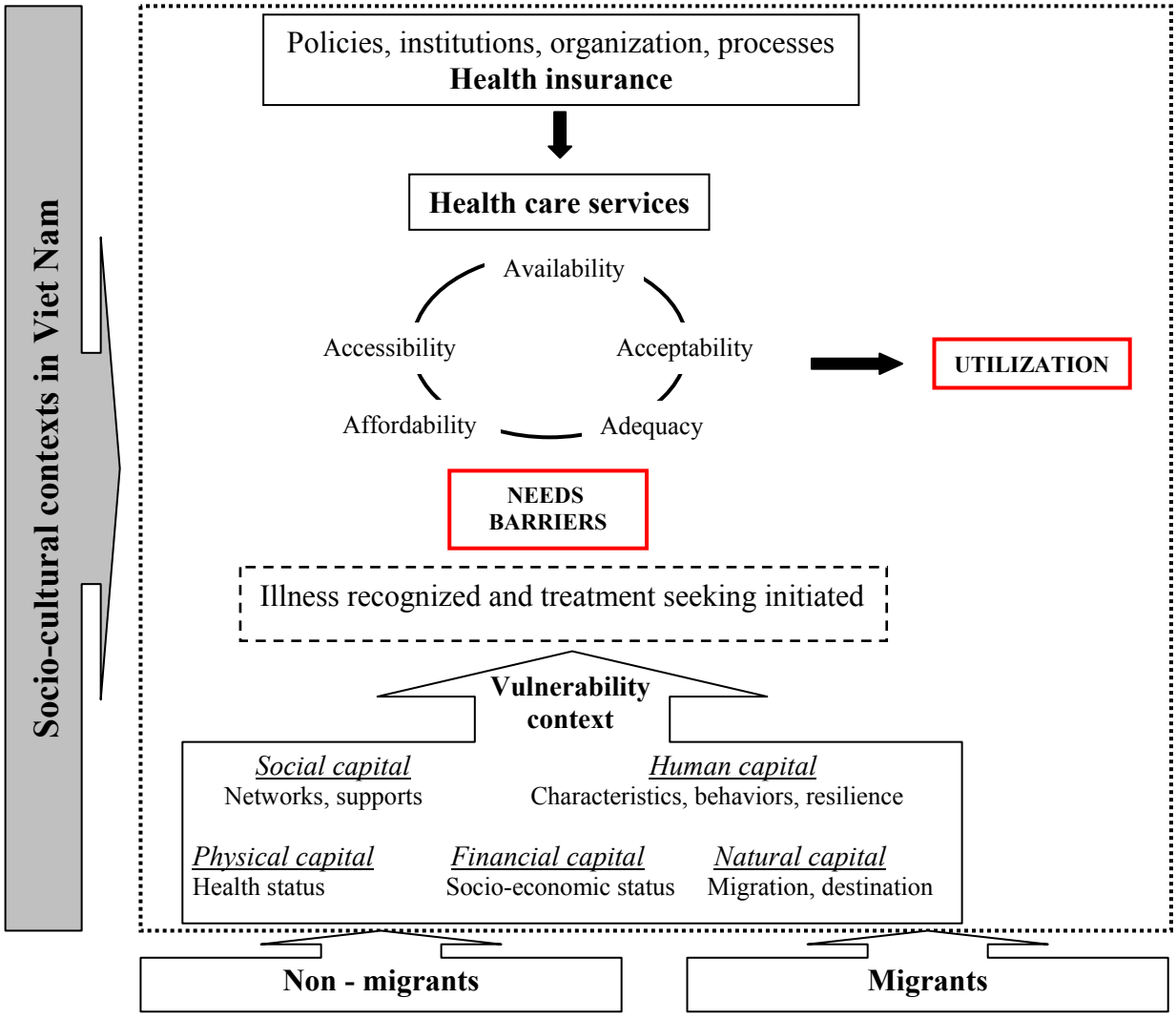
Based on the study design outlined at the workshop and subsequent implementation, our results were used to develop an intervention proposal that was approved and funded by the Viet Nam Ministry of Health. This intervention will be trialed in 2013.

Chapter 7 Methodology

Conceptual framework of the study

The study used the Health Access Livelihood Framework, which is presented in Chapter 4, to develop its conceptual framework. The utilization of health services should be assessed through the combination of many aspects, including health policies – especially health insurance policies, providers (i.e. health services), and users (i.e. migrants and non-migrants) - and these within the socio-cultural context in Viet Nam (Figure 7.1).

Figure 0.1. Conceptual framework of the study



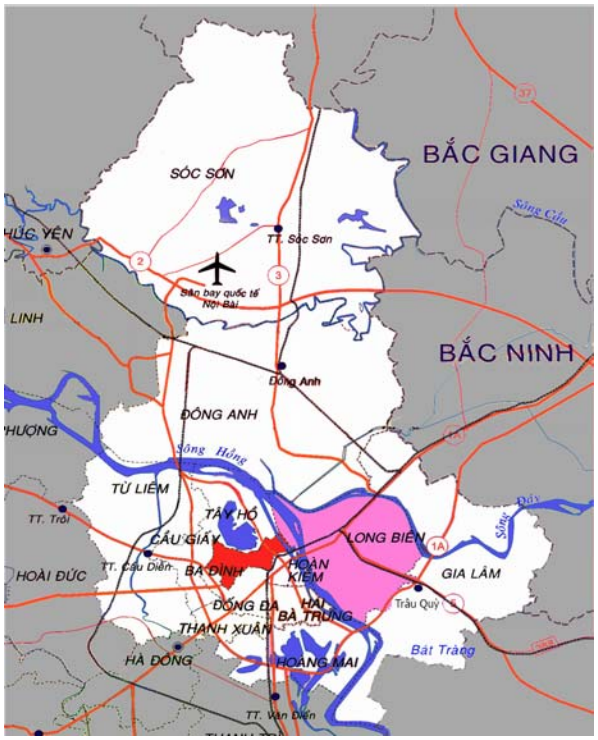
Study sites

The study was conducted in Long Bien and Ba Dinh districts in Ha Noi (the political capital of Viet Nam) (Figure 7.2). Ha Noi is one of the two economic and cultural centres (i.e. Ha Noi and HoChiMinh City) that are attractive destinations of internal migrants in Viet Nam.

Long Bien is a fast growing district of Ha Noi because it includes the economic axis of Ha Noi – Hai Phong – Quang Ninh, many national highways, new urban compounds and industrial zones such as Sai Dong A and Sai Dong B. All these have contributed to increase the inflow of rural-to-urban migrants in Long Bien. To date, migrant populations accounts for 10% of the whole population in Long Bien. Most migrants work in the industrial zones and in private small enterprises.

Ba Dinh is a central district of Ha Noi with several leading governmental agencies. However, it also contains one of the biggest wholesale markets. This market attracts seasonal rural-to-urban migrants from neighbouring provinces. Most of the seasonal migrants live in slums of Phuc Xa commune – adjacent to the Hong River. Seasonal migrant populations account for about 10% of the whole population of Ba Dinh.

Figure 0.2. Study sites in Ha Noi.



Participants

In general, a migrant was defined as a person who moves to Ha Noi from another province. It is noted that the study just considered Ha Noi *"old"* that did not include Ha Tay province as before August 1st, 2008. Migrant population was divided into 03 sub-populations: (i) migrants working in IZ, (ii) migrants working in PSE, and (iii) seasonal migrants.

All participants in the study were 18 – 55 years old, which reflects the working age in Viet Nam (18 – 60 for males and 18 – 55 for females). In addition, migrants *(migrants working in IZ and migrant working in PSE)* lived continuously in Ha Noi for 6 months – 5 years. This criterion ensured that migrants had some time for integrating into the community at destination and for experiencing health-related risks and health care services as well as it was the same criterion used in the national censuses, surveys, and other studies on migration in Viet Nam. Thus it makes our estimates comparable to those of other studies. A *seasonal migrant* was defined as a person who stays in Ha Noi for less than 6 months and gets temporal jobs without a labor contract (e.g. porters, vendors, waiters, maids, and other others working in the service sector). *Non-migrants* were defined as people who had a permanent residence *(ho khau)* and lived in the study sites for at least 5 years prior to the time of the study.

Study design

This study was divided into four phases. **Phase 1** used secondary data that was drawn from the 1989, 1999, and 2009 Censuses to capture trends of internal migration and relations between migration flows and provincial social-economic status in Viet Nam. An article from findings of this part was accepted by the *Global Health Action* (see Chapter 8). In this phase, we have also conducted a qualitative survey to clarify research objectives, partnerships, study sites and developped a logical framework and data collection instruments of the study. Findings of this survey were published in *Journal of Practical Medicine* No. 5 (764) pages: 154 – 158 (Appendix 2).

In **Phase 2** we have used a mixed qualitative-quantitative approach during a cross-sectional survey to validate data collection instruments and investigate heath status and the utilization of

health care services among migrant populations. Two articles from findings of this part were reviewed by the *Health and Quality of Life Outcomes* and the *BMC Health Services Research* (see Chapter 9 and 10). Some other findings of this phase were also published in *Journal of Military Pharmaco – Medicine* Vol. 37 No. 2 pages: 33 – 38 (Appendix 3).

Phase 3 was focused on the access to health services for reproductive tract infections among female migrants working in IZ. Findings of this part were published in the *Reproductive Health* (see Chapter 11). Some other issues of this phase were also published in *Journal of Preventive Medicine* No. 8 (126) pages: 48-55 (Appendix 4) and *Viet Nam Journal of Public Health* No. 23 (23) pages: 33-39 (in Vietnamese) and No.1 (1) (in English – Chapter 12).

In **Phase 4** we have developed a proposal for a national intervention for improving access to reproductive health care services (see 'Outlook' of this thesis). The proposal was approved the Viet Nam MoH and will be implement in 2013.

Sampling and sample size

Non-migrants were randomly recruited from the general population in the study sites with an availabe sampling frame from the household registration – *dang ky ho khau* – that was made available by the local government. The sampling frame of migrants, meanwhile, was basically from the temporary registration – *dang ky tam tru*. This registration was complemented by non-registration migrants with the assistance of heads of resident groups – *to dan pho*. The first participant was selected randomly and then every 4^{th} persons in the sampling frame.

The sample size was calculated for each study phase according to its objectives. Generally, the sample size was estimated to allow the comparison of the utilization of health care services among different migrant populations with specified precision. The two preliminary estimates (i.e. percentage of the utilization in non-migrant and migrant population) were from the pilot study and were $p_1 = 0.35$ and $p_2 = 0.25$, respectively. The pilot study included migrants working in industrial zones and non-migrants. We have assumed that migrants working in PSE and seasonal migrants would also have a 10% lower frequency of utilization than non-migrants. We have calculated that a total of 1800 participants were to be included - 450 participants in each of the four groups.

This study obtained the ethical clearance from Ethikkommission beider Basel (EKBB) in Basel, Switzerland the Institutional Review Board (IRB) of the HaNoi School of Public Health in Viet Nam

Part III Results: Internal migration, health status and access to health care services

Structure of the results' section

In **Chapter 8**, I will present a profile of migration flows between provinces – especially rural-to-urban migration – in Viet Nam. To establish this profile and migration trends, I have used data from national censuses and household living standard surveys. This chapter will provide an updated understanding about trends of rural-to-urban migrant and its associated factors. In view of health, such information is important to develop public health plans.

In **Chapter 9**, I report the health status among different migrant populations as well as non-migrant populations in Viet Nam. This study used for the first time a validated instrument (i.e. Vietnamese SF-36 version 2 Health Survey) for measuring physical and mental health of participants. It contributes to the identification of specific health interventions for different groups of migrants.

Chapter 10 captures the utilization of health care services in general, and among different migrant populations in Viet Nam in particular. This chapter also presents related factors of health service utilization that are important for further health interventions among migrant populations.

In chapter 10, findings demonstrate that seasonal migrants are the least likely to use health care services compared to non-migrants and other migrant populations. Thus a Masters' thesis was conducted subsequently and aimed to capture main obstacles of access to health services for seasonal migrants (see Appendix 1).

Chapter 11 and 12 show results that have focused for the first time on the access to and the needs for health care services for reproductive tract infections (RTIs) among female migrants working in industrial zones.

Chapter 11 and 12 were partly taken from a Masters' thesis within the project. These two chapters add important evidences for proposing an intervention project. Indeed, we have formulated such a project and it is funded by Viet Nam MoH (see in the Outlook).

I then conclude in the chapters following the result chapters: In part IV and **Chapter 13** I discuss more generally my results and provide recommendations. In this chapter, the methodology and

main results of the project are discussed. Also, this chapter presents concrete recommendations for future research and interventions.

Finally, in the **Outlook** I report on the proposal of a national intervention project. The project was approved by the Vietnamese MoH. The project proposes the use of an interdisciplinary approach and policy options to improve the access to reproductive health care services of female migrants aged 18-49 years and are working in industrial zones of Viet Nam.

Chapter 8 An analysis of inter-provincial migration in Viet Nam from 1989-2009

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Abstract

Background: In Viet Nam, reports either present general patterns of internal migration or the migration characteristics of specific sub-groups. Reports are often based on small numbers, and do not examine the relationships between socio-economic factors and migration. Different reports classify migrant populations differently, which presents difficulties for researchers and policy-makers to gain a consistent picture of migration, particularly of inter-provincial migration, and limits the ability of policy-makers to plan services appropriately. The paper describes the characteristics of all migrants in Viet Nam, focusing on inter-provincial migrants, and examines age and sex trends and correlations between in-migration, urbanization and individual income.

Methods: We analyzed data from the 15% sample survey in the 2009 Population and Housing Census, the 3% sample in the 1999 national census, the 5% sample in the 1989 national census, and selected data from the 2008 Viet Nam Household Living Standards Survey of Vietnam. Logistic regression was used to identify socioeconomic factors related to migration.

Results: In 2009, of 6.7 million internal migrants (approximately 6.5% of the total population), 3.4 million were inter-provincial migrants. Three notable trends were observed between 1989 and 2009: i) the total population is characterized by increasing proportions of migrants ii) the proportion of female migrants is growing and iii) the average age of migrants is decreasing. Socioeconomic factors related to inter-provincial migration include provincial economic status (monthly income per capita – OR=4.62, p=0.005) and urbanization (proportion of urban population – OR=3.47, p=0.019), suggesting that provinces with high monthly income per capita and urbanization are more likely to have higher rates of in-migration..

Conclusions: These findings reflect the effects on migration of unequally growing labor markets in Vietnamese provinces, and are suggestive of the infrastructure improvement and public service needs in these areas. Analysis of migration can provide useful information for planning health and social services, and for policy making for national economic development.

Background

Internal migration is inevitable in countries that undergo rapid economic and social development (UNDP 2010). China, Indonesia, India, Thailand and other Asian nations have recently experienced dramatic increases in internal migration, particularly in inter-provincial migration (Deshingkar 2006; Guest 2006). This kind of migration has been a great source of poverty reduction through meeting labor demands, but bears risks on both migrants and their home communities as these populations have limited access to social services and information about employment, welfare and health (Deshingkar 2006; Guest 2006).

In Viet Nam, the transformation from a centrally planned economy with public ownership of production to a market economy that encouraged individual entrepreneurship and foreign investment (Renovation - Doi Moi) began in 1986 and has led to significant economic growth and poverty reduction. However, the benefits of the Doi Moi have been unequally distributed among regions: while cities such as Ho Chi Minh City, Ha Noi and surrounding provinces have received large levels of industrial capital, Northern Mountains, North Central Coast, Central Highlands and other rural areas have lagged behind. These disparities have triggered a flow of rural-to-urban migration (Phan and Coxhead 2010; UNDP 2010).

Researchers have noted that migration enables access to employment, providing better wages for people from rural areas (Phuong 2008; UNDP 2009). Migration is not only a way for migrants to better their lives, but is also a significant source of family support via remittances (Skeldon 1997; Deshingkar 2006; Guest 2006; UNDP 2009). For most migrants, movement is not due to unemployment but prompted by a desire to improve working, income, and living conditions for themselves and their families. The 2004 Viet Nam Migration Survey stated that economic motives account for the moves of over 70% of all types of migrants (GSO 2006).

Difficulties of definition characterize research on migration. Related concepts (e.g. temporary, seasonal, permanent, or floating migration) are used interchangeably and the indicators presented have been controversial (Viet Nam National Assembly 2006; Brauw 2007; Le and Nguyen 2011). Indeed, no uniform definition of migration is apparent in the literature. This is because migration involves both a temporal and spatial context. In addition, migration studies typically employ different definitions in conjunction with different types of data (Phuong 2008). According to the Joint United Nations Programme on HIV/AIDS, migrants are "people who move from one place to another temporarily, seasonally or permanently for a host of voluntary and/or involuntary reasons" (UNAIDS 2001). This definition incorporates internal or domestic migration, which refers to the movement of people from one place to another place within the same country. Due to difficulties in defining types of population mobility, it is important to have a clear terminology for the Vietnamese context when looking into problems, including access to health care for mobile populations in Viet Nam.

In Vietnamese migration-related policy documents, the Government classifies migrants according to two groups: organized/sponsored/government-controlled migrants (i.e., people who migrate within the country and are directed by government plans due to the loss of land or natural calamities, or who volunteer to go to a new economic zone); and spontaneous migrants (i.e., people who migrate within the country, but are not organized by the Government) (Djamba, Goldstein et al. 1999). Relative to organized migrants, spontaneous or voluntary migrants are likely to be more vulnerable in terms of social protection because they are recognized but neither encouraged, nor supported nor authorized. Despite an enhanced vulnerability, most internal migrants nowadays are spontaneous (UNDP 2010).

In the 2009 Population and Housing Census, internal or domestic migrants are identified according to one of three categories: inter-provincial migrants – persons moving from one province to another within the country; inter-district/intra-provincial migrants – persons moving from one district to another within a province; and intra-district migrants – persons moving within a district (GSO 2009; Liem 2009). People who move spontaneously for work generally prefer areas nearer their homes to maintain links and benefit from mutual support with their families. By contrast, inter-provincial migrants – especially migrants moving without their families - do not have such access to family support, and are likely to be the most vulnerable group among internal migrants (Le and Nguyen 2011).

In Viet Nam, reports tend to present either general patterns of internal migration or characteristics of specific sub-groups, such as long-distance truck drivers, sexual workers, construction workers, seafarers, and laborers (FHI 2001; Lam, Dan et al. 2005; Nghi 2010). These reports are commonly based on small numbers and do not examine the relationships between socio-economic factors and migration. In addition, reports use different classifications of migration, making it difficult for researchers and policy-makers to gain a consistent picture, particularly regarding inter-provincial migration.

This paper attempts to address these gaps by drawing on successive national census datasets with the following research aims (i) to describe the main characteristics of the inter-provincial migration population in Viet Nam; (ii) to capture the trends of inter-provincial migration over time; and (iii) to examine correlations between provincial socio-economic status (SES) and internal migration rates. This project is part of a larger study on *"Access to health care services, health risks and resilience of inter-provincial migrants in Viet Nam"* (Anh, Lien et al. 2011; Anh, Lien et al. 2012).

Methods

Data sources

The analysis used raw data from the 15% sample survey in the 2009 Population and Housing Census, the 3% sample survey in the 1999 national census, and the 5% sample survey in the 1989 national census of Viet Nam (GSO 1991; GSO 2001; Central Population and Housing Census Steering Committee 2010). These survey samples were selected using multi-stage cluster sampling. Technical issues of the sampling procedure were clarified by Viet Nam General Statistical Office (GSO) in *"the 2009 Viet Nam Population and Housing Census: implementation and preliminary result"* (GSO 2009). Provincial SES indicators were calculated based on data from the 2008 Vietnam Household Living Standards Survey (GSO 2008), and the provincial urbanization rate was calculated from the 2009 national census data.

Definitions of migration indicators

In each national census, a person was considered a migrant if the current place of residence at the time of survey and the place of residence five years prior were not the same commune (i.e. smallest administrative unit). The term "inter-provincial migrant" used in this study therefore

refers to the population who changed province during the previous five years of the census. Based on the rural and urban characteristics of place of residence five years prior to the census versus those in the current place of residence, migration flows were identified according to four categories: rural-to-rural, rural-to-urban, urban-to-urban, and urban-to-rural migration.

Classification of an area as urban or rural was based on the National Administrative Map (Viet Nam Goverment 2009; Goverment 2011). Urbanization is understood both quantitatively, reflecting a growing population, increased population density, territorial expansion, and production development, and qualitatively, indicating changes in living standards, and diversification of socio-economic cultural patterns (GSO 2011). However, among third world nations, urbanization is largely taking place in the sense of expanding breadth of urban areas and in terms of population growth. In this study, we therefore consider the proportion of the population living in urban areas (i.e. urban population) to indicate the degree of urbanization: the "urban population is composed of residents of cities, provincial towns and district townships" (Viet Nam Goverment 2001).

The in-migration rate refers to the number of people arriving from other provinces during an observed period per 1,000 persons aged five and above in the destination province. The out-migration rate refers to the number of migrants departing from one province during an observed period per 1,000 persons aged five and above in that province.

The net gain of the population through migration refers to the mean of the absolute in-migration population per year during the period 2004-2009 in a given area. Subsequently, the net loss of the population through migration is the mean of the absolute out-migration population per year during the same period in a given area.

In addition, in the 2009 census, the main construction materials of the pier, roof, and outer walls were used to categorize housing status according to one of three levels: permanent, semi-permanent, and simple. Hygienic toilet facilities were defined as "flush toilets with septic tanks and sewage pipes" and safe water was defined as "coming from an indoor or public tap, drilled-well water, a protected dug well or rain water". These indicators were utilized from the report *"the 2009 Viet Nam Population and Housing Census: some key indicators"* (GSO 2010).

Statistical analysis

Data used for analysis were extrapolated from the census sample using expansion factors (weights) provided by the Viet Nam GSO because the sample captured only 15% of total population. As stated above, all information regarding technical issues related to the census data is contained in *"the 2009 Viet Nam Population and Housing Census: implementation and preliminary result"* (GSO 2009).

In this analysis, tabular techniques were used to present the characteristics of the internal migrant population. The maps in the report relied on data disaggregated by province to show migration flows and distribution of industrial zones in Viet Nam. In addition, crude Odds Ratios calculated by a simple logistic regression were used to identify factors related to in-migration. These correlates included provincial economic status (e.g. monthly income per capita, poverty rate, and ratio of 5^{th} to 1^{st} wealth quintile), social status (e.g. school drop-out and unemployment rates) and urbanization (e.g. proportion of population classified as urban). Due to an empirical correlation between the poverty rate and monthly income per capita, monthly income per capita and ratio of 5^{th} to 1^{st} quintile were adopted as indicators of economic status. Moreover, because all the selected variables had non-normal distributions and were continuous variables, their medians were used to convert them into categorical variables. According to this approach, continuous variables were classified as "low" – below median and "high" – above median. (e.g. in-migration rate was divided into two categories: low and high in-migration rate).

Results

Of the 6.7 million internal migrants in 2009 (including intra-district, inter-district, and inter-provincial migrants), accounting for 6.5% of the total population, approximately 3.4 million were inter-provincial migrants. Inter-provincial migrants were mostly young, with a median age of 24 and 23 years for males and females, respectively. Compared to inter-district and intra-district migrants, the inter-provincial migrants significantly were the youngest (Table 8.1).

Table 8.1 also shows that only 23% of the inter-provincial migrants lived in permanent houses with concrete roofs, while 48.5% lived in semi-permanent houses with tile or tin roofs, and 28.5% lived in simple houses with leaf, or straw-oil paper roofs. The proportion of inter-provincial migrants living in permanent housing was the lowest of all other migrant groups. However, a high proportion used safe water and hygienic toilets were observed for all types of migrants.

Table 0.1. Main characteristics of internal migrants aged 5 years and older in Viet Nam, National Census, 2009

Characteristics	**Inter-provincial migrants**	**Inter-district migrants**	**Intra-district migrants**
Number of internal migrants		6,724,960	
Number of migrants (%)	3,397,904 (50.5%)	1,708,896 (25.4%)	1,618,160 (24.1%)
Age (median)	24	25	26
Male	24	27	29
Female	23	24	25
Gender (%)			
Male	47.0	43.4	36.4
Female	53.0	56.6	63.6
Housing status (%)			
Simple	28.5	27.1	28.1
Semi-permanent	48.5	41.2	40.5
Permanent	23.0	31.6	31.4
Safe water for drinking and cooking (%)	94.5	92.0	86.8
Toilet facilities (%)			
None	3.4	4.1	7.0
Other (non-hygienic toilet)	13.4	17.4	30.5
Hygienic toilet	83.3	78.5	62.6

Note: All differences among migrant populations are statistically significant with $p<0.001$

The proportion of females is higher than that of males among migrant populations (Table 8.2). The ratio of female/male migrants is highest for rural-to-rural migration, followed by rural-to-urban, urban-to-urban, and urban-to-rural migration. Moreover, analysis of the 2009 census data reveals that females accounted for more than half of the inter-provincial migrant population in all but one type of migration (the exception is urban-to-rural migration in the inter-provincial group, but the female proportion was very close to 50%) (Table 8.3). In addition, Tables 8.2 and 8.3 show that 20-40 year olds made up the highest proportion of the total migrant population, and

that the concentration of young adults among migrants was also highest for rural to urban migration.

Table 0.2. Main characteristics of internal migrants aged 5 years and older, comprising 8.6% of the whole population, by migration flows and using Viet Nam National Census data, 2009

Characteristics	**R-R**	**R-U**	**U-U**	**U-R**
Proportion of migrants (%)	33.7	31.6	26.3	8.4
Age (median)	24	23	28	27
Age groups (%)				
Under 20 years	22.3	24.8	20.1	17.3
20-40 years	67.2	66.7	59.9	63.6
Over 40 years	10.5	8.5	20.0	19.1
Gender (%)				
Male	39.3	44.8	46.3	48.4
Female	60.7	55.2	53.7	51.6
Ethnic group				
Kinh	84.3	95.2	96.0	93.9
Tay	2.4	1.1	0.6	1.4
Thai	2.7	0.7	0.1	0.4
Muong	2.0	0.6	0.1	0.6
Khomer	1.5	0.9	0.2	0.5
Hmong	1.4	0.1	0.1	0.3
Others	5.7	1.4	2.9	2.9
Education				
Illiterate	4.2	1.1	1.2	2.2
Less than primary school	14.2	6.9	10.7	13.6
Primary school	25.9	16.6	15.5	21.2
Secondary school	25.5	21.5	15.8	20.5
High school	18.2	35.9	22.7	15.7
Primary vocational training	2.4	3.7	3.7	3.8
Intermediate vocational training	4.9	6.1	7.4	8.9
Vocational junior college	0.3	0.4	0.5	0.7
Junior college	1.9	1.9	2.7	3.3
Graduate	2.5	5.8	18.5	9.8
Postgraduate	0.0	0.1	1.3	0.3

Note: All differences among migrant populations are statistically significant with $p<0.001$

A high proportion of migrants with high-school education or higher, were observed for inter-provincial groups. This is similar to the trend for the total internal migrant population. The proportion was highest for urban-to-urban migrants (57.2%), followed by rural-to-urban migrants (51.4%), rural-to-rural migrants (31.2%), and urban-to-rural migrants (31.0%) (Table 8.2). The Kinh people accounted for over 90% of all migrants, while other ethnic minorities made up low proportions of both internal and inter-provincial migrants, mostly engaging in rural-to-rural migration (Table 8.2 and 8.3).

Table 0.3. Main characteristics of inter-provincial migrants aged 5 years and older, comprising 4.3% of the whole population (and 50.5% of internal migration population), by migration flows and using Viet Nam National Census data, 2009

Characteristics	**R-R**	**R-U**	**U-U**	**U-R**
Proportion of migrants (%)	35.4	44.5	7.3	12.8
Age (median)	24	23	24	26
Age groups (%)				
Under 20 years	24.0	24.7	21.0	16.2
20-40 years	66.1	67.1	67.5	67.3
Over 40 years	9.9	8.1	11.5	16.5
Gender (%)				
Male	46.1	46.6	48.1	51.5
Female	53.9	53.4	51.9	48.5
Ethnic group				
Kinh	89.0	96.4	96.9	94.8
Tay	1.8	0.7	1.0	1.4
Thai	0.9	0.3	0.2	0.3
Muong	2.0	0.6	0.3	0.8
Khomer	1.7	1.0	0.3	0.6
Hmong	1.1	0.0	0.0	0.1
Others	3.4	1.1	1.3	1.9
Education				
Illiterate	3.2	0.9	0.7	1.8
Less than primary school	12.4	6.4	6.2	11.8
Primary school	26.5	17.8	11.8	20.2
Secondary school	26.7	23.5	14.1	22.5
High school	21.6	35.8	36.4	18.5
Primary vocational training	2.5	3.8	3.2	3.7
Intermediate vocational training	4.0	4.9	7.2	8.9
Vocational junior college	0.3	0.4	0.5	0.8
Junior college	1.1	1.5	2.6	2.6
Graduate	1.7	4.9	16.6	9.0
Postgraduate	0.0	0.1	0.7	0.2

Note: All differences among migrant populations are statistically significant with $p<0.001$

As shown in Figure 8.1, inter-provincial migration has increased over time. The population of migrants (as defined in this study) increased from 1.3 million in 1989 (2.5% of the total population) to 2 million in 1999 (2.9% of the total population) and to 3.4 million people in 2009 (4.3% of the total population). The relative figures indicate a proportional increase of internal migration, particularly between 1999 and 2009.

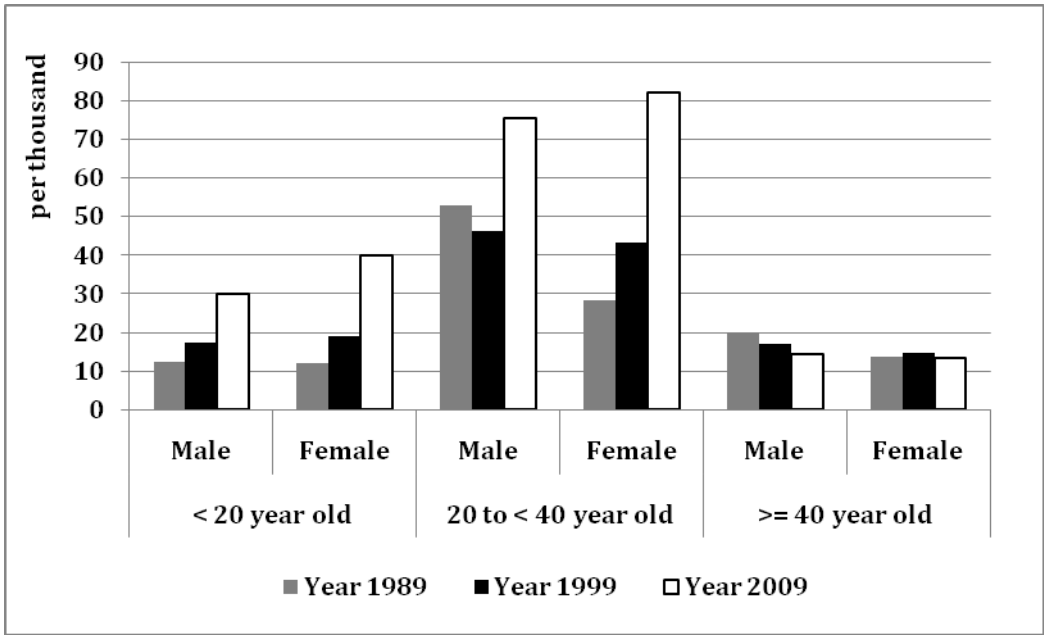


Figure 0.1.Trends of inter-provincial migration rates (migrants per 1000 people) over time by gender and age groups.

Note: All proportions presented in this graph were estimated using census data with extremely large sample size, thus the standard deviation of the proportion is extremely small (such as 0.007%) and the 95% CI extremely narrow, and thus the 95% CI was hardly presented in the chart.

Increasing female migration rates is also observed. In 1989, the migration rate of females was lower than that of males for all age groups. However, in 2009, the migration rates among females were higher compared to the rates of males for all age groups and this difference was most pronounced among the youngest age group (i.e. for those aged 20 and under, the migration rate was 40/1000 for women vs. 30/1000 for men).

The inter-provincial migrant population has also become, on average, younger over time. The median age of internal male and female migrants in the 1999 census was 25 years for both sexes. However, in the 2009 census, the median age dropped to 24 years for men and 23 years for women. Figure 8.1 also shows that the migration rates of men and women under the age of 20 doubled and trebled, respectively, between 1989 and 2009.

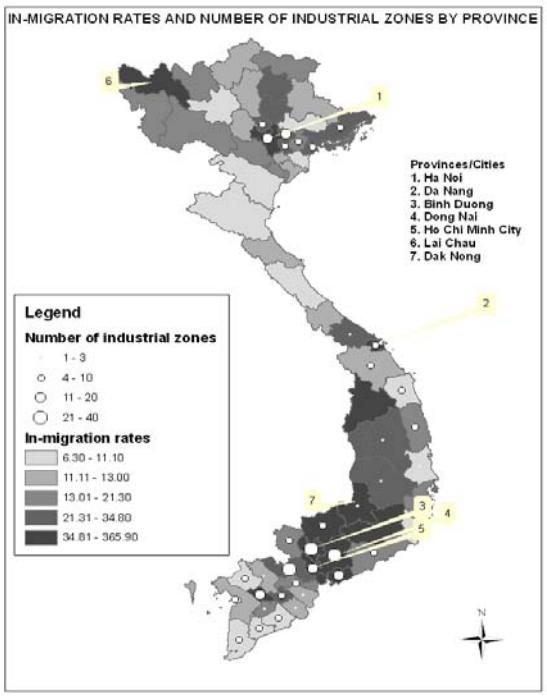
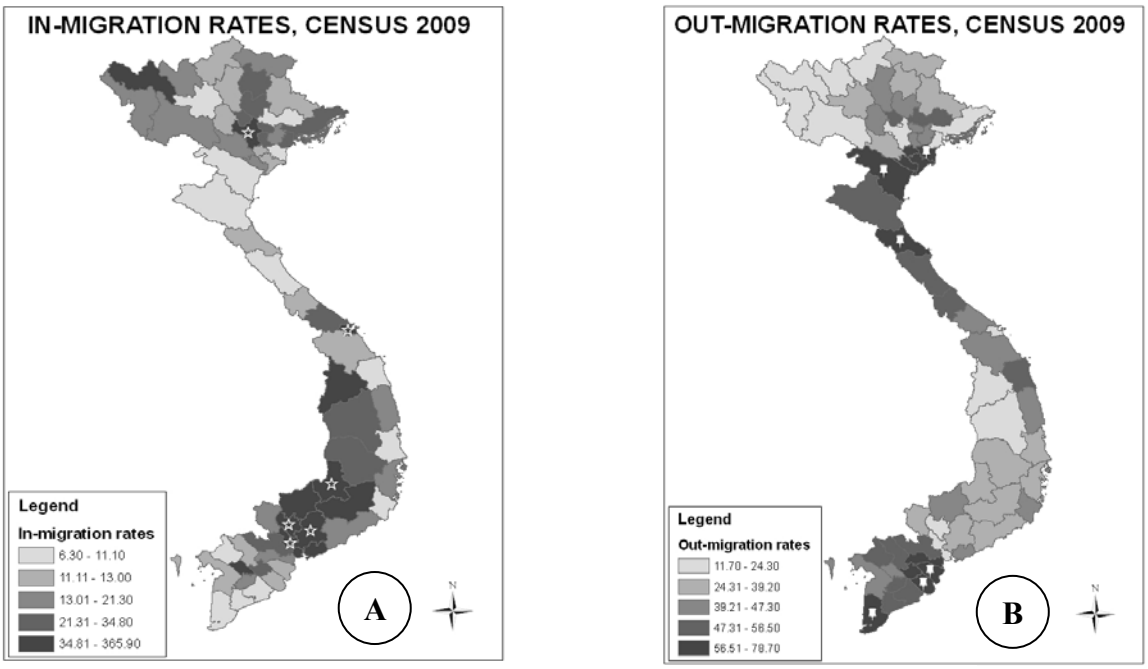


Figure 0.2. In-migration rates and number of industrial zones by province in Viet Nam, 2009, excluding Hoang Sa and Truong Sa islands.

Note: The map shows the number of industrial zones, but does not show the extent of the industrial zones. Distribution of variables in this figure is skewed; thus, these variables are classified into categories by using the quintile.



"start": the provinces with the highest in-migration rates

Figure 0.3. Migration rates in Viet Nam, 2009, excluding Hoang Sa and Truong Sa islands.

Note: Part A. shows the in-migration rates by province, and part B shows the out-migration rates by province. Distribution of variables in this figure is skewed; thus, these variables are classified into categories by using the quintile.

Rates of migration also vary across provinces. In some provinces, the migrant population represents more than 10% of the total population, such as in HoChiMinh City (HCMC), Binh Duong, and Ha Noi. By contrast, the migrant population in other provinces accounts for less than 1% of the total population.

Figure 8.2 and 8.3A illustrate the geographical migration flows. The provinces with high in-migration rates are mostly concentrated in the South East; a region that is considered to be the economic centre of Viet Nam. The first 5 provinces/cities (numbered 1 to 5 in Figure 8.2) are provinces/cities that have a large number of industrial zones and high in-migration rates. Its large industrial cities (e.g. Ha Noi, Da Nang, Binh Duong, Dong Nai, and Ho Chi Minh City) have attracted huge annual migration flows from other provinces. For instance, the net gain of the population through migration has been nearly one million people in Ho Chi Minh City and half a

million people in Binh Duong. However, Lai Chau (in the North West) and Dak Nong province (in the Central Highlands) have also experienced very high in-migration rates though these provinces have no or only one industrial zone (Figure 8.2).

Meanwhile, the Red River Delta area (e.g. Thai Binh province) and the North Central area (e.g. Thanh Hoa and Ha Tinh provinces) have experienced a net loss of almost 100-200 thousand people per province. Together with the Mekong River Delta area (e.g. Ben Tre, Tra Vinh, and Ca Mau provinces), these provinces had the highest out-migration rates (Figure 8.3B).

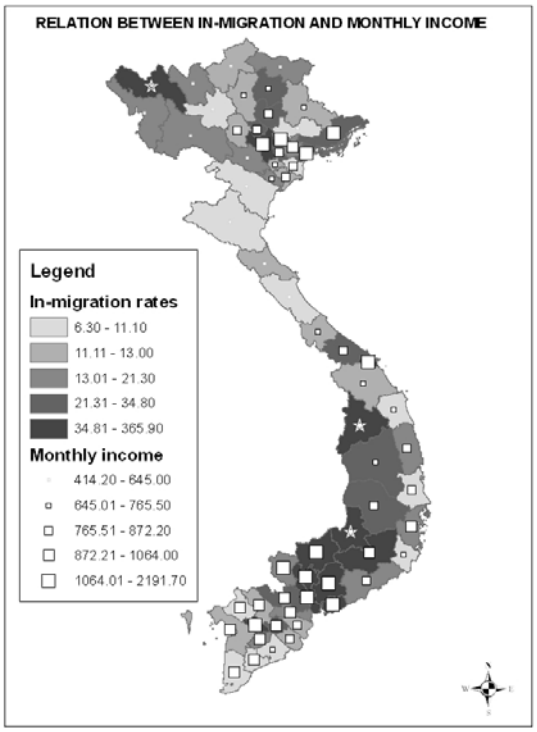


Figure 0.4. The relation between migration and monthly income per capita in Vietnamese population, excluding Hoang Sa and Truong Sa islands.

Note: The 'star' symbols in the top north east corner and the two 'star' symbols in the east middle shows the Lai Chau, Kon Tum, and Dak Nong provinces which are outliers with a high in-migration rate and low monthly per capita income. Distribution of variables in this figure is skewed; thus, these variables are classified into categories by using the quintile.

Moreover, a simple logistic regression was used to capture correlates of in-migration. Table 8.4 presents the correlation between in-migration and monthly income per capita and proportion of urban population (also in Figure 8.4). This analysis illustrates that provinces with high monthly income per capita (i.e. above 803 thousand Viet Nam Dong – VND/month) and high proportion of urban population (i.e. above 19.1% of the whole population) are more likely to have high in-migration rate than other provinces (OR=4.62 and OR=3.47, respectively). By contrast, factors such as unemployment rate, drop school rate and the ratio of 5^{th} to 1^{st} quintile appear not to be related to in-migration.

Table 0.4. Crude Odds Ratios of in-migration and its correlates

Provincial SES	**OR**	**SE**	**95%CI**		**p-values**
Monthly income per capita					
(>803 thousand VND/month)	4.62	2.5	1.6	13.35	0.005
Unemployment rate					
(>2.1%)	0.94	0.47	0.35	2.52	0.898
Proportion of urban population					
(>19.1%)	3.47	1.83	1.23	9.78	0.019
Drop school rate					
(>15.4%)	0.56	0.29	0.21	1.52	0.258
The ratio of 5th to 1st quintile					
(>6.68%)	1.06	0.54	0.4	2.86	0.904

Discussion

The 2009 national census used administrative boundaries (i.e. commune/ward, district, and province) to divide internal migration into three categories: intra-district, inter-district, and inter-

provincial. This classification captures spatial, but not temporal dimensions of migration. Temporal issues could be captured through resident registration which includes (i) permanent registration (i.e. non-migrants who have household registration book - "ho khau" in Vietnamese), (ii) temporal registration (i.e. migrants who stay in destination areas over 1 month, residing independently or with relatives, with temporary household registration book – "tam tru" in Vietnamese), (iii) floating registration (i.e. migrants who stay in destination areas less than 1 month, residing guest house or temporary dwelling, without temporary household registration book), and (iv) non-registration (i.e. migrants who have not registration in destination areas) (Viet Nam National Assembly 2006). However, the classification based on the resident registration system does not provide a clear definition of migration duration. In other words, it does not identify certain duration of migration. Hence, the census completed its migration definition by adding "five years prior to the census" to the definition. Future research on migration should use definition and classification of migration in the census as key criteria for identifying migrants.

The classification in the census fails to distinguish between organized and spontaneous migration; however, this is reasonable for the 1989, 1999, and 2009 censuses. Indeed, most migration before 1986 in Viet Nam was organized and sponsored by the government. This kind of migration involved resettlement of persons into newly developing rural areas — the new economic zones — and migration became associated with job relocation (Djamba 1999). Meanwhile, migration flows in Viet Nam after 1986 has been mainly spontaneous as a result of the restructuring of the economy and the development of individual entrepreneurship, foreign investment, and industrial zones. Organized migration has only occurred in some provinces and it is driven by national construction projects such as hydroelectric power plants (UNDP 2010).

Our analysis demonstrates that that inter-provincial migration accounts for half of the mobile population. Through our examination of consecutive censuses, three notable trends were observed in inter-provincial migration in Viet Nam during the last 25 years: (1) relative and absolute migration flows are increasing, (2) the male-female ratio of migrants has displayed an inversion, with higher proportions of women observed in 2009, and (3) the age of inter-provincial migrants is decreasing.

These trends, especially for rural to urban migration, are very similar to those in Thailand and in other Southeast Asian countries (Hugo 1993; Perjaranonda, Santipaporn et al. 1995; Guest 2006). The growth of inter-provincial migrant populations has been fostered by economic development policies, lack of jobs in rural zones and lack of employees in urban areas, rapid urbanization and the easing of policies that formerly restricted migration (Liem 2009). These developments coincide with macro-economic transitions that have led to notable economic growth and poverty reduction, but with benefits inequitably distributed towards urban rather than rural areas (Phan and Coxhead 2010). These trends have triggered contemporary internal migration flows, and particularly inter-provincial flows. These rural to urban flows put pressure on existing urban infrastructure and social services, such as, housing, health care, electricity, water and sanitation (Thanh 2006; Liem and White 2007).

The "feminization of migration" was clearly observed in our time series analysis. In fact, there was an evident gender pattern among migrants participating in labor markets. The literature attributes this trend to a declining agricultural sector and greater job opportunities for people in urban areas and industrial zones (Anh, Tavoli et al. 2003). Job opportunities for young female migrants have increased in the urban informal sector, including domestic housekeepers, restaurants, karaoke bar workers, street traders, and in the formal sector in textile, footwear and garment factories that favor women as a cheap, reliable and "nimble fingered" workforce (Lim 1993; Resurreccion and Ha 2007). Meanwhile, men have taken more jobs in heavy industry such as iron and steel processing, mining, chemical processing, and electronic assembly (Lim 1993; Anh 2006).

The inter-provincial migrant population is also getting younger, especially among the female segment of the population. Migration populations from rural to urban areas have the highest concentration of migrants at young adult ages. The flows of young migrants to urban areas also contribute largely to the economic development of those urban areas (Liem and White 2007). This in turn exacerbates the divide between rural and urban zones at provincial level. Within urban areas, average incomes of rural-to-urban migrants have been much higher than the national poverty standard; however, after paying for room rent, electricity, water, and support to their families in rural areas, the remaining available budget for food and other fundamental living items is small.

Young migrants are often healthy and better able to meet job requirements and working conditions (Liem 2009). This makes some authors coin the term of “healthy migrant effect”, which implies that migrants seem to be healthier than non-migrants. However, Kristiansen et al. (2007) stated that the effect would fade out over time because migrants are exposed to many health risk factors (Kristiansen, Mygind et al. 2007). The report of World Health Organization (WHO) (2010) also identified that migrants are more susceptible and vulnerable to ill-health effects and have more limited access to health care (they seek care more rarely or cannot pay for them) (World Health Organisation 2010).

Most migrants in Viet Nam have a secondary school education or less and, therefore, usually work in manual labor jobs, associated with low salaries, long working hours, no health insurance and huge work pressures. Limited education can also block access to important social and health information, particularly about reproductive health. Indeed, Van Landingham (2003) indicated that rural-to-urban migrants cope with negative effects for almost all aspects of health, such as, physiology, psychology, sentiment and so on (Van Landingham M 2003). The 2004 Viet Nam Migration Survey also identified several migrant-associated health problems such as poor general health status, low use of health care services, and lack of knowledge about reproductive health and sexually transmitted infections (STIs). The majority of female migrants aged 20–29, representing nearly 30% of total internal migrants, for example, displayed important misconceptions regarding reproductive health infections (RTIs), STIs, and HIV/AIDS (GSO 2006). Lack of information poses several (health) risks to migrants and makes the human resource pool more vulnerable (GSO 2006). More appropriate and adaptable health services for migrant populations clearly require more robust interpretations of the dynamics and characteristics of the relevant populations.

The results indicate that provincial characteristics of urbanization and monthly income per capita are associated with in-migration. Although this provides information on how socio-economic factors relate to migration trends, it is important to acknowledge that the processes of migration, urbanization and economic development are endogenous and go “hand-in-hand" (UNDP 2010). In-migration flows contribute to increases in urban populations, and so indicators of urbanization. In addition, rapid urbanization and structural reforms bring employment opportunities, which influence the acceleration of inter-provincial, and especially rural-to-urban, migration. As a result, linear causal inference may be problematic and conceptually limited. In

the literature, urbanization has been examined using both quantitative and qualitative indicators (GSO 2011), this analysis considers the proportion of the population living in urban areas (i.e. proportion of urban population) as the single indicator of urbanization due to limitations of secondary data. Hence, future research on urbanization and migration should consider other qualitative indicators such as improvements in living standards, changes in socio-economic patterns and diversity of cultural patterns.

Similarly, and with regard to the relationship between provincial income and in-migration, it may be inferred that in-migration contributes to the socio-economic development of provinces, however, empirical evidence has showed that economic development is one of the strongest pull factors for in-migration (Anh, Goldstein et al. 1997; Djamba, Goldstein et al. 1999; Guest 2006; Phuong 2008; Kundu 2009; Phan and Coxhead 2010). That "pull" effect was clearly demonstrated in some provinces in Viet Nam such as Ha Noi, HoChiMinh City, Binh Duong, Da Nang and Dong Nai. In addition, the Doi Moi policies that encourage economic development have enabled the development of large industrial zones that have lead to increased urbanization (Phan and Coxhead 2010). Binh Duong province is a typical example. It was originally a rural area belonging to Song Be province until 1997. After Doi Moi, Binh Duong attracted huge industrial capital, developed large industrial zones, and experienced rapid economic and urban growth and subsequent high monthly incomes. These developments made it an ideal destination for migrants. Indeed, this study found the highest in-migration rate to be in Binh Duong, compared to other urban areas. Some exceptions to this assertion exist, however. Lai Chau, for instance, is neither an urbanized nor high-income area, and yet its in-migration rate was quite high. The trend can be explained in terms of the Government-organized migration of rural communities, who lost their land after the construction of hydroelectric plants or other economic development projects. According to the report of the Asian Development Bank in 2005, about 78,000 people of Dien Bien, Lai Chau, and Son La were involved in a resettlement plan that would allow for the construction of the Son La hydroelectric power plant. In these 'organized migration' flows, most of the migrants are of ethnic minorities. Of the relocated population, 60-90% were of Thai ethnicity (Asian Development Bank 2005). In the 2009 census, 6% of total migrants in Viet Nam were minorities and most moved with organized migration or delocalization programs (GSO 2011).

Kon Tum and Dak Nong are other notable exceptions. Known as a new economic zone organized by the Government many years even before Doi Moi, the two provinces are still "capitals" of cash crops such as coffee. This has attracted migrants from other provinces, especially rural areas. In contrast to rural-to-urban migrants, most migrants moving to Kon Tum and Dak Nong were accompanied by their family and intend to stay there permanently.

It is important to note that the data in this study came from three sources: the 1989 national census capturing 5% population, the 1999 national census capturing 3% population, and the 2009 national census capturing 15% population. Although we strictly used the expansion factors for each census provided by the General Statistical Office, biases can exist in the data due to different weighting schemes used in the different nationally representative datasets. In addition, our estimates of inter-provincial migration rates were based on movements five years prior to the census, and thus exclude short-term, temporary migrants, circular migrants and those who move without any registration. As a result, the actual number of inter-provincial migrants may be higher than our estimates suggest. Those 'uncounted' populations, may be particularly vulnerable, e.g. those who move without registration papers cannot access services in their place of destination. Furthermore, they commonly work in informal sectors, without employment contracts and insurance. Information about these "hidden or uncounted" populations is not yet available. Future research should aim to provide more information about these populations to facilitate policies and interventions that take these groups into consideration.

Conclusion

The analysis presented here is an attempt to describe and understand characteristics and trends of inter-provincial migration, and discuss the relationship between migration, urbanization, and income per capita. Our analysis has also shown that inter-provincial migration flows in Viet Nam has changed dramatically over time, and that these changes are characterized by an increase in relative and absolute migration flows, an inversion of the male-female ratio with higher proportions of women in 2009, and a decrease in the average age of migrants. These trends reflect unequally growing labor markets in Vietnamese provinces and imply improvements in infrastructure in these areas. Moreover, the trends challenge the national health system to ensure access to health care and health insurance for migrants and to design health services to cater for these populations.

There is crude relationship between provincial socio-economic status (monthly income per capita and proportion of urban population) and in-migration rate. Provinces with high monthly income per capita and high proportion of urban population are more likely to have high in-migration rate than other provinces. Further studies should examine these relationships in more depth. In addition, the development of industrial zones, the expansion of cities, and large national construction projects have a critical relationship with migration. Policy-makers should consider these factors in economic development programs to ensure equitable access to public goods, and needs of migrants, particularly younger, female migrants that account for a large migrant population are met.

Policy Recommendations

To have better supports to the lives of internal migrants - especially rural-to-urban migrants - in Viet Nam it is necessary to understand trends and characteristics of the migrants and factors promoting rural-to-urban migration.

The following recommendations are key points for that drawn from this study:

- National policy needs to identify rural-to-urban migrants as an important human resource for development of national industrial zones.
- Cities/Provinces with large industrial zones or national projects need to improve their basic infrastructure such as accommodation with good living conditions, local health system, and schools for migrants' children before opening for migrants.
- Cities/Provinces with large industrial zones or national projects need to have specific policies for supporting migrants. These policies need to aim ensuring the rights of migrants in accessing social welfare and health insurance.
- National programs (e.g. health programs) related to migrants need to focus on young migrants, especially female migrants. These programs need to recognize female migrants as priority targets due to predominant proportion of this group.

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Chapter 9 Assessment of health status across different types of migrant populations in Vietnam: a cross-sectional study using SF 36 version 2

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Abstract

Objectives: Rural-to-urban migration has accounted for the largest proportion of internal migration in Viet Nam. Many studies suggested that migrants' health status is usually less than non-migrants'; but current studies in Viet Nam have mostly focused on migrants in general while ignoring other kinds of migrants, particularly seasonal migrants. This study aimed to use the Vietnamese SF-36 version 2 Health Survey to compare health status across four groups: non-migrants, migrants working in industrial zones (IZ), migrants working in private small enterprises (PSE), and seasonal migrants

Methods: This cross-sectional study included 1800 non-migrants and migrants aged 18-55 in Long Bien and Ba Dinh districts, Ha Noi. These study sites consist of large industrial zones and many slums where most seasonal migrants live in. Each of the four study groups included 450 randomly selected participants. The original Vietnamese SF-36v2 under a license of QualitiveMetric Incorporated was used to measure health status of participants.

Results: Most domains of SF-36v2 had high internal reliability (Cronbach's alpha: 0.7-0.9), except for the Social Functioning and Vitality (0.60-0.66). This might be caused by cultural differences in translating concepts. Seasonal migrants have lower scores of physical health than non-migrants and other migrant populations (OR=1.54, p=0.042). Migrants working in IZ are the most likely to have lower scores of mental health than others (OR=1.92, p<0.001). Physical ill-health was most frequently seen among seasonal female migrants, especially those aged over 40 years and those having low monthly incomes, whereas female migrants working in industrials zones, who usually work in shifts and have low monthly incomes were the most vulnerable for mental ill-health.

Conclusion: The study showed reliability of Vietnamese SF-36v2, but further studies are needed to consider cultural specificities in more precise wordings, particularly in the vitality and social functioning categories. Physical and mental health is different among migrant populations. For physical health, age, gender, and monthly income are important correlates; meanwhile, gender, income, and working time are the main correlates of mental health. These special migrant sub-groups need to be targeted in future health interventions, particularly prevention campaigns, and health care and access to health service programs.

Background

Migration belongs to social and economic development, currently mainly of cities in developing countries; and Viet Nam experiences increasing migration since the 'Renovation' (*Doi Moi*) period that started in 1986 (Phan and Coxhead 2010; UNDP 2010). There are several types of migration that depend on temporal or spatial classification (Viet Nam National Assembly 2006; GSO 2009; Liem 2009). Among many different types of migration, rural-to-urban migration has accounted for the largest proportion (GSO 2011). This is caused by unequal distribution of economic benefits raised from the '*Doi Moi*' between rural and urban areas. Rapid economic growth in Viet Nam since 1986 included development of industrial zones, private enterprises, national projects such as hydroelectric power plants and transport construction projects, and the development of a diverse service sector. But this growth was concentrated in urban areas. Urban areas require a critical mass of human resources that cannot be satisfied locally, resulting in main driver of rural-to-urban migration (Asian Development Bank 2005; Resurreccion and Ha 2007; Phan and Coxhead 2010; UNDP 2010).

According to the 2009 Census, most migrants moving to urban areas were in search of labor, given the income differential between rural and urban areas (GSO 2011). While agriculture remains the main sector with low income in rural areas; there is diversity of occupations with better incomes for migrants in urban areas. The 2009 Census showed that most migrants moving to urban areas either work in industrial zones (IZ), work in private small enterprises (PSE) or perform seasonal work in services during non–harvest times – seasonal migrants (GSO 2011).

Migration of rural people is one of the few ways available to access employment with offering higher wages and a resource to the family via the remittances (Skeldon 1997; Deshingkar 2006; Guest 2006; UNDP 2009). However, rural-to-urban migrants have faced less access to health care, lack of knowledge due to inappropriate information campaigns, and health troubles (VanLandingham 2003; GSO 2006). Previous studies also suggested that migrants' health status is usually less than non-migrants'; but these studies usually had two main disadvantages. Firstly, previous studies did not stratify in order to evaluate health status in different groups of migrants, including those working in IZ, those working in PSE, and seasonal migrants (VanLandingham 2003; GSO 2006; GSO 2011). Secondly, these studies usually used only one simple self-reported question that roughly defined health status of migrants categorically as *"very good", "good", "normal", "poor", and "very poor"*. This provided a general evaluation of health status of migrants, but this evaluation seemed to be less evident and comprehensive. Hence, it was argued that it is neccessary to use a validated measurement for assessing health status among different migrant populations.

Generally, health status is "a state of complete physical, mental, and social well-being – not merely the absence of disease, or infirmity" and in the first half of the 20th century health measures mainly focused on ill-health which was evaluated by physical examination and other objective tests (CDC ; WHO). In the 1980s, the health-related quality of life (HRQoL) was developed generally based on subjective and self-assessed perceptions about physical and mental health (McHorney 1999). To measure the HRQoL, there are two sets of measurement: general/generic and specific measurements. While other measurements such as the Sickness Impact Profile and the Quality of Well-Being Scale are appropriate for clinical settings and special populations, the Short Form (SF) - 36 Health Survey is a good and less costly tool for the general population (Maruish M. E. 2011).

The SF-36 Health Survey developed and adapted by the Medical Outcome Study (MOS) conducted in 1981 (Maruish M. E. 2011). Numerous validation studies stated that the SF-36, especially SF-36 version 2 (SF-36v2), is a reliable and valid instrument for measuring health status in a general population (Brazier, Harper et al. 1992; Crispin Jenkinson, Angela Coulter et al. 1993; Ware JE Jr, Kosinski M et al. 1998; L Li, H M Wang et al. 2003; Maruish M. E. 2011). Compared to SF-36 version 1, the version 2 had other important changes including minimized ambiguity and bias in item wording, improved structure of questions and answers, increased

comparable ability of translations and cultural adaption. Such changes made the SF-36v2 easier to understand and implement, and substantially improved its reliability and validity. In addition, the SF-36v2 has proven more reliable and valid than the previous version (Crispin Jenkinson, Sarah Stewart-Brown et al. 1999).

The SF-36 (i.e. both SF-36v1 and SF-36v2) had been translated into several languages – including Vietnamese – and validated by over 70 countries in the world. These validation studies, including studies in Asia, have demonstrated the reliability and validity of the SF-36 – especially the SF-36v2 (Fukuhara S, Bito S et al. 1998; L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al. 2008). In Viet Nam, however, there has been the single study that applied the Vietnamese SF-36v1 into investigate the impacts of rural to urban migration on the health of working-age adult migrants among 69 migrants and 85 non-migrants in Ho Chi Minh City (VanLandingham 2003). Another study in the United States used the SF-36v2 and was conducted in older Vietnamese Americans. This study also confirmed the reliability and validity of the SF-36v2 for this population (Ngo-Metzger Q, Sorkin DH et al. 2008).

The current study aimed to compare health status across different migrant populations: non-migrants, migrants working in industrial zone (IZ), migrants working in private small enterprises (PSE), and seasonal migrants. Before addressing this aim, the current study would confirm the reliability of the SF-36v2 to be used in evaluating health status of these populations.

Methods

Study sites

The report is a part of a study project on health status and health care access of migrant population. The study was conducted in two districts (Long Bien and Ba Dinh) in Ha Noi, Viet Nam in May 2012. The study site of Long Bien, consisting of two large industrial zones named Sai Dong A and Sai Dong B, and Ba Dinh district, consisting of Phuc Xa commune, is adjacent to the Hong River, where many slums have developed, with most seasonal migrants in Ha Noi living in these slums.

Participants

The study included non-migrants and three groups of migrants: migrants working in IZ, migrants working in PSE, and seasonal migrants. All participants were aged 18-55 years old. A migrant,

with the exception of a seasonal migrant, was identified as a person who moves from another province to Ha Noi for six months to five years. Meanwhile, a seasonal migrant was identified as a person who leaves their household in another province to work in Ha Noi for part of the year (i.e. less than six months) but is still considered a household member. These definitions make the study comparable with other studies on migration in Viet Nam.

In addition, migrants working in IZ were persons who satisfied the definition above and worked in the Sai Dong industrial zones. Similarly, migrants working in PSE were persons who also satisfied the criteria and worked in small enterprises, identified as an enterprise with less than 200 employees, according to the Decree No. 56/2009/ND-CP dated June 30, 2009 (Viet Nam Goverment 2009). For seasonal migrants, the definition above was the main criterion. Due to the temporary nature of migration, the migrant group included persons with temporary jobs without a labor contract (e.g. porters, vendors, waiters, maids and other services) at destination areas. Non-migrants were also recruited from these sites with the criteria: a resident who possessed a household registration book (i.e. *ho khau* in Vietnamese) and lived in these communes at least five recent years.

Study design and sampling

The cross-sectional study randomly recruited non-migrants from the general population through the sampling frame of household registration (*ho khau*). The sampling frame of migrants came from temporary registration (*tam tru*) and other non-registered migrants identified by heads of resident groups (*to dan pho*). Migrants were selected randomly as every fourth person in the sampling frame.

The sample size was estimated using size estimation to compare two proportions of health care utilization between migrants and non-migrants with specified relative precision. The two parameters were p_1= 0.25, p_2= 0.35 taken from proportions of access to health services in a pilot study. As a result, the study included 1800 participants, with 450 participants in each group.

Questionnaire

The study used the original Vietnamese SF-36v2 under a license of QualitiveMetric Incorporated (QM) (Maruish M. E. 2011). The SF-36v2 included eight of the most important health domains: (1) Physical Functioning (PF) – limitations in physical activities because of health problems; (2)

Role Physical (RP) – limitations in usual role activities because of physical health problems; (3) bodily pain (BP); (4) Social Functioning (SF) – limitations in social activities because of physical or emotional problems; (5) Mental Health (MH) – general mental health (psychological distress and well-being); (6) Role Emotional (RE) – limitations in usual role activities because of emotional problems; (7) Vitality (VT) – energy and fatigue; and (8) general health perceptions – General Health (GH).

Other information was collected by a structured questionnaire. The questionnaire included (i) background information such as age, ethnic group, education, occupation, marital status, monthly income, and expenditure and working time; (ii) migration information such as number of moves, migration reasons and registration status; and (iii) living conditions of participants such as housing, water supply, toilets and living assets. The interview was conducted face-to-face between interviewers and interviewees at interviewees' places of residence during their free time. Informed consent was obtained from each participant at the start of the interview and this study was approved by the Institutional Review Board of the HaNoi School of Public Health

Analysis methods

SFScoring Software 4.5 was used to analyze health status. After retrieval of results on health categories, data was transferred to Stata 10.0 (StataCorp LP, Texas, USA) to do uni- and multi-variate logistical regressions.

As discussed in the Background, the SF-36v2's validity has been confirmed (i.e. content and construct validity) through several previous studies. Hence, this current study used Cronbach's alpha coefficients to confirm the internal consistency of domains of the SF-36v2 in the Vietnamese context. In addition, a median of physical and mental health scores in non-migrant population was used to classify "better/good health" (i.e. above the median) and "worse/ill-health" (i.e. below the median) because of non-normal distribution of SF raw scores. Multi-variate logistic regressions with backward methods were then used to identify correlations between physical/mental health and explanatory variables derived from the questionnaire. The most important explanatory variable is migration status (i.e. non-migrants, migrants working in IZ, migrants working in PSE and seasonal migrants). Other covariates such as age, gender, marital status, education, and income, health insurance, working time and living condition were considered to control in the model. Assumptions of models were evaluated before specifying the

final models, and these models were also tested by using Hosmer-Lemeshow test. All tests in the study used the level of significance of ≤0.05.

Results

Table 9.1 shows characteristics of the four study groups. There are significant differences in distribution of gender, age, education, marital status, and occupation among non-migrant and migrant population. The proportion of female migrants among seasonal migrants is much higher than the proportion among migrants working in IZ and in PSE (e.g. 74.2% vs. 50.6% and 44.0%, respectively). In addition, seasonal migrants were also older than the other two migrant groups with greater proportions of those aged over 30 years old (71%). In particupar, migrants working in IZ were the youngest with most (90%) younger than 30 years old.

Moreover, education levels of seasonal migrants were the lowest compared to the other groups. Indeed, the highest education levels were among non-migrants, followed by migrants working in IZ, migrants working in PSE and seasonal migrants (Table 9.1). Difference of occupation among non-migrant and migrant populations, in fact, is one of recruitment criteria (i.e. inclusion of the study) and it illustrates also the special occupation characteristics of each population.

Table 0.1. Characteristics of study samples

Characteristics	Non migrants		Migrants in IZ		Migrants in PSE		Seasonal migrants		Total	
	N	%	N	%	N	%	N	%	N	%
	450	**100**	**450**	**100**	**450**	**100**	**450**	**100**	**1800**	**100**
Gender										
Male	163	36.2	224	49.8	252	56.0	116	25.8	755	41.9
Female	287	63.8	226	50.2	198	44.0	334	74.2	1,045	58.2
Age groups										
≤30	176	39.1	406	90.2	265	58.9	131	29.1	978	54.4
31-40	151	33.6	37	8.2	104	23.1	152	33.8	444	24.6
>40	123	27.3	7	1.6	81	18.0	167	37.1	378	21.0
Ethnic groups										
Kinh	448	99.6	430	95.6	413	91.8	447	99.3	1,738	96.5
Others	2	0.4	20	4.4	37	8.2	3	0.7	62	3.5
Religion										
Religious	13	2.9	22	4.9	21	4.7	12	2.7	68	4.8
None	437	97.1	428	95.1	429	95.3	438	97.3	1,732	96.2
Education										
Secondary school or less	107	23.8	55	12.2	199	44.2	363	80.7	724	40.2
High school	210	46.6	227	50.4	166	36.9	83	18.5	686	38.1
Junior college	62	13.8	106	23.6	55	12.2	2	0.4	225	12.5
University and over +	71	15.8	62	13.8	30	6.7	2	0.4	165	9.2
Marital status										
Single	85	18.9	309	68.7	171	38.0	43	9.56	608	33.8
Married	365	81.1	141	31.3	279	62.0	407	90.44	1,192	66.2
Occupation										
State or foreign agencies	129	28.6	275	61.1	0	0	0	0	404	22.6
Private enterprises	57	12.7	155	34.4	205	45.6	0	0	417	23.1
Craftsman + small business	80	17.8	0	0	82	18.2	151	33.56	313	17.4
Services	45	10.0	0	0	160	35.5	299	66.44	504	27.9
Others	139	30.9	20	4.5	3	0.7	0	0	162	9.0

Note: All differences among 4 groups are significant at $\alpha<0.001$ (except ***religion*** and ***ethnic groups***)

Internal consistency of the SF-36v2 (Vietnamese version) was evaluated by Cronbach's alpha coefficient. In this study, Cronbach's alphas of all domains in non-migrant population are slightly higher than in migrant populations. In general, we had good Cronbach's alphas of most health domains (≥0.75), particularly physical domains, in the whole population of participants. Some mental health domains (i.e. vitality and social functioning), have low Cronbach's alphas (0.62 and 0.66, respectively); however, they maintain average internal consistency (>0.6) (Table 9.2).

Table 0.2. Internal consistency (Cronbach's alpha) of SF-36 version 2

	Domains	**Total population**	**Non-migrant**	**Migrants**
	Number of sample	***1800***	***450***	***1350***
Physical Health	Physical Functioning (PF)	0.79	0.84	0.75
	Role Physical (RP)	0.89	0.91	0.88
	Bodily Pain (BP)	0.78	0.79	0.78
	General Health (GH)	0.79	0.81	0.78
Mental Health	Vitality (VT)	0.62	0.65	0.61
	Social Functioning (SF)	0.66	0.66	0.65
	Role Emotional (RE)	0.89	0.90	0.88
	Mental Health (MH)	0.71	0.76	0.69

Raw scores of most SF-36v2 domains had a skewed distribution and therefore we have constructed binary outcomes using the median of non-migrant population (i.e. reference/baseline group) as the cut-off between 'good health' and 'ill-health'. In general, seasonal migrants had higher proportions of physical ill-health while migrants working in IZ had higher proportions of mental ill-health compared to other groups (Table 9.3). Indeed, all domains of physical health in seasonal migrants are significantly lower than those of migrants working in IZ and PSE. In

contrast, three of four domains of mental health in migrants working in IZ are lower than those of other migrant populations.

Table 0.3. Proportions of physical and mental ill-health among non-migrant and migrant populations

	Domains	Non-migrants	Migrants in IZ	Migrants in PSE	Seasonal migrants	χ^2 p-values
Physical health	Physical Functioning (PF)	42.2	35.3	35.3	54.7	<0.001
	Role Physical (RP)	38.9	41.8	32.4	41.6	0.013
	Bodily Pain (BP)	49.3	39.8	32.9	54.9	<0.001
	General Health (GH)	54.9	46.4	52.4	66.9	<0.001
	All Physical health	51.1	41.1	40	62	<0.001
Mental health	Vitality (VT)	56.7	56.7	54.2	64.2	0.015
	Social Functioning (SF)	37.11	43.6	21.3	29.3	<0.001
	Role Emotional (RE)	34.2	39.1	33.6	31.1	0.082
	Mental Health (MH)	55.6	65.3	62.7	58	0.011
	All Mental health	50.7	60	50.9	53.8	0.016

In multi-variate regression analysis, there is no significant difference in physical health among non-migrants, migrants working in IZ and migrants working in PSE (Table 9.4). However, seasonal migrants have lower scores of physical health compared to non-migrants (p=0.042). Correlates of physical ill-health, moreover, were identified in the model. These correlates include age, gender and monthly income. Persons aged over 40 are likely to have lower scores of physical health than people in younger age classes. Also in the model, women had lower physical health scores than men and higher monthly income was a protective factor from

physical ill-health. Civil status, working hours, education level, health insurance and living conditions were not significantly associated with physical ill-health (Table 9.4).

Table 0.4. Explanatory variables of multivariate model for physical ill-health

Variables	Levels	OR	SE	95% CI		Wald p-values
Physical health						
Migrants	Non-migrants	1	-	-		-
	Migrants working in IZ	1.03	0.19	0.72	1.48	0.851
	Migrants working in PSE	0.85	0.15	0.59	1.21	0.356
	Seasonal migrants	1.54	0.33	1.02	2.33	0.042
Age groups	≤30	1	-	-		-
	31-40	1.17	0.17	0.88	1.57	0.276
	>40	2.17	0.36	1.57	3.01	<0.001
Gender	Male	1	-	-		-
	Female	1.58	0.18	1.27	1.97	<0.001
Marital status	Single	1	-	-		-
	Married	0.97	0.14	0.74	1.28	0.839
Education	Secondary school and less	1	-	-		-
	Pri. vocational training or high school	0.83	0.12	0.63	1.10	0.191
	Int. vocational training and junior college	0.87	0.17	0.59	1.28	0.471
	University and over +	1.51	0.33	0.98	2.32	0.059
Income monthly	< 3 million VND/month	1	-	-		-
	≥3 million VND/month	0.69	0.08	0.55	0.87	0.001
Health insurance	No	1	-	-		-
	Yes	1.15	0.14	0.91	1.45	0.244
Working time	Free work	1	-	-		-
	Work in regular time/in shift	1.02	0.16	0.76	1.38	0.877
Living condition	Permanent house	1	-	-		-
	Non-permanent house	1.08	0.14	0.84	1.39	0.536

Note: Hosmer-Lemeshow test has p=0.6647

Unlike physical ill-health, migrants working in IZs are more likely to have lower scores of mental health compared to the baseline of 'non-migrants' (Table 9.5). There was no association with age class, but also here women had more often mental ill-health than men. In addition, people with high monthly income (i.e. 3 million Viet Nam Dong – VND – and above) were likely to have lower mental health scores than ones with a lower income. Thus, after adjusting all correlates, seasonal migrants had lower scores of physical health than other groups and migrants working in IZ had lower scores of mental health than others.

Table 0.5. Explanatory variables of multivariate model for mental ill-health

Variables	Levels	OR	SE	95% CI		Wald p-values
Mental health						
Migrants	Non-migrants	1	-	-		-
	Migrants working in IZ	1.92	0.35	1.34	2.75	<0.001
	Migrants working in PSE	1.27	0.23	0.89	1.81	0.185
	Seasonal migrants	0.92	0.19	0.61	1.39	0.702
Age groups	≤30	1	-	-		-
	31-40	0.93	0.14	0.70	1.25	0.646
	>40	1.21	0.20	0.88	1.66	0.243
Gender	Male	1	-	-		-
	Female	1.88	0.21	1.51	2.35	<0.001
Marriage status	Single	1	-	-		-
	Married	0.90	0.13	0.68	1.18	0.439
Education	Secondary school and less	1	-	-		-
	High school	0.97	0.14	0.74	1.28	0.825
	Junior college	1.00	0.20	0.68	1.47	0.998
	University and over +	1.20	0.26	0.78	1.84	0.411
Income monthly	< 3 million VND/month	1	-	-		-
	≥3 million VND/month	0.61	0.07	0.49	0.77	<0.001
Health insurance	No	1	-	-		-
	Yes	1.11	0.13	0.89	1.40	0.351
Working time	Free work	1	-	-		-
	Work in regular time/in shift	1.41	0.21	1.05	1.88	0.022
Living condition	Permanent house	1	-	-		-
	Non-permanent house	1.07	0.14	0.84	1.38	0.584

Note: Hosmer-Lemeshow test has p=0.2217

Discussion

This study covered three groups of rural-to-urban migrants: migrants working in industrial zones, migrants working in private small enterprises and seasonal migrants. In fact, many studies have considered migrants as persons who move from their residence place of origin to live at the destination for six months or longer (i.e. long-term migration) (GSO 2004; GSO 2011). This definition, however, does not cover migrants who move to a destination for less than six months (i.e. short-term migration or seasonal migration). Most permanent migrants work in industrial zones or private small enterprises, while most seasonal migrants work in services such as small business (*buon ban nho*), or freelance jobs (*nghe tu do*) and returning periodically to their place of origin to do farm work. The difference of occupation among the three migrant populations was indicated in this study.

The three migration groups also had different demographic characteristics. For example, females accounted for two thirds of the seasonal migrants in our random sample, while there were nearly the same number of men and women in the two other groups. This can be explained by the fact that young men and women migrate for permanent work while but seasonal migrants were older (with most being married) and thus did not want to leave their household for longer periods (Le and Nguyen 2011). Indeed, young people in rural areas move to urban areas for working in industrial zones, old people – especially females – become main human resources in the agriculture at rural areas. However, income from the agriculture remains low; in addition, agricultural activities usually are in certain seasons. Therefore, female people in rural areas continue to own their land and work in the agriculture, but they often move to urban areas during non-harvest seasons for finding temporal jobs to improve their income (Nghi 2010; Le and Nguyen 2011).

To measure general health status of non-migrants and migrants, the study used SF-36 Standard (4-week recall) which was previously shown to be reliable and valid. The report of QualityMetric Incorporated in 2009 showed good reliability, with all scales having very high Cronbach's alpha, from 0.82 to 0.96 (Maruish M. E. 2011). The internal consistency reliability is unchanged across different sub-populations such as age, gender, and health conditions. Studies in Asia suggested that the form was operational in the general non-clinical population (Fukuhara S, Bito S et al. 1998; L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al.

2008). However, most health items in these studies had Cronbach's alphas lower than studies in the original the United States population. Particularly, social functioning (SF) and vitality (VT) had the lowest Cronbach's alpha (L Li, H M Wang et al. 2003; Lynette L-Y Lim, Sam-ang Seubsman et al. 2008). Similar results were also obtained in Viet Nam (2000) and Japan (1998) (Fukuhara S, Bito S et al. 1998; VanLandingham 2003). It is important to note that these studies used SF-36 version 1 where the scales were partly affected by 'high ceiling' and 'floor' effects. These effects were reduced in the subsequent version 2 by extending the response choices, for example using a 5-point Likert scale (Maruish M. E. 2011).

All scales of the SF-36 version 2 in our study had higher Cronbach's alphas than the studies listed above. But the SF and VT scales still had the lowest in both non-migrant and migrant populations (0.60 and 0.66). Lim, Seubsman, and Sleigh (2008) stated that Asian cultural differences made it difficult in translating concepts of social functioning and particularly, vitality (Lynette L-Y Lim, Sam-ang Seubsman et al. 2008). Indeed, we also found that it is difficult for Vietnamese people to distinguish between *cam thay tran day sinh luc – feel full of life* and *cam thay doi dao nang luong – have a lot of energy*; and between *cam thay kiet suc – feel worn out* and *cam thay met moi – feel tired*. We feel that this warrants further investigation on appropriate phrasing to use in the Vietnamese context.

We have followed the process for scoring SF-36v2 Health Domain Scales required by the QualityMetric Incorporated. In this process, we used total raw scores that summed all items within a scale without score standardization or item weighting. Each scale was scored from 0 (worst possible health status) to 100 (best possible health status) by transforming and averaging health domain scores. In fact, the authors of the SF-36 have recognized limitations of the 0-100 scoring scale in relating to how the scores would be compared among domains. Thus, a "norm-based scoring" (NBS) system in which, by definition, the mean would be 50 and the standard deviation would be 10 was to be developed. Individual score would be converted to the norm-based score using T- score transformation. The authors also stated that the purpose of NBS is to provide a basis for meaningful comparison of scores between each domain and to compare the score of a single participant with that of the general population (Maruish M. E. 2011). However, the purpose of this report was not to compare among health domain, but rather, this report aimed to compare health status among different groups of population. In addition, all domains using the

NBS in this report did not follow a normal distribution but was instead left skewed. Therefore, total raw score was used in this study.

The distribution of scores in all health domains was also skewed. Generally, in five of the eight domains, the median is close to 100, thus the scores cannot be continuous, but rather ordinal. This has been argued by Velanovich in 2007 (Vic Velanovich 2007). In our report, these scores were categorized as binary variables 'good health' and 'ill-health'. In fact, health status of non-migrants and migrants has been a controversial issue. "Healthy migrant effect" meaning migrants seem to be healthier than non-migrants, has been explained by two reasons: migrants need to be healthy to overcome an arduous journey of migration and to comply with job requirements and working conditions at destination, and migrants may move to benefit from better health care services at destination (Hull D. 1979). Nevertheless, many studies identified that migrants generally are more susceptible and vulnerable to ill-health effects than non-migrants (Kristiansen, Mygind et al. 2007; World Health Organisation 2010). Studies in Thailand, China, and Viet Nam also recognized the difference of health status between non-migrants and migrants (Evi Nurvidya Arifin, Aris Ananta et al. 18-23 July 2005; VanLandingham 2003; Yingchun Peng, Wenhu Chang et al. 2010).

However, some recent studies on health issues of migrants in Viet Nam focused either on the internal migrant population in general or only on migrants in industrial zones (Du, Nghia et al. 2006; GSO 2006; GSO 2011). In addition, these studies did not use updated and validated forms for assessing health status of participants. For instance, the Viet Nam Migration Survey in 2004 was based on the question "What do you think about your health status now - very well, well, normal, poor, or very poor" to analyze health status of migrants. This possibly led to the naïve conclusion that migrants are much more likely than non-migrants to have good health (GSO 2006).

This report is the first study comparing health status among different migrant populations. The study identified migrants working in IZ as more likely to have poor mental health scores while seasonal migrants are more likely to have poor physical health scores compared to other migrant populations. Note that most of seasonal migrants are elderly women without health insurances while the younger migrants working in IZ's enterprises are usually provided the insurance by their enterprises. In addition, other studies showed that living condition of seasonal migrants was

the worst compared to other migration groups (Du, Nghia et al. 2006; Chinh ND 2007). Migrants working in IZ and in PSE usually live in rental houses/rooms with some forms of living standard, while seasonal migrants live in slums, often sharing a room with 8-10 others. All these seem to bring additional difficulties for physical health of seasonal migrants.

However, contrary to physical health, migrants working in IZ, particularly women, had worse mental health scores. In addition, persons who during standard daytime hours (i.e. 7:30 am to 5:30 pm) or in shifts (note that in IZs, migrants often work double shifts to gain enough money to send home) had a higher risk of a mental health problem (OR= 1.92 95% CI 1.34-2.75) than those in other groups. Actually, most of migrants employed in IZ work in shifts and they often face challenges to earn enough money to ensure basic needs and subsidize their family – and thus often work double shifts. In 1980s and 1990s, Oberai, Prasad and Sardana (1989), Skeldon (1997), and Guest (1998) stated that remittances from internal migrants provided an important supplement to household income in Asia (Skeldon 1997; Guest 2006). In Viet Nam, Duong and Liem (2011) showed that remittances of interprovincial migrants are crucial supports to their family (Le and Nguyen 2011). Although higher monthly income was a protective factor for both physical and mental ill-health, migrants working in IZ are usually under many pressures, and these pressures make them more vulnerable to mental problems.

Our comparison of health status between non-migrant and migrant populations was a cross-sectional study, and thus it is difficult to interpret causal relationships between health status and its determinants. However, this is the first study in Viet Nam assessing and comparing health status among different migrant populations. These results can be used to identify targeted information (prevention campaigns) and health interventions that can be used trials.

Conclusions

We have applied the SF-36 version 2 form to assess and compare health statuses of non-migrant and migrant populations in Ha Noi, Viet Nam. The tool was shown to be reliable through significant Cronbach's alpha; but further studies need to further consider cultural specificities in more precise wording, particularly in the vitality and social functioning categories.

Physical ill-health was most frequently seen in seasonal female migrants, especially those aged over 40 years and having low monthly incomes, whereas female migrants who work in industrial

zones, those usually work in shifts and those who have low monthly incomes, were the most vulnerable for mental ill-health. These special migrant sub-groups need to be more targeted in future health interventions, particularly prevention campaigns, and health care programs and access to health service programs.

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Chapter 10 Utilization of health care services among internal migrants in Hanoi and its correlated factors: a cross-sectional study

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Abstract

Background: Economic transition (*Doi Moi*) in the 1980s in Viet Nam has led to internal migration, particularly rural-to-urban migration. Many studies suggested that there is a difference between non-migrants and migrants in using health care services. The studies have mostly focused on migrants working in industrial zones (IZs); meanwhile, migrants working in private small enterprises (PSEs) and seasonal migrants seem to be ignored. The study aims to compare the utilization of health care services and explore its correlated factors among these three groups.

Methods: This cross-sectional study included 1800 non-migrants and migrants aged 18-55 in Long Bien and Ba Dinh districts, Ha Noi. These study sites consist of large industrial zones and many slums where most seasonal migrants live in. A structured questionnaire was used to collect information on health service utilization in the last 6 months before the study. Definitions about migration and the utilization are based on the 2009 National Census and 2004 Migration Survey.

Results: 644 of 1800 participants reported having a health problem in the last 6 months before the study. Among these 644 people, 335 people used health care services. The percentage of non-migrants using health care service was the highest (67.6%), followed by migrants working in IZ (53.7%), migrants working in PSE (44%), and seasonal migrants (42%). Multivariate logistic regression showed migrants, especially seasonal migrants and migrants working in PSE, are less likely to use health care services (OR=0.35, p=0.016 and 0.38, p= 0.004, respectively), compared to non-migrants. The study also found that having no health insurance is a risk factor of the utilization (OR=0.29, p<0.001). Other factors such as gender, age, marital status, socioeconomic status, and monthly income were not related to the utilization of health care

services.

Conclusion: Seasonal migrants have the worst utilization of health care services, followed by migrants working in PSE, migrants working in IZ, and non-migrants. Health insurance is an important factor relating to the utilization. Accordingly, health insurance coverage needs to be increased if utilization of health care services for the whole population, particularly migrant population, is to be improved.

Keywords: migrants, utilization, correlates, health care services, health insurance, Ha Noi, Viet Nam

Background

Economic transition (*Doi Moi - Renovation*) in the 1980s in Viet Nam has led to internal migration, particularly rural-to-urban migration (Phan and Coxhead 2010; UNDP 2010). Migrants are generally healthy because they need to adapt to working requirements, their living environment, and the mobility of their place of residence (Syed and Vangen 2003; Thomas and Thomas 2004). However, their health quality declines over time as a result of the difficulty of life with many pressures, especially financial pressure (Kristiansen, Mygind et al. 2007; Liem and White 2007). In addition, they are more susceptible and vulnerable to ill-health effects than non-migrants (World Health Organisation 2010). Therefore, one can assume that their health would often put them at higher need of health care services than non-migrants. Nevertheless, evidence showed that migrants seem to have less opportunity of using health care services than non migrants (GSO 2006; Le and Nguyen 2011).

In Viet Nam, previous studies have stated that migration has not brought additional pressures on the health system at the destination. In other words, the available health system can meet the increase of migration flows (World Bank and SIDA Sweden 2001; GSO 2006). However, some studies stated a difference between non-migrants and migrants in using health care services in Viet Nam. The 2004 Migration Survey showed that the proportion of medical service utilization in migration population was lower than in non-migration population (GSO 2006). Other studies also identified that one of the most popular reasons that affect the utilization of health care services was medical fees that are usually beyond the affordability of migrants (Yingchun Peng, Wenhu Chang et al. 2010; International Organization for Migration 2011). Additionally, a

number of studies have found that there is a relationship between the level of health insurance coverage and utilization of health care services. Zuvekas and Taliaferro (2003) stated that increasing health insurance coverage would undoubtedly increase access for all people in general and reduce racial disparities (Samuel H. Zuvekas and Gregg S. Taliaferro 2003; Hall, Lemak et al. 2008). Peng et al (2010) also identified migrants without health insurance are much less likely to use health care services than migrants with health insurance (Yingchun Peng, Wenhu Chang et al. 2010).

Health insurance of migrant population in Viet Nam remains at a low level of coverage. The 2004 Migration Survey found that only 31% and 42% migrant workers in the Northeast and Southeast Industrial Zone, respectively, have compulsory health insurance that is mostly paid by employers; meanwhile the proportion of health insurance for non-migrants was around 50% (GSO 2006). Migrants, who are not suitable for compulsory health insurance (e.g. migrants without labor contract), can join voluntary health insurance and pay monthly insurance membership fees themselves (Viet Nam National Assembly 2008). But migrants usually ignore voluntary health insurance because they do not want to use any part of their low income for health insurance (Le and Nguyen 2011). All these disadvantages might limit migrant usage of health care services at destination.

The economic transition has also led to considerable reforms in the Vietnamese health system. Before the transition, the health system was subsidized by the Government and provided free health care services to the whole population. During the transition period, several reforms were implemented that aimed to realize the goal *"the government and people working together"*. Such reforms have resulted from health policies on charging partial user fees, private health practice in 1989, health insurance in 1992, and reduction and exemption of user fees for the poor, minorities, and poor regions/areas in 1994 (Ministry of Health 2008). This has brought not only numerous improvements to health care system, but also several opportunities for health care access to population. However, out-of-pocket household health expenditure in fact has still accounted for a large proportion of total health expenditure (Ministry of Health 2008). For instance, the proportion in 2004, 2005 and 2006 respectively was 63.9%, 65.8% and 62.8%. This has had a negative impact on the goals of equity and efficiency in health care. The payment of direct health care fees for an inpatient among the poor is around 17 months of non-food household expenditure per capita while the payment among the rich group accounts for 8

months. Thus, the poor and other vulnerable groups (e.g., migrants, patients of chronic diseases, low-income population) prefer low-price health care services that are usually low quality or no treatment.

Most recently, the Viet Nam Ministry of Health just approve a new cost norm for health services user fees that is much higher than the previous cost norm (Ministry of Health and Ministry of Finance 2012). There has been concern that the new cost norm may significantly affect the poor and other vulnerable groups because they would have a lower chance to access quality services with affordable prices.

Current studies regarding the utilization of health services in migrant populations in Viet Nam have mostly focused on migrants working in industrial zones (IZ) because the migrant population there accounts for the highest proportion of rural-to-urban migrant population (GSO 2004; GSO 2011). However, there are still many different sub-groups of rural-to-urban migrants such as migrants working in private small enterprises (PSE), migrants working in construction projects, truck drivers, seasonal migrants and so on (Lam, Dan et al. 2005; Nghi 2010; Le and Nguyen 2011). Among these sub-groups, two groups of migrants working in PSE and seasonal migrants also account for the second and the third proportion of rural-to-urban migrants. In addition, migrants of these two groups usually work without labor contracts in private enterprises where employers usually do not care about health insurance, or are self-employed (Le and Nguyen 2011). Therefore, their utilization of health care services could be limited.

The paper aims to compare the utilization of health care services among four migration groups: non-migrants, migrants working in IZ, migrants working in PSE, and seasonal migrants. It also aims to explore correlated factors of health care services utilization among the migrant populations.

Methods

Study sites and participants

The study was conducted in Ha Noi, Viet Nam. Long Bien and Ba Dinh district were selected as two study sites because these districts include several rural-to-urban migrants.

Non-migrants are defined as a person who has had permanent residence (*ho khau* – in Vietnamese) and lived at the study site for at least 5 years prior to the time of the study. Meanwhile, migrants (i.e. migrants working in IZ and migrants working in PSE) are defined as a person who moves from another province to Ha Noi and stays there for anywhere from 6 months – 5 years. The definition is exactly the same as defined by the 2004 Viet Nam Migration Survey and the 2009 Censuses (GSO 2006; GSO 2011).

However, the definition does not capture seasonal migrants who leave their home town to another town for short time (i.e. 4.6 months in average). Hence, Brauw and Harigaya defined these seasonal migrants as *"members of the household who left for a part of the year to work, but are still considered household members"* (Alan de Brauw and Tomoko Harigaya 2007). In addition, Duong and Liem have defined temporary/seasonal migrants as *"those who came from a rural area within 6 months or less prior to the time of the interview and who do not have a permanent household registration in the city of destination"* (Le and Nguyen 2011). Therefore, a seasonal migrant in this paper is defined as a person who leaves his or her home town to Ha Noi for less than 6 months and gets a temporal job without a labor contract (e.g. porters, street vendors, waiters, maids, and other services and so on).

All participants in the study were 18 – 55 years old, which reflects the working age in Viet Nam (18 – 60 for males and 18 – 55 for females). Participants were randomly collected from the sampling frame of each group. The sampling frame of non-migrants was from the *household registration* (*ho khau*) while the sampling frame of migrants came from *temporary registration* (*tam tru*) and other non-registered migrants identified by heads of resident groups (*to dan pho*).

Study design and sample size

The cross-sectional study aimed to compare two proportions of health care utilization between migrants and non-migrants with specified relative precision. We estimated two parameters p_1= 0.25, p_2= 0.35 that were taken from proportions of access to health care services in a pilot study. Thus, the study included 450 participants each group (i.e. 1800 participants in the total). In practice, 1900 participants were selected to ensure sufficient sample size in the case of non-response or missing information. As a result, 1826 participants were interviewed (i.e. response rate was 96%); however, 26 participants missed important information (e.g. gender, occupation,

utilization of health services, and health insurance). Therefore, 1800 participants were used in data analysis.

Questionnaire and terminology

Information on access to health care and its correlates was collected by a structured questionnaire that was piloted in both non-migrant and migrant populations. It included (i) background information such as age, education, occupation, marital status, monthly income and expenditure, and working time; (ii) living conditions of participants such as house status, water supply, toilet, and durable living assets; (iii) health care insurance; and (iv) health problem and utilization of health care services in the last 6 months before the study. The questionnaire was validated by a previous qualitative study that published by Anh et al. (2011) (Anh, Lien et al. 2011).

The interview was conducted face-to-face between interviewers and interviewees at interviewees' places of residence during their free time. The interviewers in this study were Master's students at the Hanoi School of Public Health and were trained by principal investigators. Informed consent (i.e. written informed consent) was obtained from each participant at the start of the interview and this study was approved by the Institutional Review Board of the HaNoi School of Public Health and the Ethikkommission beider Basel (EKBB) in Basel, Switzerland.

In the study, a health problem was identified as "a person whose illness prevents regular work for 1 day" (GSO 2006; Le and Nguyen 2011). Utilization of heath care services was identified as "an ill person who goes to health care centers to seek any treatment (i.e. both private and public health care centers)". Meanwhile, ill persons who do nothing or buy medicine at pharmacy without a doctor's prescription or who use medicine by themselves were identified as "no utilization of health care services" (GSO 2006; Le and Nguyen 2011).

Terminology of living conditions in the study was based on the 2009 National Census and the 2004 Migration Survey (GSO 2004; GSO 2010), which categorized housing status, for instance, into three levels: permanent, semi-permanent, and simple depending on the main construction materials of the pier, the roof, and the outer. The number of "simple" levels is small because this level in fact is not an issue in urban settings; therefore this study used two levels of housing

status: permanent and non-permanent.

Analysis methods

Prior to the analysis, all questionnaires were reviewed for accuracy. Ten percent of data was independently entered by two research assistants to check data entry procedure. All data was stored in EpiData 3.1 and transferred to Stata 10.0 for analysis. Tabular technique and chi-square were used to compare characteristics among non-migrant and migrant populations. Multiple logistic regressions were then used to identify correlates of utilization of health care services. Assumptions of models were evaluated before producing the final models and these models were also tested by using the Hosmer-Lemeshow test. All tests in the study used a significance level of 0.05.

Results

Characteristics of study sample

The results of Table 10.1 show different characteristics among migrant populations and between non-migrant and migrant populations. The proportion of females in seasonal migrants is higher than the proportion in other migrant groups (74.2% compared to 44% of migrants working in PSE and 50.2% of migrants working in IZ). Seasonal migrants are also older than migrants working in PSE and than migrants working in IZ. In addition, working time, monthly income, and living condition are significantly different among migrant populations. Most migrants working in IZ (about 93%) work in regular time - *gio hanh chinh* (in Vietnamese) 7.30 am – 5:30 pm or in shifts, while most seasonal migrants (around 99%) are self-employmed – *nghe tu do* (in Vietnamese) such as street vendors, porters, and motorcycle taxis. Monthly income of seasonal migrants is the lowest compared to non-migrant and other migrant population. Additionally, living condition/social-economic status (SES) of seasonal migrants is also the worst.

Table 10.1 also shows the coverage of health insurance among non-migrant and migrant populations. The proportion of migrants working in IZ is the highest, compared to the two other migrant populations and even to non-migrants (e.g. 77.78% compared to 26.22% for migrants working in PSE, 22.89% for seasonal migrants, and 55.56% for non-migrants).

Table 0.1. Characteristics of study samples

Characteristics	Non migrants		Migrants in IZ		Migrants in PSE		Seasonal migrants		Total	
	N	***%***	***N***	***%***	***N***	***%***	***N***	***%***	***N***	***%***
	450	***100***	***450***	***100***	***450***	***100***	***450***	***100***	***1800***	***100***
Gender										
Male	163	36.2	224	49.8	252	56	116	25.8	755	41.9
Female	287	63.8	226	50.2	198	44	334	74.2	1,045	58.1
Age groups										
< = 30	176	39.1	406	90.2	265	58.9	131	29.1	978	54.3
31-40	151	33.6	37	8.2	104	23.1	152	33.8	444	24.7
>40	123	27.3	7	1.6	81	18	167	37.1	378	21.0
Marriage										
Single	85	18.9	309	68.7	171	38	43	9.6	608	33.8
Married	365	81.1	141	31.3	279	62	407	90.4	1,192	66.2
Working time										
Regular time/in shift	214	47.6	418	92.9	207	46	6	1.3	845	46.9
Self-employed	236	52.4	32	7.1	243	54	444	98.7	955	53.1
Monthly income										
< 3 million VND	116	34.7	114	26.9	111	28.5	197	45.9	538	34.2
≥ 3 million VND	218	65.3	309	73.1	278	71.5	232	54.1	1037	65.8
Living assets/SES										
High	420	93.3	126	28	162	36	13	2.9	721	40.1
Average	14	3.1	151	33.6	103	22.9	92	20.4	360	20
Low	16	3.6	173	38.4	185	41.1	345	76.7	719	39.9
Housing status										
Permanent	417	92.7	271	60.2	177	39.3	62	13.8	927	51.5
Non-permanent	33	7.3	179	39.8	273	60.7	388	86.2	873	48.5
Health insurance										
Yes	250	55.6	341	75.8	118	26.2	103	22.9	812	45.1
No	200	44.4	109	24.2	332	73.8	347	77.1	988	54.9

Note: All characteristics in the table are significantly different among populations ($p<0.001$)

Health service utilization

In this study, there are a total of 644 participants (i.e. 177 non-migrants, 163 migrants working in IZ, 120 migrants working in PSE, and 183 seasonal migrants) having a heath problem in the last 6 months before the study. However, only 335 of these 644 participants used health care services. The percentage of non-migrants using health care service is the highest (71.19%, 95%CI: 64.45-77.92%), followed by migrants working in IZ (53.37%, 95% CI: 45.63-61.11%), seasonal migrants (40.98%, 95% CI: 33.79-48.18%) and migrants working in PSE (38.84%, 95% CI: 30.03-47.65%).

Generally, utilization of health care services is significantly different between participants with and without health insurance ($p<0.001$). Indeed, the proportion of health care services utilization is about 66% for persons who have health insurance while it is about 41% for persons who have no health insurance (Table 2). Similarly, Table 10.2 also shows that the utilization is significantly different among education levels, housing status, and SES groups (i.e. living assets).

Table 0.2. Utilization of health services in the last 6 months across different correlates

	Utilization of health care facilities Yes	Total N	p	95% CI of p	Chi-square p-values
Health care insurance					<0.001
Yes	185	278	66.55	60.97-72.13	
No	150	366	40.98	35.92-46.05	
Education					0.02
Secondary and less	127	271	46.86	40.88-52.84	
High school	126	240	52.5	46.14-58.86	
Colleges and above	82	133	61.65	53.28-70.03	
Housing status					<0.001
Non-permanent	199	325	61.23	55.91-66.56	
Permanent	136	319	42.63	37.18-48.09	
Gender					0.196
Male	99	205	48.29	41.39-55.19	
Female	236	439	53.76	49.08-58.44	
Age groups					0.881
≤30	175	334	52.4	47.01-57.78	
31-40	81	153	52.94	44.94-60.94	
>40	79	157	50.32	42.41-58.23	
Religion					0.46
Non	323	620	52.1	48.15-56.04	
Others	12	24	50	28.43-71.57	
Marriage status					0.073
Single	91	195	46.67	39.6-53.73	
Married	244	449	54.34	49.72-58.97	
Living assets					<0.001
Sufficient	168	270	62.22	56.4-68.04	
Normal	61	121	50.41	41.38-59.45	
Insufficient	106	253	41.9	35.78-48.01	
Working time					0.073
Regular time/in shifts	163	292	55.82	50.09-61.55	
Flexible	171	351	48.72	43.46-53.97	

The results above suggest possible correlates of health care utilization. Table 10.3 is logistic regression model for identifying these correlates. As a result, there is significant difference of health care utilization among non-migrant and migrant populations. Seasonal migrants are people who use health care services the least, followed by migrants working in PSE and migrants working in IZ and non-migrants (OR=0.35, 0.38, and 0.55 compared to non-migrants, respectively) (Table 3). Moreover, table 3 also shows the significant relation between health service utilization and health insurance coverage. Persons who have no health insurance are much less likely to use health care services than persons who have health insurance (OR=0.29, $p<0.001$). Other factors such as gender, age, marriage status, SES, working time and monthly income seem to be not related to the utilization of health care services.

Table 0.3. Logistics model of correlated factors for health service utilization

		OR	95% CI		Wald p-values
Population	Non-migrants	1	-	-	-
	Migrants working in IZ	0.55	0.27	1.16	0.116
	Migrants working in PSE	0.38	0.19	0.74	0.004
	Seasonal migrants	0.35	0.15	0.82	0.016
Gender	Male	1	-	-	-
	Female	1.19	0.78	1.80	0.425
Age	≤30	1	-	-	-
	31-40	1.14	0.68	1.91	0.61
	>40	1.04	0.60	1.80	0.892
Education	Secondary school and less	1	-	-	-
	High school	0.95	0.57	1.58	0.846
	College and above	1.20	0.62	2.30	0.591
Marrital	Single	1	-	-	-
status	Married	1.36	0.80	2.31	0.249
Housing	Permanent	1	-	-	-
status	Non-permanent	0.88	0.56	1.37	0.57
Living assets	High	1	-	-	-
	Average	1.02	0.56	1.87	0.945
	Low	0.76	0.41	1.40	0.384
Working time	Regular time/in shifts	1	-	-	-
	Self-employed	1.74	0.97	3.14	0.066
Monthly	≤ 3 million VND	1	-	-	-
income	> 3 million VND	0.91	0.62	1.33	0.635
Health care	Yes	1	-	-	-
insurance	No	0.29	0.19	0.44	<0.001

Note: Number of observation in the model is 560; p-value of Hosmer-Lemeshow test is 0.36

The regression model in Table 3 was used to estimate the adjusted proportion of health care services among study populations. Results after adjusting correlates finally show that the utilization of health services in non-migrant populations (67.6%) is better than migrant populations. Among migrant populations, seasonal migrants have the lowest proportion of utilization (42%), followed by migrants working in PSE (44%), and then migrants working in IZ (53.7%).

Discussion

The 2009 National Census in Viet Nam categorized internal migrants into four groups: urban-to-urban, urban-to-rural, rural-to-rural, and rural-to-urban migrants depending on their residence places of origin and destination. The Census also stated rural-to-urban migrants – especially migrants working in industrial zones – account for the majority, compared to other internal migrant populations (GSO 2011). Additionally, rural-to-urban migrant population also includes a large proportion of migrants working in PSE and seasonal migrants (Brauw 2007; Le and Nguyen 2011).

In fact, studies on migration have usually faced the difficulties of sampling representative sample of migrants because of their mobility. However, if a study focused on a certain migrant population alone (e.g. migrants working in industry, seasonal migrants, migrants working on construction sites), sampling would be more feasible, because they usually live in the same areas or in the same collective housing system (VanLandingham 2003; Du, Nghia et al. 2006; Phuoc 2006; Anh 2009; Shibuya 2010). For example, from our study, most seasonal migrants lived in slums, while migrants working in IZ and PSE lived in boarding-houses close to their enterprises. Once a sampling frame is established, it is not too difficult to approach migrants, especially migrants working in IZ and migrants working in PSE because they have regular working times (7:30am-5:30pm) or in shifts. We approached migrant groups at their homes through the introduction of a village health worker or a head of a resident unit. Meanwhile, most seasonal migrants are self-employed/freelance and they usually live in slums have poor security; therefore, we needed more attempts to approach them with the assistance of a village health worker or a head of a resident unit, but also from the local police. The police only helped researchers reaching the place of residence of migrants, and did not participate in the interviews.

All these attempts made us approach more of the migrants, ensure a high response rate, and ensure voluntary participation of migrants.

Many studies identified differences between migrants and non-migrants. Such differences include gender, age, marriage status, living condition, and income (Anh, Goldstein et al. 1997; GSO 2004; GSO 2011). This study not only identified these issues, but also focused on differences among different groups of migrants. For instance, the 2004 Migration Survey and the 2009 National Census stated that most migrants are single and generally younger than non-migrants; but according to this study, this seems not to be consistent with seasonal migrants. Another point is the Survey and Census showed living conditions of migrants to be much worse than non-migrants (GSO 2004); meanwhile, this study specifically identified seasonal migrants as having the worst living condition, followed by migrants working in PSE and in IZ.

The study also showed the health service utilization of non-migrants was better than that of migrants. This is consistent with the 2004 Migration Survey and other studies (GSO 2006; Hien and et al. 2007; Toan 2010; Le and Nguyen 2011). Nevertheless, the percentage of migrants using health care service in this study (about less than 50%) is less than that in the Survey (67.4%) and similar to the proportion in a study by Duong and Liem in 2011 (GSO 2006; Le and Nguyen 2011). It should be noted that the definition of "ill health" in this study is same as in Duong and Liem's study (i.e. ill enough to not work one day), whereas in the Survey, "ill health" was generally defined as "sick enough to stay home" , but did not specified how many days. Regarding the scale of research, this study involves rural-to-urban migrants in Ha Noi, whereas Duong and Liem's study involved rural-to-urban migrants in both Ha Noi and Ho Chi Minh City. On the other hand, the Survey included all kinds of migrants in all study areas, including Ha Noi, the Northeast economic zone, the Central Highlands, Ho Chi Minh City, and the Southeast industrial zone.

Several studies suggested that there are many factors related to the utilization of health care services (Micheal S. Hendryx, Melissa M. Ahern et al. 2002; Ensor and Cooper 2006; Obrist and et al. 2007; Kruk and Freedman 2008). Cited correlates of the utilization are the supply or availability and accessibility to health care services (i.e. issues of health system), beliefs and attitudes about health care, discrimination and so on. However, among these correlates, some are actually difficult to study and complex to intervene (Samuel H. Zuvekas and Gregg S. Taliaferro

2003). In Viet Nam, the Migration Survey stated that evidently migration does not bring any pressure to the health system at the destination (GSO 2006). Meanwhile, other correlates – including gender, age, marriage status, monthly income, education, working hours per day, living standard, and health insurance – have also affected health care service utilization (Samuel H. Zuvekas and Gregg S. Taliaferro 2003). Therefore, this study involved such correlates in order to explore their effects on the utilization of health care services.

Indeed, our study found the utilization of health care services is strongly related to health insurance coverage. Many evidences from the 2004 Migration Survey and other studies in America, Thailand, and China also identified that health insurance is a crucial factor to improve the utilization of health care services (Robertson and Cousineau 1986; Samuel H. Zuvekas and Gregg S. Taliaferro 2003; Peng and et al. 2010; Yingchun Peng, Wenhu Chang et al. 2010). As discussed above, previous studies have stated that migration has not brought additional pressures on health system at destination. In other words, the available health system can meet the increase of migration flows and needs of health services for migrants (World Bank and SIDA Sweden 2001; GSO 2006). Moreover, there are many health facilities (i.e. public and private facilities) at urban settings as this study site and such facilities are available for every person. However, unlike the Migration Survey, the study found minimal or no relation between gender, age, marital status and the utilization (GSO 2006). Many previous studies also identified that these correlates, as well as income and education, seem to lead directly to variations in insurance coverage, rather than utilization (Samuel H. Zuvekas and Gregg S. Taliaferro 2003; Le and Nguyen 2011).

The correlation of health insurance with the utilization of health care services could partially explain the difference in utilization among migrant populations. This study identified that seasonal migrants use health care services the least, followed by migrants working in PSE and then migrants working in IZ. This is in accordance with the fact that the health insurance coverage of seasonal migrants is also the worst, compared to others. The correlation, once again, could lead to concern about low health insurance coverage of migrants. Previous studies found that the insurance coverage of migrants in general was usually less than 50% (GSO 2006; Anh 2009; Le and Nguyen 2011). Our study specifically showed the coverage is even very low for migrants working in PSE (26%) and seasonal migrants (23%).

According to Viet Nam Insurance Law, employees – both migrants and non-migrants – are all eligible to receive benefits from compulsory health insurance if they have non-term or over 3-month labor contracts. The monthly fee of compulsory health insurance is equal to 4.5% of employees' monthly salary or allowance, in which employers pay two thirds and the rest is covered by employees. The salary or allowance used to pay for health insurance is the salary or allowance in the labor contract (Viet Nam National Assembly 2008). In other words, employers should automatically extract and pay a health insurance fee from employees' salary. In practice, however, employers – especially in small business (e.g. private enterprises, household enterprises, and service business) – tend to avoid paying insurance fee for employees (UNDP 2010; Anh, Lien et al. 2012). Therefore, the Decree No 92/2011/ND-CP was issued to settle administrative violation of regulations on health insurance for employee; but the Decree might not cover seasonal migrants because the migrants mostly work without labor contract or are self-employed (Viet Nam Goverment 2011).

As discussed above, persons without compulsory health insurance (e.g. no labor contract or self-employed persons) can join voluntary health insurance that should be submitted to and processed by local authority where they have either permanent residence or a temporary residence permit (*tam tru* – in Vietnamese) and pay the monthly fee themselves (Viet Nam National Assembly 2008). But most migrants, especially seasonal migrants, are not willing to buy the health insurance because of their low income and great pressure of supporting to their family (Le and Nguyen 2011; Anh, Lien et al. 2012). They usually do not register temporary residence in destination (UNDP 2010). Moreover, even if they have health insurance in their place of origin, they either go back to their hometown health center to get a referral for health services at the destination when they want to use health care services, or they directly go to health facilities at the destination but health insurance just pays a certain proportion of their service fees (Viet Nam National Assembly 2008). Such disadvantages are also obstacles for health insurance coverage of migrant populations.

The study also identified that working time seems to be related to the utilization of health care services. Persons who are flexible in working time (i.e. self-employed) are more likely to use health care services than persons who work regular hours (i.e. 7:00am – 5:30pm) or in shifts. This might be caused by overlap of working time between enterprises and health service centers. Migrants often do not want to lose a working day to go to health care services because they

might lose their salary or bonus; therefore, they prefer taking medicine at pharmacy without prescription to seeking health care at health centers (GSO 2006; Anh, Lien et al. 2012).

This is a cross-sectional study, thus it is difficult to conclude causal relationships between health service utilization and its determinants. However, this is the first study in Viet Nam comparing the utilization of health care services among non-migrant, migrants working in IZ, migrants working in PSE, and seasonal migrants. Results of this study still need more sophisticated analysis to better hypothesize causal pathway between determinants and health care utilization and see how these determinants differ among different populations. Moreover, the questionnaire used in this study was validated by migrants working in industrial zones, but not all migrant groups; thus, the questionnaire would be not perfectly valid for the remaining groups. Despite these limitations, results of this study can be used for identification of targeted determinants that can be trialed in health interventions.

Conclusion

The study compared the utilization of health care services among migrant populations. Non-migrants have the highest proportion of the utilization while migrants have a much lower proportion. Among migrant populations, seasonal migrants have the lowest utilization of health care services, followed by migrants working in industrial zones and migrants working in private small enterprises.

The study also identified health insurance coverage as an important factor related to the utilization of health care services. The coverage of migrants working in IZ is the best while the coverage is the worst for seasonal migrants. The study argued that health insurance coverage needs to be increased if utilization of health care services for the whole population, particularly migrant population is to be improved. Policies of health insurance need to be suitable for migrant population.

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Chapter 11 Health services for reproductive tract infections among female migrant workers in industrial zones in Ha Noi, Viet Nam: an in-depth assessment

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Abstract

Background: Rural-to-urban migration involves a high proportion of females because job opportunities for female migrants have increased in urban industrial areas. Those who migrate may be healthier than those staying in the village and they may benefit from better health care services at destination, but the 'healthy' effect can be reversed at destination due to migration-related health risk factors. The study aimed to explore the need for health care services for reproductive tract infections (RTIs) among female migrants working in the Sai Dong industrial zone as well as their services utilization.

Methods: The cross sectional study employed a mixed method approach. A cohort of 300 female migrants was interviewed to collect quantitative data. Two focus groups and 20 in-depth interviews were conducted to collect qualitative data. We have used frequency and cross-tabulation techniques to analyze the quantitative data and the qualitative data was used to triangulate and to provide more in-depth information.

Results: The needs for health care services for RTI were high as 25% of participants had RTI syndromes. Only 21.6% of female migrants having RTI syndromes ever seek helps for health care services. Barriers preventing migrants to access services were traditional values, long working hours, lack of information, and high cost of services. Employers had limited interests in reproductive health of female migrants, and there was ineffective collaboration between the local health system and enterprises. These barriers were partly caused by lack of health promotion programs suitable for migrants. Most respondents needed more information on RTIs and preferred to receive these from their employers since they commonly work shifts – and spend most of their day time at work.

Conclusion: While RTIs are a common health problem among female migrant workers in industrial zones, female migrants had many obstacles in accessing RTI care services. The findings from this study will help to design intervention models for RTI among this vulnerable group such as communication for behavioural impact of RTI health care, fostered collaboration between local health care services and employer enterprises, and on-site service (e.g. local or enterprise health clinics) strengthening.

Background

According to United Nations Programme on HIV/AIDS (2001), migrants are people who move between places temporarily or permanently, by option or forced (UNAIDS 2001). More roughly, migration can also be divided in domestic or international migration. In Viet Nam, after the introduction of the reforms started in 1986, the economic system switched from budget subsided to market-oriented economy, which enhanced investments and development. The transformation has led to a significant economic growth and poverty reduction. However, similar to other South East Asian countries, unbalanced development between rural and urban areas triggered migration flows from the countryside to cities (Anh 2009). For example Ha Noi, the second largest city in Viet Nam, has had a gradually increasing in-migration since 1986. Up to 2003, its population grew in average by 55.000 people each year of which 35 – 39% were migrants (Gubry, Dung et al. 2004).

Rural-to-urban migration involves a high proportion of females because job opportunities for female migrants have increased in urban areas in the formal sector such as textile, footwear and garment factories, particularly in industrial zones (GSO 2006; Anh 2007; Shibuya 2010; Anh, Lan et al. 2011). Since 2009, the proportion of females is higher than that of males in most groups of migrants (e.g.. rural-to-urban and rural-to-rural) (GSO 2010; Anh, Lan et al. 2011). Average income of female migrants working in industrial zones has been much higher than the national poverty standard. However, after paying for room rent, electricity, water, and support to their families in rural areas, the remaining available budget for food and other fundamental living items is small. Still, female migrants' main difficulties are beyond "income" or "expenditure", but rather in "social integration" (Oxfam and Actionaid 2009).

In 1979, Hull (Hull D. 1979) reviewed the relationship between migration and health on a global level. The author coined the term of "healthy migrant syndrome", which implies that migrants seem to be healthier than non-migrants. Some authors also called this phenomena the "healthy migrant effect" (Syed and Vangen 2003; Thomas and Thomas 2004) and was explained by: (i) migrants need to have a good health to undergo an arduous journey of migration and to comply with job requirements and working conditions at destination and (ii) migrants may move to benefit from better health care services at destination. However, Kristiansen et al. (2007) stated that the effect would fade out over time because migrants are exposed to many health risk factors at destination (Kristiansen, Mygind et al. 2007). The report of World Health Organization (WHO) (2010) also identified that migrants are more susceptible and vulnerable to ill-health effects and have more limited access to health care (they seek care more rarely or cannot pay for them) (World Health Organisation 2010).

In Viet Nam, Van Landingham (2003) indicated that rural-to-urban migrants need to cope with negative effects on almost all aspects of health such as physiology, psychological, emotional, physical, knowledge and conception about general health (Van Landingham M 2003). The 2004 Viet Nam Migration Survey led to the identification of migrant-associated health problems when compared to the general population, such as unhealthy status, less access to health care, lack of knowledge about reproductive health and sexually transmitted infections (STIs). For instance, the majority of female migrants aged 20–29 had no knowledge of reproductive health infections (RTIs), STIs, and HIV/AIDS (GSO 2006).

RTIs include STIs, endogenous genital tract infections (e.g. bacterial vaginosis and candida), and iatrogenic infections (e.g. intrauterine device insertion). The latter is one of the leading causes of prenatal morbidity and mortality in developing countries (World Health Organisation 2005). RTIs can result in pelvic inflammatory diseases, infertility, adverse pregnancy outcomes, carcinoma and increased susceptibility to HIV (World Health Organisation 2005). Because of the severe morbidity of RTIs, early detection and treatment is important. However, it is difficult to distinguish between STI and non-STI clinical symptoms, also for health practitioners. Therefore, WHO recommends the management of symptomatic STIs/RTIs with a problem-based approach. The guideline may be modified to the context of a country (World Health Organisation 2005). Consequently, the Viet Nam Ministry of Health has adopted this guideline in 2010 in its National Guidelines for Reproductive Health Care Services (Ministry of Health

2010), where STI/RTI syndromes consist now of vaginal discharge, lower abdominal pain, genital ulcers, genital warts, and inguinal lymph nodes.

WHO (2005) and the Viet Nam Ministry of Health (2010) also stated that education on STIs/RTIs and counseling play crucial roles for management of STIs/RTIs. Particularly, the Ministry of Health has identified the necessity of community education to improve RTI prevention and health service utilization through raising awareness about RTIs and changing perceived barriers to health care utilization (World Health Organisation 2005; Ministry of Health 2010).

In Viet Nam, the RTI intervention program was integrated in the family planning program. However, this program has rarely targeted female migrants; indeed, in contrary given their non-residence registration (UNDP 2010). Although a number of previous studies showed that female migrants have faced many health problems including RTIs (GSO 2004; GSO 2006; Phuoc 2006; Anh 2007), the needs in information for and utilization of RTIs services of female migrants in reproductive age (i.e. aged 15-49 years old) has not yet been investigated. This paper attempts to address this gap and specifically focuses on female migrants working in industrial zones.

We present the results of two research objectives: (i) to examine the use of health care services for RTIs of female migrants; and (ii) to describe barriers related to the use of health care services. This project is embedded in a larger study on access to social services of inter-provincial migrants.

Methods

Study sites

The study was conducted in Long Bien district, Ha Noi, Viet Nam. The district is the gateway to Ha Noi, lies within the economic axis of Ha Noi – Hai Phong – Quang Ninh and involves many national highways. Moreover, many new urban compounds and industrial zones named Sai Dong A and Sai Dong B have been built in the district. All these have contributed to the dramatic economic development of Long Bien. Subsequently, it also attracted many inter-provincial migrants. The in-migration population in Long Bien was 22,143 persons in 2010, accounting for about 10% of the whole population.

There are 14 communes in the district and its health system was divided administratively into district and commune level. At district level, there are 4 public health centers (Duc Giang, Giao Thong Van Tai, Hang Khong, and Long Bien) and 5 private health centers. The public and private health centers are responsible for general health care services, including reproductive health. Each commune has a commune health center that is responsible for primary health care and national health programs, e.g. reproductive health and the expanded immunization program.

Study sites included the resident areas of two communes (Sai Dong and Thach Ban) in the district. These two study sites were chosen because they receive a substantial number of migrants working in the Sai Dong industrial zones.

Study participants

The inclusion criteria of participants were: (1) a female migrant who moved from another province to Ha Noi, (ii) and was 18-49 years old, (iii) and continuously lived in a study site for 6 months-5 years, and (iv) worked in the Sai Dong industrial zones. The third criterion enables us to compare our results with other studies because most studies on migration in Viet Nam have recruited migrants moving to destination within 5 years prior to the studies. In addition, 6-month duration of migration also enables us to capture RTI illness of female migrants and their use of RTI health care.

Study design and sampling

This study was a cross sectional design with mixed method approach combining both qualitative and qualitative methods. For the quantitative survey, a cohort of 300 female migrants was interviewed. These migrants were selected randomly from the sampling frame of all 1200 migrants currently located in the study area (the sampling frame was provided by the heads of the residential units, including both registered and non-registered migrants). We have calculated the sample size for a proportion and to estimate with an absolute precision, the sample size was calculated with the following parameters: anticipated prevalence of RTI as 25%, an absolute precision of 5% and an estimated non-respondent rate of 10%. Then the sampling interval was calculated and the first subject selected with a random number before each 4th person on our sampling frame was contacted.

The qualitative survey consisted of 20 in-depth interviews with key informants and two focus group discussions (FGDs) with female migrants. The participants were recruited by targeted sampling. The interviewees were representatives of health centers (e.g. directors of and seniors in District Health Centers, Department of Health Information and Education, Department of Reproductive Health Care, Department of Public Health, Department of Disease Control and HIV/AIDS Prevention, and the heads of the commune health center), employers (e.g. director and health staffs of manufactories), local organizations (e.g. district and commune police, people committee, Population – Family Planning, Women Union, Labor-Invalids and Social Welfare, and Youth Union) and landlords of buildings with female migrants. Two FGDs included each 8 female migrants selected by the same inclusion criteria as in the survey.

We have explained to all study participants about the purposes of the study and they have signed a consent form. The study had also obtained the approval of the Institutional Review Board of Hanoi School of Public Health.

Questionnaire and terminology

The in-depth interview catalogues, the FGD catalogues and the questionnaires were developed by using the ACCESS Framework (Obrist, Iteba et al. 2007) and tested in a pilot study. The 'Health Access Livelihood Framework' combines health service and health-seeking approaches and hence situates access to health care in the broader context of livelihood insecurity. Whether people actually recognize an illness and seek treatment depends to a large extent on their access to livelihood assets of the household, the community, and the wider society. Once they decide to initiate treatment, access becomes a critical issue. The degree of access reached depends on the interplay between i) the health care services and the broader policies, institutions, organizations, and processes that govern the services, and ii) the livelihood assets people can mobilize in particular vulnerability contexts (Obrist, Iteba et al. 2007).

The structured questionnaire with open and closed questions had five parts including: (i) background information such as age, ethnics, education, occupation, and marital status; (ii) migration information such as number of moves, migration reasons, and registration status and difficulties in registration; (iii) living conditions of participants such as house status, water supply, toilet, income and expenditure, working time, living difficulties and supports from their

family, friends or local government; and (iv) their RTI symptoms, and (v) needs in and access to and utilization of information and health services.

The RTI symptoms were based on the syndrome approach described in The National Guidelines of Reproductive Health Care Services. These syndromes include abnormal vaginal discharge, genital wart, and genital ulcer syndrome (Ministry of Health 2010). The terminology of a "health care unit" and "the use of health care" were based on Viet Nam Health Care Law (Viet Nam National Assembly 2009) and included both public and private services.

Analysis methods

STATA version 10 was used to analyze quantitative data. Descriptive techniques such as frequencies and cross-tabulations were applied. We have used NViVo 7 to analyze the qualitative data. Findings from the qualitative part were used to triangulate and provide in-depth information to explain the results from the quantitative part.

Results

The overall participation rate was high at 97%. Most female migrant respondents were young with a mean age of 24 years. The proportion of participants aged 30 or more was only 6.2% (Table 11.1). Table 11.1 also shows a high proportion of respondents with at least a high school education (84.6%) and about three-fourth respondents were single/unmarried, but 7.6% of these have ever had sexual relationship.

In the study, we found that 85.6% of the respondents were temporary registered and 78.7% had a health care insurance. In which, about one fourth of participants still use drilled-well water and sharing toilets (Table 11.1). Although the living conditions of female migrant respondents were seemingly poor, most of them felt satisfied with their living conditions. They preferred to make and save as much money as possible because their income is not only for themselves, but also for their family at the original areas.

> *"... they rent a room, a small room. As you know, migrants often have low income. Therefore they usually share a room with others. Living condition is poor, of course. In fact, they take each day as it comes, they usually want to save money as much as*

possible. So they cannot have good living conditions" (an officer of Labor – Invalids and Social Welfare)

"We can live anywhere, it doesn't matter. You see, our salary is low, therefore we must pay for living as less as possible, we must save money" (a 24-year-old female migrant, 3 years of migration)

Table 0.1. Characteristics of female migrant workers (n= 291)

Categories	N	%	Categories	N	%
Age			*Duration of migration*		
18 - 24 years old	187	64.3	< 1 year	98	33.7
25 - 29 years old	86	29.5	1 - 3 year	109	37.5
≥ 30 years old	18	6.2	> 3 - 5 year	84	28.8
Education			*Temporal registration*		
Less than high school	45	15.5	Yes	249	85.6
High school	185	63.6	No	42	14.4
Higher than high school	61	21.0			
			Health insurance		
Ethnicity	278	95.5	Yes		
Kinh	13	4.5	No	229	78.7
Others				62	21.3
Marital status			*Source of water supply*		
Married	71	24.4	Tap water	216	74.2
Unmarried	220	75.6	Drilled-well water	75	25.8
Sexual intercourse			*Type of toilet*		
Yes	93	32.0	Private toilet	217	74.6
No	198	68.0	Sharing toilet	74	25.4

A migrant should register with the local police at destination. Temporary registration – *dang ky tam tru* – at the destination is not complicated. For migrants who live at destination 3 months and longer, the local government requires a copy of the identity card and a registration form of migrants. Most female migrants were assisted for this by their landlords. This may explain the

high proportion of registered respondents. However, female migrants often register only if they feel satisfied with their settlement and job. In other words, they casually switch their accommodation if they feel any inconvenience; for instance, they fail to liaise with the local community; or their rents are going up, or their work is too tough. These flexibilities make resident management of local government difficult.

> *"I did the registration. Actually, my landlord did it. We gave him a copy of our identity cards"* (a 20-year-old female migrant, 1 year of migration)

> *"I have not registered yet, because I want to find another room with a cheaper rent than my current room"* (a 19-year-old female migrant, 1 year of migration)

> *"We gave them a sample profile for registration. They just gave us a copy of their identity card and their photo. That is it! Then we gave them their temporary registration card and a receipt of 10.000 VND* [about 0.5 US dollar]. *If they stay less than 3 months, they just need to confirm their stay with us, but do not need a registration card"* (a local policeman)

> *"Because they* [female migrants] *do not consider to settle permanently, they change their accommodation frequently, due to for example conflicts with the landlords, with neighbors, with other migrants, or a higher renting cost. So you see, with any reason, they can switch and have unstable accommodations"* (a local manager)

The Viet Nam Law of Health Insurance stated that all employees having a labor contract with their manufactory must be covered by "obligatory health insurance". The law defines that employers must pay two-third and employees one-third of monthly health insurance fee. The fee does not exceed 6% of employees' monthly salary. The regulation contributes to ensure the high coverage of health insurance for female migrants working industrial zones (Table 11.1). However, some manufactories do not comply with the law, and not all female migrants understand their rights of having health insurance.

> *"About 70-80%* [of enterprises issuing health insurances for their employees] *is quite good, I think. And migrants also do not understand their right. Or they do not care about it because they think they are still healthy and they do not need it"* (Manager, District Health Center)

"Our company has contracts with foreign companies. So we should follow all regulations that ensure employers' right such as labor contracts, social and health insurance. ... If we do not do all these things, foreign companies would not contract with us. But you know, some companies such as small private companies do not care about this" (a health staff of a State–owned manufactory)

"I do not know, my manufactory gives me nothing [health insurance]*"* (a 23-year-old female migrant, 1 year of migration)

"I do not know that I can register my health insurance at commune health center here. My manufactory seems to have a contract with that center [Duc Giang health center]*, and I think we should not change..."* (a 24-year-old female migrant, 2 years of migration)

"All manufactories – small or large – should provide health insurance for their employees. The fee is not much. But employees usually do not know their rights, and they also do not dare to ask for the rights." (an officer of the Labor – Invalids and Social Welfare)

RTI symptoms and obstacles for access to RTI care services of female migrants

The reporting of one or several RTI symptoms (e.g. abnormal vaginal discharge, vaginal itching, and genital wart/ulcer) in the previous 6 months was recorded in 25.4% of interviews. However, only 16 respondents (21.6%) of those sought health care at a health center; the others did self-treatment (i.e. washing their genital area with feminine hygiene fluid) (37.8%), or self-medication (20.3%), or did nothing (16.2%) (Figure 11.1).

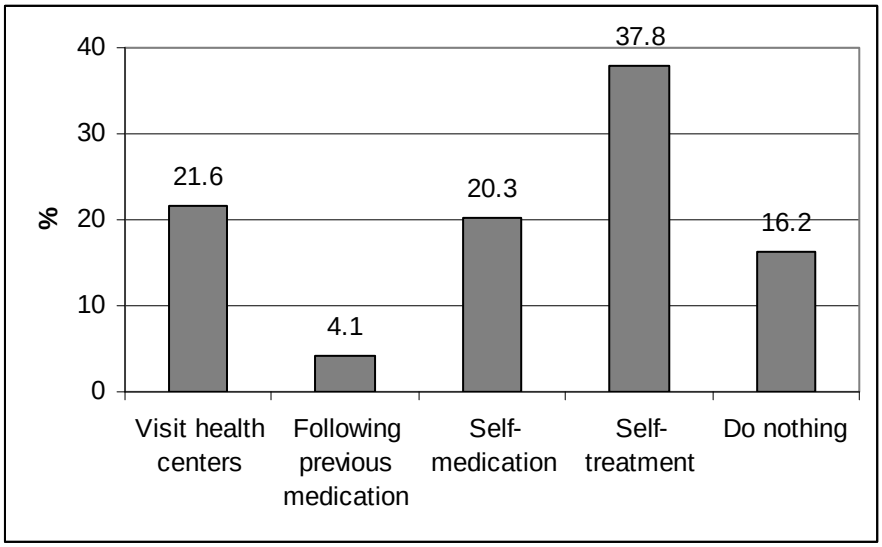

Figure 0.1. Health-seeking practice among female migrant workers having RTI symptoms in the previous 6 months (n = 74, 25.4% of all female migrant respondents)

Traditional health beliefs and values: unmarried women seem to have no risk of RTIs

The perception for RTIs of female migrants seemingly partly explains this health seeking pattern. Most respondents with symptoms thought these symptoms to be normal and not a sign of a disease. They also often stated that they can bear these symptoms, do not need to seek for health care, or they can treat themselves by using feminine hygiene fluid. This seems to indicate that female migrants do not have comprehensive knowledge about RTIs, its severity and subsequent health problems.

> *"I am ok, why do I have to go to a doctor? When it was too itchy, I went to a drugstore and bought a bottle of feminine hygiene fluid, it will be fine after few days of using the fluid. So do all of my friends"* (a 20-year-old female migrant, 2 years of migration)

> *"It is* [the symptoms] *not too serious to seek for health care ... (laughing) ... We are totally healthy, strong like a cow or a buffalo (laughing)"* (a 25-year-old female migrant, 2.5 years of migration)

Female migrants thought that gynecological examination was only for married women, not for unmarried ones. Single female migrants stated that they were free of risk for any gynecological disease. Female migrants also perceived an unmarried woman - expected by the society to be a

virgin - with an RTI to be "bad". In other words, they commonly thought that RTIs are a consequence of sexual intercourse. As a result, they feel quite embarrassed as getting a gynecological examination.

> *"It is* [gynecological examination] *only for married women; we are unmarried so…"* (a 22-year-old female migrant, 2 years of migration)

> *"I am not married yet, so I am too ashamed to have a gynecological examination. If my friends knew… they would think I am promiscuous"* (a 18-year-old female migrant, under 1 year of migration)

> *"There is no need to visit health facilities … they are only for married women, not for unmarried girls like us, so we don't go there …*" (a 22-year-old female migrant, 2 years of migration)

Availability, accessibility, and affordability of RTI care services and lack of information about health care insurance

In addition to the thinking of RTIs being normal or gynecological examinations only to be for married women, for female migrants there are other reasons to not go to health centers, despite the fact that a high proportion had a health insurance. In fact, there are different health care services that female migrants can use. Public health system includes manufactory health centers, commune health centers, district health centers/hospitals, and health centers where they have their insurance registration (mostly district health centers). The private health system consists of private clinics, private health centers or hospitals. However, most female migrants do not go to private health centers because of the higher costs. Meanwhile, health centers where female migrants register their health insurance are often far from their home. The health insurance is registered at a certain district health center that it has a health care contract with the manufactory. Employees have the right to register their insurance at another health center, also in another administrative unit. But they do not know about this.

> *"I live here, but they* [the manufactory] *registered my health insurance at Duc Giang hospital* [a district hospital]. *It is quite far. If I go there to get examination, it will take half of day. Thus I can't, I need to work"* (a 24-year-old female migrant, 3.5 years of migration)

"Alike other residents living here, they could register their health insurance here to get medical examination. If they do it, they will have all health services under health insurance regulations. If they don't, they will pay all health care costs" (a health staff of a commune health center)

"I don't know. Where they [the manufactory] *registered my health insurance, where I must go to have medical examination. Could I change? Yes? I didn't know this"* (a 20-year-old female migrant, 1.5 years of migration)

Adequacy of RTI care services

Moreover, health centers usually provide general medical examinations during the working time. Therefore, if female migrants want a genital examination at a health center, they need to take out half or one of their working day. However, this means that a half-day salary is lost, which is another barrier to health care.

"We work in the third shift. We come back home in the morning and sleep until noon. In the afternoon, we eat and sleep again. And then go to work. We have no time for medical examination" (a 22-year-old female migrant, 2.5 years of migration)

"We work in shifts. We could ask the manager to get absence time for medical examination, but we are afraid…. And when we finish our work at the manufactory, hospitals are closed" (a 20-year-old female migrant, 2 years of migration)

"As you know, they just want to work. They don't want to be absent from their work, they are afraid of being excluded from the wages, from bonuses… They are mostly poor, thus we treat them for the love, not for money. We sometimes give them drugs from national health programs for free. Or we just charge for clinical examination. It is not much. If they have children under six years old[*]*, we treat their children for free. But the important thing is that they should care for their health"* (a health staff of commune health center)

[*]: In Viet Nam, every child under six years old has an insurance card for all treatments for free of charge.

Common health care of employers

In fact, many employers usually provide to their employees annual medical examination; also because this is required by the Labour Law; however, the examinations are often a more formal matter. Reproductive tract diseases such as RTIs/STIs are commonly ignored, especially for unmarried female migrants.

> *"Doctors* [doing the regular examination at work] *just have a quick look at a person to find something abnormal on the surface or anything else. They do not check it* [genital area] *and do not ask about it…*" (a 26-year-old female migrant, 3 years of migration)

> *"We focus mainly on labour safety and prevention of occupational diseases, such as occupational deafness and respiratory problems… We do not care much about reproductive health of women. We have given them health insurance cards, so if they have any health problem, they have to seek for treatment at health facilities. If they have some benign symptoms, we give them some medicine, that's all…"* (Health staff of a foreign company).

The collaboration between the local public health services and manufactories in providing information and health care for RTIs to female migration was limited, despite the fact that the district health center held meetings with the manufacturers in the industrial zone every 3 months. These meetings would be an opportunity for both the local health system and manufactures to harmonise their approaches to address health problems, but the meetings have not attracted much attention of most companies, particularly of the foreign ones.

> *"We have already integrated communication and provided condom for free at some enterprises, however, they are only State–owned enterprises, but not foreign enterprises. We have not accessed any international enterprise*" (a representative of Department of Disease Control and HIV/AIDS Prevention).

> *"We used to contact the enterprises to organise communication sessions about reproductive health, but we have failed. It is too difficult to do. Their employees work in shifts, so they cannot spend time for these things. We do want to do this, but we cannot, it's so hard"* (a representative of Department of Reproductive Health).

"Only [a State-owned enterprises] *came often* [to the meeting]. *Others did not. We could not manage them. We are a professional agency, not an administrative agency, we have no legitimacy to manage them. We have no right to ask them that they come to regular meetings. No. They should be active"* (a representative of Department of Public Health)

Needs and utilization of RTI information and health service

However, female migrants thought that seeking health care services is necessary, particularly when they have several symptoms. Table 11.2 indicates that most female migrants (75.6%) expect to get gynecological examination at health centers. However, 63.2% of respondents need a gynecological examination that is fully subsidized, 31.3% need some subsidization, and only 5.5% need none (Table 11.2). On the one hand, they want to save their expenditure; on the other hand, and they want to be "safe" or "unembarrassed". The latter reason is explained by respondents that if RTI care services are free of charge or partly subsidized, many females would seek public health care. Is so, they would feel less ashamed and more comfortable because they obviously would belong to a group with the same health problems.

"I want to have gynecological examination, but I am not married yet, so I am embarrassed…" (a 20-year-old female migrant, 2 years of migrant).

"I want to visit health facilities; it is good to have gynecological examination because I do want to know what is happening, sometime it's [her genital area] *not fine. If many persons such as my friends, my colleagues came there to have gynecological examinations, I would be totally fine, not embarrassed. But if not, no, it is so ashaming"* (a 20-year-old female migrant, 2 years of migrant).

"We sometimes have genital examination programs free of charge for females at reproductive age. They come a lot. Yes, the programs are for both resident and migrant females. In fact, the programs are offered to registered persons, but they are all poor, we cover all. We just estimate a bit more needed resources (smiling)" (a representative of Department of Reproductive Health)

Table 0.2. By female migrant workers used and sought reproductive health programs

Contents	N	%
Sought health care services		
Location of services	*291*	
At commune level	220	75.6
No (other places)	71	24.4
Subsidized	*220*	
Totally subsidized	139	63.2
Partly subsidized	69	31.3
Not subsidized	12	5.5
Needs on information		
Needs on reproductive health information	*291*	
Yes	234	80.4
No	57	19.6
Source of information	*234*	
Television/radio	125	53.4
Peer/relatives	84	35.9
Book/newspaper/magazine/leaflet	104	44.4
Manufactory health officer	97	41.4
Local health worker	119	50.9
Loudspeakers	*68*	29.1
Others	*15*	6.4
Sought place of communication sessions	*234*	
At commune	91	38.9
At manufactory	193	82.5
No needs	26	11.1
Local communication programs		
Local communication programs	*291*	
Known	28	9.6
Unknown	263	90.4
Participated in the program	*28*[*]	
Yes	4	14.3
No	24	85.7

Note: [*] only for female migrants who have known about local communication programs

In Viet Nam, health information campaigns including RTIs have been expanded to all "resident groups" via community health workers, resident group meetings and information distributed via loudspeakers. However, female migrants usually work shifts – and spend most of their day time at work. Thus they are more rarely reached by these information campaigns than the general population.

> *"There is no loudspeaker in this street. There is one on the main road, but it is very far from here. I have not heard anything from it, because it's only broadcasted at 6 am, and at this time, we are still in the manufactories …"* (a 27-year-old female migrant, 4 years of migration).

> "*There may be some communication meetings integrated into resident group meetings, but no one invites us. But my work is also too busy, so I don't participate in any activity of resident groups, I am only at the manufactory*" (a 21-year-old female migrant, 3 years of migration).

> *"They* [female migrants] *just focus on their work for earning more money. Therefore they don't participate into any information programs. We have invited them, but they don't join us. For example, we held some information sessions here* [at their *to dan pho* – "resident group"]*, but they did not come. The problem is that we want to help them, but they don't care. Only if they get very seriously sick, we will come"* (health staff of commune health center)

Consequently, only 9.6% respondents knew about local information programs; in which only 4 women have ever participated. In order to improve perception of and information campaigns for RTIs, their needs were recorded. Most of respondents (80.4%) need information on reproductive health in general and on RTIs in particular (Table 11.2). Indeed, Figure 11.2 also shows that female migrants need more information about RTIs and STIs than on HIV/AIDS. Also, 82.5% of female migrants wanted to receive more information from their employers (Table 11.2). Disseminating information at the home domiciles of migrants, if possible, should be on Saturdays or Sundays, mainly in the afternoon or evening when migrants could be at home.

> *"In general, it's better to provide information at manufactory because we work there, we have more time and it is easier for us to access information. If they do it here* [at the

health commune], *it should be on Saturdays or Sundays"* (a 26-year-old, 3 years of migration).

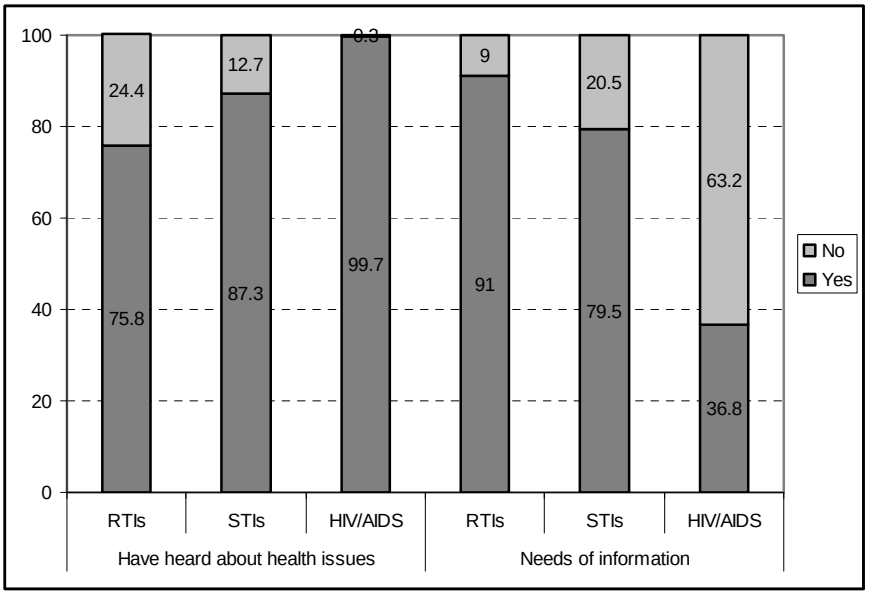

Figure 0.2. Needs of information about RTIs of female migrant workers (n=291).

Discussion

The current study attempted to capture the needs and utilization of health care service for RTI of female migrants at reproductive age working in an industrial zone in Viet Nam. In this study, we found that female migrants working at industrial zones are young. Moreover, they are younger than female seasonal labours and have higher education levels than female seasonal labours (Anh 2007). In fact, migrants working in industrial zones (inter-provincial migrants) have a higher than needed education level for labour requirements of enterprises while most seasonal labours are rural-to-urban migrants who seek a job during harvest shifting time and thus they are mainly married and over 30 years old (Anh 2007). We also found a high proportion of female migrants having health insurance. The reason for this is that most employers should provide health insurance to employees by law (National Assembly 2006).

The proportion of unmarried female migrants, who have had sexual intercourse in the study, was 7.6%. We have used female interviewees who could comfort the women that all data will be treated confidentially, but it is important to note that our proportion of sexual partnerships might

be higher because having sexual intercourse for unmarried females was a sensitive issue and thus they usually tended to not respond to the question.

There was up to date no report about prevalence of RTIs or RTI symptoms for female migrants in Viet Nam. We have found that a quarter of the 291 respondents reported RTI symptoms. However, this proportion is lower than the proportion of other studies among settled communities in the Mai Dich, Ha Noi (33.7%), a study at Hoai Duc, Ha Tay (58.3%), and a study at Quang Tri (26.4%) (Hien 2004; Mai and Linh 2005; Montgomery 2010). Unlike the current study with mainly young single migrant women, participants of other studies were married non-migrant women. In these studies, clinical examination depicted a higher proportion of RTIs when compared to reported symptoms; for instance: 62.1% in Mai Dich, 53.1% in Hoai Duc, and 63.8% in Quang Tri. Difference between clinical detection rates than reported rates of RTIs could be caused by the fact that many RTIs often have calm symptoms or no felt symptom. Thus, the true prevalence of RTIs of female migrants in the study could be higher.

Among female migrants with RTI symptoms, the proportion of visiting a health centre in our study was rather low (21.6%). This proportion is much lower than studies among non-migrant women in Hoai Duc, Ha Tay, and some Northern provinces, 48.2% and 48.6% respectively (Hien 2004; Mai and Linh 2005). In contrast, the proportion of self–medication and self-treatment in the current study was higher than in the two latter studies. Note that in contrast to these studies most of our female migrants were unmarried, and they believed that RTIs is a health problem of married women alone.

Indeed, Ngo et al (2007) and Lan et al (2008) showed that most Vietnamese women go to drugstores/pharmacies to seek medication against their RTIs/STIs or some advice from drug sellers before going to health care centre (Anh D. Ngo et al. 2007; Lan and et al. 2008). Drugstores and pharmacies are less expensive than the health centres (in the case of without health insurance). In addition, given their larger number, access is easier and women also feel less ashamed. However, several studies indicated that not all treatments for RTIs/STIs at the pharmacy are in compliance with national guidelines for RTIs/STDs treatments (UNFPA 2007).

The World Health Organization (WHO) recommended to reduce self-medication or self-treatment via buying drugs from pharmacies without a doctors' consultations (World Health Organisation 2007). The main reason is that drug sellers are not trained for medical treatment

and thus they are not able to sell drugs effectively or correct dose. Although symptoms may (temporarily) disappear after such a treatment, the infections or diseases may not yet be cured. As a consequence, it also makes bacteria become resistant to antibiotics because they do not follow-up on their clients as a doctor would do on his patients.

One major barrier for female migrants to seek RTI health care was their embarrassment. This confirms other recent studies showing that stigma, shamefulness, and embarrassment are factors preventing people with RTI symptoms from seeking for treatment at health facilities (Go V.F. et al. 2002; García and et al. 2006; Sihavong and et al. 2011). Therefore, female migrants wanted to use RTI health care services in local community, but they also wanted to have clinical examination without fee or with some subsidization. This would attract more women to go to a health facility without them feeling ashamed.

Similarly to other recent studies on female migrants, most female migrants had heard of RTIs, STIs, and HIV/AIDS from a variety of information sources, but mainly from mass media (Phuoc 2006; Anh 2009). We could show some limitations of local communication programs and health care activities for employees of enterprises. Female migrants usually work in shifts, thus they can hardly participate in communication events at the community level which would be a rich source of information. Therefore, female migrants would prefer to have communication sessions at their manufactories or on week-ends.

Meanwhile, most female migrants wished to have more information about RTIs, rather than STIs, and HIV/AIDS. This is because they have received some information about the two latter health issues from communication campaigns that are ongoing since many years. In parallel, employers did not pay enough attention on reproductive health for female migrants. Moreover, the local health system has not effectively collaborated with health care activities of manufactories. All these factors lead to central barriers to seek information and health care services to female migrants.

It is important to note that the study collected information of RTI symptoms by a questionnaire but not clinical examination. In fact, RTIs are still quite sensitive for female migrants, especially unmarried females. Thus, clinical checks in this study seem to be unfeasible. In addition, study conducted in Sai Dong industrial zone only. The zone is similar to other industrial zones in Viet

Nam, but it is difficult to generalize about need for health care services for RTIs among female migrant workers and their services utilization in the whole country.

Conclusion

The current study indicated that the use of RTI health care services among young female migrant workers was limited. It also identified barriers to health care seeking behaviour of female migrants. The barriers included both perspective of users and potential best providers: too little awareness and understanding of female migrant workers needs regarding RTIs and RTIs treatment, limited interests of employers in reproductive health of female migrants, and ineffective collaboration between the local health system and enterprises.

The study also indicated crucial needs of access to information and services – and their utilization - for RTIs of female migrants. Communication for behavioural impact of RTI health care should be fostered and the communication campaigns need to be conducted at manufactories where female migrants spend most of their time. In addition, it is necessary to improve collaboration between local health system (i.e. district health center) and manufactories in the same administrative units.

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Chapter 12 Health service utilization for reproductive tract infections of female migrants aged 18-49 working at industrial zones in Long Bien, Ha Noi, 2011

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Abstract

Background: Female migrants working in industrial zones (IZ) have faced many health-realted risks, especially reproductive health. The study aimed to examine the use of health care services for reproductive tract infections (RTIs) of female migrants aged 18-49 working in IZ.

Methods: Descriptions of study sites, participants and study design have been published in Kim et al. *Reproductive Health* 2012. In general, study sites include 2 wards: Sai Dong and Thach Ban in Long Bien, Ha Noi. A female migrant was defined as a person who (i) moves from other provinces to HaNoi, (ii) is 18-49 years old, (iii) continuously lives at the study sites 6 months-5 years, and (iv) works at enterprises in Sai Dong IZ. A systematically random sample of 300 female migrants was interviewed through a structured questionnaire that was validated by a pilot study. The terminology of a "health care unit" and "the use of health care" are based on Viet Nam Health Care Law. Logistic regression and Hosmer-Lemeshow test were used at significant level of 5% to analyze factors related to the use of health services.

Results: Overall response rate in this study was 97%. Findings showed that the percentage of using health care services for RTIs of female migrants working in IZ remained low (18.9%). Particularly, very few female migrants accessed health services at health facilities for periodic reproductive health examination. Logistic regression model identified that there was no statistically significant relation between health insurance and the utilization of health services for RTIs of this group of migrants. Meanwhile, some other factors such as education, the numbers of migration, average monthly income, health seeking behaviors, and lack of information about

health centers for RTIs in Ha Noi had significant correlation with health service utilization (ORs from 2.33 to 10.42).

Conclusion: Female migrants working in IZ usually do not use health services for RTIs, even when they have RTIs' syndromes. This is not due to low coverage of health insurance, but due to other obstacles such as income, knowledge about the disease, and socio-cultural issues of the disease (i.e. socio-cultural values and norms). Hence, future interventions should focus on these issues, not only on health insurance coverage, to improve the access to health care services of female migrants.

Background

Internal migration in Viet Nam, like Asia countries, has been a consequence of urbanization, differences of job opportunity, income per capita, and social services between rural and urban (Anh 2006). Migration have brought great opportunity to people in rural areas for accessing employment with better wages in urban areas; however, they have usually faced many difficulties such as poor living and working condition, low income, and tough social integration. These difficulties, as well as the lack of health information and obstacles on health care service utilization, have affected health of migrants, especially female migrants.

To date, rural-to-urban migration involves a high proportion of females because job opportunities for female migrants have increased in urban areas – particularly in IZ – in the formal sector such as textile, footwear and garment factories (Anh 2005). Since 2009, female migrants have accounted for higher percentage than males in most groups of migrants (Duong 2005). In addition, most female migrants working in IZ are young and unmarried (Duong and Hong 2008). These female migrants, as discussed above, are more likely to have health risks, especially risks of reproductive health.

Indeed, previous studies identified that migrants are more susceptible and vulnerable to ill-health; meanwhile, less likely for the access to health care services than non-migrants. Percentage of self-treatment remained very high among both male migrants (70%) and female migrants (76%) (Anh 2005; Anh 2009). Also, studies on health of migrants identified that rural-to-urban migrants seem to have better opportunity for seeking health care services at the

destination, but their utilization of health services remained worse than non-migrants (GSO 2006; GSO 2011).

Particularly, many studies on sexually transmitted infections (STIs), reproductive tract infections (RTIs), and HIV/AIDS of female migrants showed that most female migrants usually did self-treatment and they used health care services only when their health problems became seriously (Mayaud and Mabey 2004; García and et al. 2006; Sihavong and et al. 2006). Such studies suggested some reasons such as lack of knowledge about the diseases, stigma, shamefulness, and embarrassment of female migrants, and availability of pharmacies at the destination. These reasons not only prevent females having RTIs symptoms from seeking for health care services, but also prevent most female migrants from periodic health examination that is important for early detection of RTIs and other reproductive health diseases.

This paper is a part of the research project that aimed to evaluate health service utilization for RTIs and its correlates among female migrants working in industrial zones aged 18-49 (IZ). The project included 02 components: quantitative and qualitative. Findings of qualitative component were published in Kim et al. *Reproductive Health* 2012 (Kim, Pham et al. 2012). This paper, hence, focused on findings of quantitative component.

Methods

Study sites, design, and sampling

Descriptions of study sites, participants and study design have been published in Kim et al. *Reproductive Health* 2012 (Kim, Pham et al. 2012). Briefly, the study was conducted in Sai Dong and Thach Ban commune which receive a substantial number of migrants working in Sai Dong IZ. Participants included 300 female migrants aged 18-49 years old who moved from another province to Ha Noi, continuously lived in a study site for 6 months-5 years, and worked at enterprises in the Sai Dong IZ.

Questionnaires

A structured questionnaire was used to collect information, including: (i) *background information* such as age, ethnics, education, occupation, health insurance and marital status; (ii) *migration information* such as the number of migration, reasons of migration, duration of

migration and difficulties of migrants in registering temporary residence; (iii) *living conditions* such as house status, water supply, toilet, income and expenditure, working time, difficulties of migrants in the life and supports from their family, friends and local government; (iv) *RTIs symptoms*; and (v) *the access to health services*. The questionnaire was developed by using the ACCESS Framework (Obrist, Iteba et al. 2007). It was also validated before this study through a pilot study.

The RTIs symptoms were based on the syndrome approach described in The National Guidelines of Reproductive Health Care Services (Ministry of Health 2010). The terminology of a "health care unit" and "the use of health care" were based on Viet Nam Health Care Law; in which, "health care unit" is defined as a fixed or mobile authorized health centre (i.e. both public and private) that provides health care services (Viet Nam National Assembly 2009). Utilization of heath care services was identified as "an ill person who goes to health care centres for seeking any treatment".

Interviews were conducted face-to-face at home of female migrants. Informed consent was obtained from each participant at the start of the interview and this study was approved by the Institutional Review Board of the HaNoi School of Public Health.

Analysis methods

All data were stored in EpiData 3.1 and transferred to SPSS 16.0 for analysis. Multivariate logistic regressions were used to identify correlates of utilization of reproductive health care services. All tests in the study used the significant level of 0.05.

Results

Characteristics of study sample were reported in the Kim et al. *Reproductive Health* 2012 (Kim, Pham et al. 2012). Among 291 respondents (97% of 300 interviewees), most of them were young, unmarried, and well-educated. Living condition remained poor, but the health insurance coverage was high, 78.7%. The study also identified that 55 of 291 respondents (18.9%) used health services at health care centers – mostly public health centers (46/55 or 83.6%) – for RTIs examination and treatment in the last 6 months before the study.

In addition, this study also identified some factors related to the utilization of health care services for RTIs of female migrants. Table 12.1 shows some of these factors, including their age, monthly income, numbers of migration, numbers of children, and their sexual relationship. For instance, female migrants aged 25 and above have 2 times of probability for the utilization of health services than those aged less than 25 years old. People with high monthly income (> 3 millions VND) are also more likely to use health care services than low-income people. Besides, female migrants who have ever had sexual relationship or had children are more likely to use health services than those who have not.

Table 12.2 also identifies the correlation between behaviours related to health belief and the utilization of health care services. In which, female migrants – who either suspect themselves of having RTIs, or know health facilities that are able to provide health services for RTIs in Ha Noi, or are not shamefulness of seeking health services for RTIs at health facilities – are more likely to use health services than others. However, it is noted that the number of respondents who have ever used health care facilities for RTIs remained small, so that some confident intervals (CI) of Odds Ratios (OR) in some factors (e.g. "suspect of having RTIs" and "knowing health care facilities for RTIs") in Table 12.2 are quite large. Despite of this, results in both Table 12.1 and 12.2 suggest potential correlates of the access to health services of female migrants.

A multivariate logistic regression model with a backward method was conducted afterwards to identify factors which influence the utilization of health care services for RTIs of female migrants (Table 12.3). The model shows that factors such as the number of migration, education, monthly income, and shamefulness of seeking for reproductive health services are important correlates of the access to RTIs health care services. Besides, ability in self-assessment of having RTIs symptoms and knowledge about health facilities for RTIs treatment in Ha Noi of female migrants are also important factors that promote the health service utilization. Meanwhile, means of travel, working time, health insurance, and other factors seem to have no statistically significant relation with the utilization of health services.

Table 0.1. Correlates of the utilization of RTI health care facility (univariate analysis): age, education, working characteristics, migration history, means of transport, and sexual history.

Correlates	Utilization of heath care services		p	OR
	Yes *n (%)*	*N*	*(χ^2 test)*	*(95%CI)*
Age	*55*	*291*		
≥ 25	29 (27.9)	104	0.006	2.40 (1.32 – 4.34)
< 25	26 (13.9)	187		
Education				
Less than high school	6 (13.3)	45		1
High school	39 (21.1)	185	0.42	1.7 (0.7 – 4.4)
Colleges +	10 (16.4)	61		1.3 (0.4 – 3.8)
Working time				
Regular time (7:30am-5:30pm)	25 (23.8)	105	0.147	1.63
In shifts	30 (16.1)	186		(0.9 – 2.95)
Monthly income				
≥ 3 millions VND	22 (28.9)	76	0.015	2.25 (1.21 – 4.17)
<3 millions VND	33 (15.3)	215		
Duration of migration				
< 1 year	14 (14.3)	98		1
1 - 3 years	22 (20.2)	109	0.33	1.5 (0.7 – 3.2)
> 3 - 5 years	19 (22.6)	84		1.7 (0.8 – 3.8)
Number of migration				
≥ 2 times	16 (30.2)	53	0.033	2.21 (1.12 – 4.35)
1 time	39 (16.4)	238		
Means of transport				
Yes	44 (21.7)	203	0.094	1.94
No	11 (12.5)	88		(0.95 – 3.96)
Having children				
Yes	18 (30.0)	60	0.023	2.25 (1.17- 4.32)
No	37 (16.0)	231		
Have ever had sexual relationship				
Yes	30 (32.3)	93	< 0.001	3.30 (1.8- 6.03)
No	25 (12.6)	198		

Table 0.2. Correlates of the utilization of RTI health care facility (univariate analysis): behaviors related to health belief.

Correlates		Utilization of heath care services		p	OR
		Yes	***N***	*(χ^2 test)*	*(95%CI)*
		n (%)			
Suspect of having RTIs		*55*	*291*		
	Yes	27 (48.2)	56	<0.001	6.88 (3.57- 13.27)
	No	28 (11.9)	235		
Knowing health care facilities for RTIs					
	Yes	51 (29.3)	174	< 0,001	11.71 (4.1 – 33.45)
	No	4 (3.4)	117		
Trust practitioners of health facilities					
	Yes	36 (21.7)	166	0.212	1.55 (0.84 – 2.85)
	No	19 (15.2)	125		
Shamefulness					
	Yes	42 (23.1)	182	0.028	2.215 (1.13 – 4.35)
	No	13 (11.9)	109		
Confidence in the confidentiality of health facilities					
	Yes	42 (21.5)	195	0.139	1.75 (0.89 – 3.45)
	No	13 (13.5)	96		
Concerns about risks of getting STIs in health facilities					
	Yes	14 (20.6)	68	0.819	1.15 (0.58 – 2.27)
	No	41 (18.4)	223		

Table 0.3. Multivariate logistic regression model for correlates of the utilization

Correlates		B	SE	p	OR Adjusted	KTC 95%
Age	≥ 25 years old	0.50	0.48	0.297	1.64	0.65 – 4.18
Education	High school	1.03	0.73	0.161	2.79	0.66 -11.70
	≥ College	1.23	0.52	0.019	3.42	1.22 – 9.55
Sexual relationship	Yes	0.33	0.55	0.554	1.38	0.47 – 4.08
Having children	Yes	0.34	0.59	0.57	1.40	0.44 – 4.47
Years of migration	1 – 3	0.81	0.59	0.17	2.24	0.71 – 7.12
	> 3	0.56	0.46	0.225	1.76	0.71 – 4.38
Number of migration	≥ 2	0.99	0.48	0.039	2.68	1.05 – 6.82
Means of travel	Yes	0.004	0.50	0.993	1.004	0.38 – 2.68
Type of enterprises (comparison group is state-owner enterprises)						
	Private	-0.67	0.64	0.297	0.51	0.15 – 1.80
	Foreign	0.16	0.46	0.722	1.18	0.48 – 2.91
Working time (comparison group is "regular time")						
	Working in shifts	0.08	0.43	0.853	1.08	0.46 – 2.91
Monthly income	≥ 3 mVND	0.85	0.42	0.043	2.33	1.03 – 5.31
Health insurance	Yes	0.81	0.63	0.198	2.26	0.65 – 7.78
Time management	Active	0.24	0.46	0.603	1.27	0.51 – 3.15
Known health facilities	Yes	2.34	0.61	< 0.001	10.42	3.12 -34.73
Having symptoms	Yes	0.56	0.48	0.242	1.76	0.68 – 4.52
Suspect of having RTIs	Yes	1.94	0.45	< 0.001	6.96	2.91 -16.66
Trust practitioners	Yes	0.21	0.42	0.613	1.24	0.54 – 2.81
Shamefulness	No	1.05	0.48	0.028	2.86	1.12 – 7.28
Confidence the confidentiality of health facilities						
	Yes	0.11	0.46	0.81	1.12	0.45 – 2.74
Concerns about risks of getting STIs in health facilities						
	Yes	0.12	0.46	0.802	1.12	0.45 – 2.78
N = 291	*Hosmer & Lemeshow test: χ^2= 11.901, df = 8, p = 0.156*					

Note: VND: Viet Nam Dong; STIs: sexual transmitted infections

Discussion

This paper attempted to capture the utilization of health care service for RTIs and its related factors across female migrants at reproductive age working in an industrial zone in Viet Nam. Generally, percentage of female migrants who had used health facility for RTIs in the last 6 months was low. Among these migrants, many sought for health care services because they had RTIs' symptoms. Only few of female migrants sought for health services to take periodic health examination.

Findings in this study showed that high income, multiple times of migration, and high education could make female migrants more likely to use health care services. This relates to affordability as well as the access to health information and health facilities of female migrants. In addition, the utilization was also influenced by shamefulness in seeking for RTIs care services of female migrants. In fact, female migrants without the shamefulness are more likely to use health care services than others. All these are similar to qualitative results published in Kim et al. *Reproductive Health* 2012, 9:4, and other studies of P J. García et al. (2006) in Lima, Peru, A. Shihavong et al. (2011) in Laos, and Go. VF et al. (2002) in Viet Nam Southern (Go V.F. et al. 2002; García and et al. 2006; Sihavong and et al. 2006; Kim, Pham et al. 2012). Moreover, having doubt about RTIs symptoms and knowing health facilities for RTI at Ha Noi are also pull-factors for seeking health care of RTIs at health facilities. This suggests that female migrants could have more opportunities for access to health care services as they have information about the disease and available health facilities at destination (Hien and et al. 2007).

The study also found that health insurance seems to be not a statistically significant factor related to the utilization of RTIs care services. Findings in this study component, like findings in qualitative component, also confirmed the fact that the access to health services of sensitive health issues (i.e. reproductive health issues) are usually influenced by health belief of female migrants or socio-cultural issues (i.e. socio-cultural values or norms) related to these health issues. In other words, socio-cultural factors are more important determinants of the access to health services than health insurance. However, this is not mean health insurance does not bring any opportunity for using health services to female migrants because most female migrants, who used health services at health facilities in this study, usually came to health facilities where they registered their heath insurance.

This study is a cross-sectional study that only shows a snapshot of the access to health services for RTIs of female migrants working in IZ. This design does not help to capture causal relationship between the access to heath care services and its related factors. However, results of this study – as well as findings of qualitative components – suggested some important factors, especially social-cultural factors that influence on the access to health services of female migrants. These results will be very helpful for future interventions to improve the access to health services of female migrants working in IZ.

Conclusion

This study identified factors related to the utilization of health services for RTIs of female migrants working in IZ. Among such factors, shamefulness of seeking for RTIs care services plays an important role for the access to health care services. Future interventions should aim to improve perception of female migrants about reproductive health issues; this will help female migrants overcome shamefulness in using health care services. Also, it is needed to increase health insurance coverage to improve affordability of female migrants when they access health services.

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Part IV General Discussion and Conclusions

Chapter 13 General Discussion and Conclusions

This dissertation could show a larger picture of rural-to-urban migration in Viet Nam, whereof health status – rather health-related quality of life – and the utilization of health services was one part. This project identified obstacles for use of health services of seasonal migrants. It also investigated access to health care services for reproductive tract infections of female migrants working in industrial zones. In this chapter, we discuss methodological issues and main results of the project to clarify recommendations for further studies and interventions.

Methodological considerations

Definition and classification of migrants

Due to the complexity of defining migration, I have combined available definitions. In this thesis, the cut-off period to distinguish permanent migrants from temporal/seasonal migrants was 6 months. Hence, the study involved three different migrant populations: permanent migrants composed of migrants working in industrial zones and migrants working in private small enterprises as well as seasonal migrants.

In Viet Nam, the 1989, 1999, 2009 Censuses and the 2004 Migration Survey used the same definition on internal migration. This definition involves both temporal and spatial issues of migration because it refers to *administrative territorial units* (spatial dimension) in *5 years* prior to the census point-time when compared to current residential place (temporal dimension) (GSO 1991; GSO 2001; GSO 2006; GSO 2011). This definition captures well spatial classification of migrants into (i) intra-district, intra-provincial, and inter-provincial migration and (ii) rural-to-rural, rural-to-urban, urban-to-urban, and urban-to-rural migration. Such definition has contributed to make classification of migration more specific and it was applied in the national censuses, surveys, and many other studies on migration.

However, the definition does not capture seasonal migrants who leave their home town to another town for short time (i.e. 4.6 months in average). Hence, Brauw and Harigaya defined these seasonal migrants as *"members of the household who left for a part of the year to work, but are still considered household members"* (Alan de Brauw and Tomoko Harigaya 2007). The above definition led to divide migration into *permanent migration* (or long-term migrants) and *temporal/seasonal migration* (or short-term migrants). However, the authors did not use a cut-off period to differentiate between such terminologies.

In 2011, Duong and Liem have defined **temporary migrants** as *"those who came from a rural area within 6 months or less prior to the time of the interview and who do not have a permanent household registration in the city of destination"* (Le and Nguyen 2011). The authors also divided temporal migrants into two sub-groups: **permanent temporary migrants** (i.e. *"persons who self-identified themselves as temporary migrants and had intention to live permanently in studied cities"*) and **temporary temporary migrants** (i.e. *"persons who self-identified themselves as temporary migrants and had intention to live temporarily in the cities or had not yet determined to live permanently or temporarily in the studied cities"*). Given the specific objectives of our study, we were not interested in these 2 sub-groups of temporal/seasonal migrants, but rather in the general definition of temporal migrants.

Hence, our study was based on the classification of migration in the censuses and combined with a definition on temporal migration of Brauw and Harigaya (2007), and Duong and Liem (2011). This allows comparing our results with other studies on migration in Viet Nam. It also suggests that research on migration must remain flexible with definitions and classification to be in agreement with specific research objectives.

Available data sources

Studies on migration have faced difficulties not only due to the diversity of classifications, but also due to a large migrant population. Researchers can hardly include all migrant populations to have a general understanding on migration, unless they refer to available national databases. In Viet Nam, the General Statistics Office owns the data of the national censuses and migrant surveys. Surveys were collected from randomly selected households to ensure representativeness and broad coverage of the country (GSO 1991; GSO 2001; GSO 2010).

It is noted that these censuses data did not cover all migration issues such as duration of migration, reasons for migration, and effects of migration on socio-economic status (GSO 2011). Migration surveys, in contrast, focused on many migration issues. These surveys included information about the history of migration, living conditions, health status, knowledge of STIs/AIDS, and family planning of migrants. However, information about health status, knowledge of STIs/AIDS and family planning remained limited. In addition, there were only two migration surveys up to now (in 1997 and 2004); hence, data of these surveys are rather outdated in 2012.

Despite the limitations described above, data of the censuses and migration surveys provided important definitions, classifications, indicators, and an overview of migration in Viet Nam. Our study firstly used data from the censuses to make a general profile of inter-provincial migration in Viet Nam and this contributed to guide further research topics of the project.

Sampling and approaches to migrants

The mobility of migrants makes studies on migration difficult to have a perfect representative sample of migrants. In addition, our study identified that many migrants do not register temporary residence at destination. Meanwhile, administrative documents of local governments are usually not updated. Hence, it is difficult for researchers to have a sampling frame with little bias.

However, if a study focused on a certain migrant population alone (e.g. migrants working in industrial, seasonal migrants, migrants working in construction sites), sampling would be more feasible, because they usually live in the same areas or in the same collective housing system (VanLandingham 2003; Du, Nghia et al. 2006; Phuoc 2006; Anh 2009; Shibuya 2010). For example from our study, most seasonal migrants lived in slums, while migrants working in IZ and PSE lived in boarding-houses that are close to their enterprises. We could first establish a list of those who register temporal residents – *dang ky tam tru* – and the head of the resident units – *to truong to dan pho* – to create the sampling frame.

Once a sampling frame is establihed, it is not too difficult to approach permanent/long-term migrants, especially migrants working in IZ and migrants working in PSE because they have regular working times (7:30am-5:30pm) or in shifts. We approached migrant groups at their

home through the introduction of a village health worker or a head of a resident unit. However, most seasonal migrants are self-employed/freelance and they usually live in slums have poor security. Therefore, we needed more attempts to approach them with the assistance of a village health worker or a head of a resident unit, but also from the local police.

Internal migration and health status of migrants

Internal migration

Several studies identified that the picture of internal migration in Viet Nam has drastically changed over time (Anh, Goldstein et al. 1997; Djamba, Goldstein et al. 1999; Anh, Tavoli et al. 2003). Before the *Doi Moi* in 1986, internal migration in Viet Nam was largely organized and sponsored by the government. The goal was to redistribute the populations in urban and rural areas (Djamba, Goldstein et al. 1999). In fact, the redistribution was already implemented in the North before 1975 (national unification) within the "Going to the New Economic Zones – *di len vung kinh te moi*" movements. After 1975, these movements were also implemented in the South (Anh 2009).

Since 1986, the economic transition has led to inequality of income and social development among provinces, especially concentration of most capital on urban areas (Phan and Coxhead 2010). This resulted in significant economic and social changes, including spontaneous migration flows of people from rural areas (Anh, Tavoli et al. 2003). In addition, many studies identified that economic growth and internal migration were complementary (Phuong 2008; Kundu 2009; GSO 2011). Our and other studies confirmed the theory that people usually migrate from low-income to high-income provinces. They also showed that internal migration – especially rural-to-urban migration – is one of the key factors for individuals and households to achieve economic security (International Organization for Migration 2005; Du, Nghia et al. 2006; UNDP 2010; Le and Nguyen 2011). Therefore, rural to urban migration flows further increased between 1989 and 2009.

Health status of migrants

There is no doubt that migrants are usually healthy at the beginning of their migration (Kristiansen, Mygind et al. 2007) – because the healthy people can rather migrate than others.

However, during migration period, they faced many ill-health-related risk factors (Anh 2003; Gushulak and MacPherson D.W. 2006; Dang and Luu 2008). These make them more vulnerable and sensitive to ill-health, including physical and mental health than non-migrants at the destination. This is a major finding we have found in this work.

In fact, our study is not the first study on health status of migrants in Viet Nam. Several studies have attempted to compare their health status with that of non-migrants (Van Landingham M 2003; GSO 2006). These studies have indicated that migrants seem to be more ill-health than non-migrants at the destination; however, virtually all previous studies faced two crucial shortcomings. Firstly, these studies did not evaluate the health status with more validated measurements. Secondly, these studies did not stratify migrants into different migrant sub-populations, but rather have pooled all migrants. Still, it became evident that the health status of different migrant populations is different. As a consequence, results from these studies remained obscure on most promising interventions. In contrast, our study has dealt with these two disadvantages. We have applied the SF-36v2 and confirmed the validity of this form in measuring health status in Viet Nam. We have further compared comprehensively the health status among non-migrants and 3 groups of migrants in one study site.

To note is that a health status is considered not only with or without a certain disease, but also includes a status of physical and mental health. Our study identified, for the first time, differences of physical and mental health status among non-migrant and migrant populations. Seasonal migrants were more likely to have physical ill-health than non-migrants and other migrant populations. In fact, our study included almost exclusively seasonal migrants who either work as street vendors or work in fruit wholesale markets. These were not covered in any previous studies. Still, we did not include other seasonal migrants such as construction workers, truck drivers, and motorbike taxi. Despite of this, we have included more seasonal migrants than previous studies. Our results suggest that they face physical health more than other (migrant and non-migrant groups), but fewer mental health problems. Meanwhile, physical health of migrants working in IZ is not different from non-migrants, but their mental health is much worse than that of non-migrants. This might seems to be caused by the fact that migrants working in IZ suffer a life with many pressures of work, income, and remittances to send to the family. Meanwhile, they are young and live alone far away from their family. Indeed, the above two main findings confirm our hypothesis of this study. However, many studies identified that most migrants do

not receive supports from local government and social organizations (e.g. Women Union, Labor Union, and Youth Union) at the destination (Anh, Lien et al. 2011; UNFPA 2011). In the case of being away from home, therefore, social networks such as friends and association of fellow-countrymen are supportive for migrants (Anh 1998).

Mass media and many sociological studies in Viet Nam reported that migrants have a life with many pressures, especially female migrants, which may lead them - possibly - to to have pre-marital sex. They also face lack of knowledge and information on sexual and reproductive health such as safe sex, STIs and HIV/AIDS, and contraceptive methods (GSO 2006; Anh, Hung et al. 2008; Anh 2009). As a consequence, they might be more vulnerable to RTIs and STIs, unexpected pregnancy, and unsafe abortion. Our study did not cover all reproductive health issues, but it showed a high proportion of RTIs among female migrants working in IZ. However, they lacked information of RTIs and other reproductive health issues and faced many barriers to the utilization of health services at the destination.

Access to health care services of migrant groups compared to non-migrants

Access to health services in general

Migration has brought positive contributions to poverty alleviation and social development; however, it has contributed to pressures on infrastructures, public services, and environmental destruction to urban areas. Given these pressures of migration, the household registration system has been used not only as a purely demographic management system, but also as an implicit barrier of spontaneous migration (Le and Nguyen 2011). Some studies showed that the system in reality has not led a decrease of migration flows, but it has only brought difficulties and disadvantages to migrants; for example, it has prevented migrants from accessing social services such as health and education (Anh 2006; Chinh ND 2007). Such a potential effect of the household registration system on migrants was not further evaluated by our study, but it could be an important factor that prevents migrants from health services at destination.

Indeed, our study, for the first time, included seasonal migrants and has differentiated the access to health services among migrant groups. They all are less likely to use health care services than non-migrants. In particular, low income is one of main obstacles of more frequent utilization of health care services of seasonal migrants. It makes also leads seasonal migrants to pay less

attention to their health, available health programs and health insurance. It also encourages self-treatment behaviors of seasonal migrants (Appendix 1).

In fact, access to health care services for all health problems is determined by multiple aspects: policies, established health systems, and organization of health care services, social-cultural factors, and health believes and perceptions of individuals (Aday and Andresen 1974; Andersen, McCutcheon et al. 1983; Hall, Lemak et al. 2008; UNFPA 2011). Given the complexity of investigating access to health care, current studies have identified certain factors that are changeable and feasible. We have also built the conceptual framework of our study basing on these studies.

In Viet Nam, previous studies have stated that migration has not brought additional pressures on health system at destination. In other words, the available health system can meet the increase of migration flows (World Bank and SIDA Sweden 2001; GSO 2006). Meanwhile, our study, as well as other studies on migration in Viet Nam and in other countries, found that health insurance is significantly related to the utilization of health care services. Health insurance is not the single factor promoting access to health care, but it provides more opportunities of access to health care services for migrants (Samuel H. Zuvekas and Gregg S. Taliaferro 2003; Hall, Lemak et al. 2008; Yingchun Peng, Wenhu Chang et al. 2010).

Our study showed that health insurance policies, in theory, bring equal opportunities for both migrants and non-migrants to access health services (see Chapter 2). Migrants – especially migrants without a labor contract/"freelance" migrant workers – usually have low health insurance coverage due to either their lack of knowledge about health care insurance or ignorance of their employers. In addition, procedures to use health insurance remain complicated. These barriers contribute to prevent migrants from access to health care services.

Access to health care services for RTIs among female migrants working in IZ

Health insurance is an important factor influencing the utilization of health care services, but it is not the single determinant of access to health care for RTIs among female migrants (Go V.F. et al. 2002). UNFPA recognized that reproductive health behaviors – including health seeking behaviors – of female migrants in Viet Nam were affected by other socio-cultural factors, including gender-related issues (e.g. patrilineal, oppressive values of Vietnamese Confucian

society), traditional values and norms (e.g. perceptions of femininity, sex taboos), traditional health believes, stigma and discrimination (UNFPA 2008; UNFPA 2011). These factors also are barriers preventing female migrants from using reproductive health care services. Our study confirmed the relationship between socio-cultural factors and the utilization of health services. Among these factors, traditional norms – that integrate reproductive health problems with sexual relationship – play an important role. In other words, a female with a reproductive health problem would be deemed to have sexual relationship. This makes female migrants ashamed in seeking health services for RTIs and other reproductive health services. As a consequence, the percentage of using health services for RTIs of female migrants remained low.

For the sake of dealing with female migrants' reproductive health problems, some intervention projects were implemented in Viet Nam. These projects focused on migrants working in industrial zones, "freelance" female migrant workers (seasonal female migrants), and high-risk female migrants (female sex workers and street youth) (Light Community Health and Development Organization 2009; UNFPA 2011). However, these projects remained limited due to lack of addapted approaches. This will be discussed in the Outlook.

In conclusion, our study captured trends of rural-to-urban migration and the correlation between socio-economic status and this migration flow in Viet Nam. The study also examined health status of migrant populations. Especially, this study – for the first time – used a validated measurement tool of health status (SF-36v2) and identified its validity in evaluating health status of different migrant populations in Viet Nam. In addition, the study used comprehensive approaches to investigate the access to health services of different migrant populations, particularly migrants working in industrial zones and seasonal migrants.

Recommendations

Recommendations for interventions

In this chapter I outline my general recommendations for future intervention to improve access to health care services for migrants. Specific recommendations for interventions are discussed in the Outlook section.

- Due to the diversity of migrant populations, future interventions should target a certain migrant population; for example migrants working in industrial zones, female seasonal migrants, or construction migrant workers. In addition, needs of access to health care services are different by different health problems. Hence, future interventions should also target a given health problem for achieving applicable and concrete solutions.

- Studies showed that migrants usually do not actively participate in public activities and campaigns at destination. Other information channels such as local loudspeakers and village health workers faced difficulties to approach migrants. Therefore, it will be more feasible for future interventions if they consider either a network of volunteers or peer educators, or landlords to improve information flows towards migrants.

Recommendations for policy makers

- Policy makers should recognize that migrants are vulnerable to ill-health. The ill-health is not only physical health (e.g. sexual and reproductive health) but also mental health. Policy makers should recognize migrants as a priority group for specific interventions to have policies and solutions to improve living conditions of migrants, provide suitable a safe working environment with minimal allowed working hours, health care insurance, and other social support.

- Policy makers should enforce the Decree No 92/2011/ND-CP that was issued to administrate violation of regulations on health insurance for employees. In addition, policy makers should conduct information – education – communication (IEC) programs to improve the use of voluntary health insurance.

- Migrants working in industrial zones relate not only to enterprises, but also to the community at destination. Policy makers should issue mechanisms of collaboration between local health systems and enterprises in industrial zones for health promotion and communication programs. This will be a feasible way to increase use of the available resources at local health system.

- Policy makers should try to integrate interventions in routine works of local government and health system: in existing health programs and development plans of communes, districts, and provinces. This will better ensure sustainability of interventions.

Recommendations for health service providers

- Health service providers at local health facilities should understand the health issues of migrants, their work conditions and their needs of access to health care services. Health providers should understand difficulties of migrants and should have a positive attitude towards them, particularly for sensitive issues such as sexual and reproductive health, and contraceptive methods.

- Working time of migrants and health facilities at destination usually overlap. Hence, health facilities should provide health services that are appropriate to migrants' available time; for instance on Saturday or Sunday.

- Health service providers should integrate health programs for migrants into routine health programs such as periodic gynaecological examination programs, expanded program on immunization (EPI), and IEC programs. These programs should approach migrants through appropriate communication channels: loudspeakers, leaflets, enterprises, and landlords. Also, they should further explore on how to extend health services in enterprises.

Recommendations for researchers

To generate accurate evidences for better policies, future research should provide representative estimates on health status and access to health care services of migrants, as well as focus on specific health issues.

- Censuses and national surveys (i.e. migration surveys, Viet Nam living standard surveys) have provided many data on migration, but they need to capture all main types of migrants, including rural-to-rural, rural-to-urban, urban-to urban, urban-to rural migrants, long-term/permanent and short-term/seasonal migrants. Migration surveys should use validated health-related questions to gather more accurate and more comprehensively health information.

- It is important to unify definitions of migration across migration studies. Studies should use definitions from the Censuses as key criteria. In addition, classification of migrants – except permanent and seasonal migrants – should be based on the Census. We further propose that studies on permanent and seasonal migrants use a 6-month duration as cut-off point for differentiation.

- Future studies on migration and health issues of migrants should consider to use mixed methods (i.e. combination of quantitative and qualitative methods), rather than quantitative methods only. Qualitative methods provide more context-specific information that is needed for interpretation of quantitative findings. Sensitive information such as sexual and reproductive health, socio-cultural issues related to health and health care access of migrants are better captured with qualitative approaches.

- Given their mobility, hardly any study was a follow-up study on migrants. To date, most studies have been cross-sectional studies that only provide a snapshot. These studies also focus on the place of destination, but not on the place of origin. Hence, researchers should conduct longitudinal studies that involve also the place of origin to better assess the effects of migration on migrants and their family over time.

- There is a need for studies on policies related to migration, particularly regarding the rights of migrants to access social and health care services. Future studies should also focus on investigating policy options that could make interventions more feasible.

- Most recent studies on migration in Viet Nam have been done by international organizations and are published in international journals. This has limited access to their results because of language barriers. In other words, these results have hardly reached policy makers. Hence, future studies should enhance information sharing by considering articles and reports in Vietnamese, and policy briefs. In addition, documentation of research should be shared with different stakeholders, agencies, and partners. This will not only enhance information exchange, but also build up a Vietnamese network of experts and researchers on migration.

Recommendations for employers of migrants

- Employers should recognize that the health of migrant employees is very important for their enterprises. Hence, employers should comply with laws of social and health insurance for all employees. Moreover, they should strengthen the capacity of their health care units and collaborate with local health system to better provide health care services to migrant employees.

- Employers should have commitment to collaborate with other stakeholders in interventions to improve health status and health service utilization of migrant employees. Employers should understand that these interventions contribute to improve the quality of workforce in their enterprises, but will not increase absences of employees.

Recommendations for internal migrants

- Internal migrants should understand and ask their employers for their rights to have social and health insurance if they have a labour contract. Migrants without a labour contract ("freelance" seasonal migrants) should have voluntary health insurance. Also, migrants should register for temporal residence at destination because this will help to ensure their rights.

- Migrants should know the health care facilities – especially commune health care units and public health centres – at destination. These facilities should be their priority when getting ill/sick, rather than drugstores. They also should participate in interventions that aim at improving their health status and increase their access to health care services.

Outlook Intervention to improve the utilization of reproductive health services for female migrants aged 18-49 working in industrial zones

A ministerial-level study, approved by the Viet Nam Ministry of Health

Principle investigators: Asso. Prof. Ha Thi Thu Bui, Dr. Lan Thi Hoang Vu, and Anh Thi Kim Le

Duration of the project: 2 years (2013-2014)

Rationale of the intervention

Experiences from our study project on migration

Much evidence for the need of having an intervention to improve access to reproductive health services of female migrants was expressed in our research study, and is considered in this intervention proposal. Briefly, our study, as well as other studies on migration, identified that migrants working in industrial zones (IZ) are the largest migrant population. Among this population, female migrants account for over 50%. All disadvantages of working and living conditions, access to information and social and health services, and living away from home make this migrant population more vulnerable to health-related risk factors. Meanwhile, they are the main workforce in industrial zones in particular and of the national economy in general.

Our study recognized that migrants working in IZ are more likely to have mental health problems than other migrant and non-migrant populations given their life with many pressures. The stressed life can lead them to health-related risk behaviors, especially pre-marital sex. Also, lack of knowledge about safe sex, STIs, HIV/AIDS, and contraceptive methods increase reproductive health problems such as STIs, HIV/AIDS, unexpected pregnancy, and unsafe abortion. However, current studies on female migrants working in IZ have mainly focused on STIs and HIV/AIDS, and have not included other reproductive health issues such as contraceptive methods, abortions, and prenatal care (GSO 2006; Anh, Hung et al. 2008; UNFPA 2008; Anh 2009). Meanwhile, at destination female migrants have less access to health services

than non-migrants. All this suggests that adapted interventions are needed to improve access to health services of reproductive health in general (not STIs/AIDS alone) among female migrants.

Experiences from current interventions

Recent interventions on access to health care were focused on users (i.e. migrants), but not on providers (i.e. health care centres at destination and health care units in enterprises) (Light Community Health and Development Organization 2009; UNFPA 2011). Such interventions aimed to change migrants' health seeking behaviours; however, they did not aim at evaluating the capacity of health centres. Therefore, there were only few succesful interventions. Among these interventions, some interventions attempted to strengthen the capacity of medical staffs in enterprises/factories, but not of health practitioners at local health facilities (i.e. commune health centres). Meanwhile, migrant workers must also use services of the local health facility because they have much more human resources and services (Anh, Lien et al. 2011). Hence, future interventions should consider the evaluation of the potential of health care facilities and strengthen their capacity to meet the needs of using health care services of migrants.

To date, there were two interventions on sexual and reproductive health for female migrants working in IZ. These interventions entitled "Improvement of sexual and reproductive health among workers of supplier factories of Adidas" focused to *"raise awareness among young migrant workers on issues of reproductive health, including HIV prevention, and provided clinical services in workplaces through a mobile medical team and at a reproductive health clinic in Binh Duong province.* Another intervention – "Reproductive health care and HIV prevention for young workers in the private sector" – aimed to *"improve the reproductive health of young workers in the private sector, with a focus on RTIs, STIs and HIV prevention, through direct conversation, small group counselling services, information leaflets and gynaecological examinations"* (UNFPA 2011).

It is noted that both interventions faced some limitations as discussed above. Briefly, their most important limitation is that they attempted to build up new parallel services that improve access to health care of migrants; however, they did not make use of available resources such as local health care units and health insurance, as well as supports from different community-based organizations. Hence, these models' sustainability has remained poor. In addition, the activities were funded by donor agencies during the projects' lifetime. After the project, they have faced

difficulties to sustain. The first intervenetion was implemented by ActionAid International and Marie Stopes International and funded by a business (Adidas); and the second one was implemented by the Center for Reproductive Health Care and HIV/AIDS Prevention and the Viet Nam Trade Union and funded by UNFPA. Both interventions did not involve policy options or policy makers. They have thus rather met the goals of the investigators and sponsors, than of policy makers, which, in return, make them less powerful to expand their scope.

In conclusion, an intervention program should be developed that involves health agencies (i.e. the Ministry of Health) and interdisciplinary approaches.

Objective of the intervention project

The project will develop an intervention program for improving the utilization of reproductive health services for female migrants aged 18-49 working in industrial zones in Viet Nam. This intervention program will focus on three main reproductive health issues: STIs (including HIV/AIDS), contraceptive methods and abortion, and prenatal care. The project will be implemented in three industrial zones, which are representative for the North, Central, and the South.

The specific objectives of the project are to (i) capture needs of female migrants in utilization of reproductive health services, (ii) assess the potential and capacity for reproductive health services of health care centers in the industrial zones, and (iii) develop an intervention program suitable for and adapted to female migrants working in IZ.

Approaches

The intervention study is focused on use of available resources, especially to increase the health insurance coverage and increase the utilization of health insurance in reproductive health care services of female migrants. The study works towards overcoming shamefulness that helps female migrants in using health care services.

The study will use an interdisciplinary approach which involves important stakeholders: (i) health agencies (MoH and DoH, Centers for Reproductive Health Care, health centers with reproductive health care services – both governmental and private sectors), (ii) agencies of social security (national- and local-level agencies of health insurance), (iii) enterprises in IZ (leaders

and health staff of State-owned, foreign-owned, private enterprises), (iv) social institutes and organizations (Institute of Sociology, the Women Union, the Trade Union), (v) NGOs (Marie Stopes International, Center for Studies and Applied Science in Gender, Family, Women and Adolescents), (vi) communities at destination, and (vii) female migrants working in IZ.

In addition, the intervention study will focus on policy analysis. The analysis will consider capability and potential of local health centers, needs and affordability of both providers (health centers) and users (female migrants) and solutions for enforcement of available regulations.

Implementation

Data collection

Key informants of stakeholders will be selected intentionally. Data collection methods will include focus group discussions (FGDs) and in-depth interviews through interview/discussion guidelines. A check-list will be used to assess potential for reproductive health care services of health centers at study sites. Items in the check-list will be in accordance with the National Guidelines for Reproductive Health Care Services issued by the MoH in 2009.

Female migrants will be stratified in two strata: married and unmarried female migrants. These participants will be asked to complete a questionnaire about their reproductive health status and their needs for reproductive health care services. They will be involved in FGDs to obtain more comprehensive information about their needs and barriers to their access to reproductive health care services.

Interventions

Results from the data collection process will provide information for constructing an intervention model. The model will include 3 components: users (i.e. female migrants working in IZ), providers (i.e. health care facilities), and policy makers. The intention is to improve the knowledge of users for reproductive health; to strengthen the capacity for reproductive health care services of health facilities; and to enforce laws/regulations for health insurance.

The study will conducted in Hung Yen (in the North), Da Nang (in the Central), and Ho Chi Minh City (in the South). The pilot intervention will be implemented in the industrial zones of

Hung Yen provinces before implemented more broadly.

Expected outcomes

According to the Dispatch of the MoH issued on May 25, 2012 and the Approval of the MoH issued in October 2012, the project shall achieve the following outcomes:

- A report on the utilization and needs of reproductive health care services among female migrants aged 18-49 working in IZ.
- A report on the potential and capacity for reproductive health care services of local health centers and barriers of access to these services.
- A report on an intervention model/program feasible to improve access to reproductive health care services for the migrant population.

In addition, the study shall outline feasible procedures to enforce current policies of health insurance, improve self-confidence of female migrants in seeking reproductive health services, and increase the access of female migrants to reproductive health services at local health facilities.

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Appendices

Appendix 1 Obstacles for access to health care services among seasonal migrants in Ha Noi

A summary of the Master thesis of Nam Dac-Thanh Bui in the Hanoi School of Public Health

Objectives and methods

The study aimed to describe the main obstacles of access to health care services among seasonal migrants in Phuc Xa, Ba Dinh, Ha Noi.

This is a mixed-method study including quantitative and qualitative component. The quantitative component analysed the information from 450 seasonal migrants. Among the 450 seasonal migrants, 183 migrants had a health problem during the 6 months prior to the study. These migrants were divided into two groups: migrants who used a health service and migrants who did not. The qualitative component was from in-depth interviews (IDIs) and focus group discussions (FGDs) with both groups and other informants from the community (e.g. local health staffs, landlords, and local governments).

Main results

Obstacles of the access to health services for seasonal migrants

Low income: Most seasonal migrants come from poor rural areas. In Ha Noi, their average monthly income is low and unstable, so that they do not pay much attention to their health.

> *"...I am from rural area, I work very hard here* [Ha Noi] *from 2 am to 8 am, but I just earn 45 – 50 thousands VND/day* [2-2.5 USD/day].... *I really wanted to go to health centers but I had not enough money. I heard that there are some centers with free medical examination but not often. I should wait for that. If I have to pay for health services, I will not use… wait for free services..."* (IDIs)

"...My income varies day by day, sometime high, sometime low. In average, I earn 2 – 2.5 millions VND/month [100 – 120 USD/month]… *I have to pay a lot of things: house renting, foods…. So I did not go to health centers their fees are high, I just came to drug stores and bought medicine … only 15 – 20 thousands"* (FGDs)

In addition, seasonal migrants have to save their income for remittances to their family. Remittances, in fact, are often the main motive to their migration. Therefore, they have to minimize their expenditure at the destination. When they got ill/sick, they usually did self-treatment even though they knew that this may not be the best option for their health.

"... We have to pay fees as using health services, but we do not have money. So that we do not use. When I got cold, I bought ampi [ampicillin – an antibiotic drug] *at drug stores and used it, and when I felt better I came back to work. I have to care for 3-4 persons in my family, not only foods, but also their education, health... so I do not want to waste my income. I feel very healthy now… when I am tired, I will by 10 thousands VND* [0.5 USD] *of foods… normally I only buy foods with 5 thousands VND* [0.25 USD]*"* (IDIs)

"I know that I have to check my health at health centers, but we – farmers – are very poor so we cannot do what we want…. I earn some money but there are many things I have to pay: my children' education, health…. and my house renting here [Ha Noi]*"* (IDIs)

<u>High cost of health services:</u> In Ha Noi, like other big cities, cost of health services is high. When seasonal migrants use health services, they usually go to health centers with low fees, or they only go to health centers for medical examination and go back to their hometown for treatment. Cost of health services in their home town is much cheaper than in Ha Noi; moreover, migrants will save other indirect costs such as travels, foods, and care costs.

".... We cannot go to health centers here for treatment because their cost is high. When we come back to home, we have supports from our family: my husband, my children, my relatives…. So we can save money..." (FGDs)

"... I know that health centers here are better than centers in my home town…. better doctors, better treatment…. But the cost is high… so I cannot use health services here..." (IDIs)

"I got stomach pain; I came to the health center near to Chuong Duong Bridge only for clinical examination. After that, I came back my home for treatment because the cost of treatment was cheaper." (IDIs)

"...other costs, for example, foods in Ha Noi are more expensive than in my home town. And my family has to come here to take care for me… their travel costs, their food costs…. and many many other costs..." (IDIs)

"....We [local health staff] *know that cost of our health services is higher than health services in their* [seasonal migrants] *home town. Therefore, they usually buy medicine in drug stores…."* (IDIs)

Long working time: In this study, most seasonal migrants worked hard during the nights. In the day-time, they either worked in another job or slept. They seem to ignore their health and other activities of the community at the destination – including health promotion and communication campaigns, also when local health staffs ask them to participate.

"We just work all night, from 1 am to 8 or 9 am, sometime to 11 – 12 at noon. Thus, we just sleep afterwards or relax. We have no time to care our health, if we are tired, we buy some medicines at drug stores…" (IDIs)

"We have no time… and we are not resident here… so it is not comfortable for participating in campaigns [health promotion campaigns]... *In addition, if we participate, we will lost working days.. so we do not want to waste our time, our income…"* (FGDs)

".... Sometime they [local health staffs] *asked me to come local health centers for medical examination, but I was very busy with my work… so I had no time… I have to care for my children, my husband died for many years….."* (IDIs)

"We know there are some campaigns, local health staffs usually ask us to participate but we are lazy. After working, we just want to sleep…." (FGDs)

"... When we [local health center] *conduct a health communication program, we ask all people in the community, including non-migrants and migrants, but only few of migrants*

participate in the program... For them [migrants]*, time is very important… they want to maximize their time for working, not for anything...."* (IDIs)

Self-treatment behavior: Self-treatment is a popular health care seeking behavior of seasonal migrants. Indeed, most of them seem to under-estimate their health problems; hence, they usually seek for health consultation and medicines at drug stores, rather than at health centers. On the one hand, seasonal migrants want to save their income as discussed above; on the other hand, they do not want to know much more about their illness because this would influence on their work and make them worry.

"I often get cough, I just go to drug stores and buy medicines… If I do not fell better, I will buy other drugs…" (FGDs)

"I do not go to health centers as getting sick. I know this is not good but if I get medical examination, I know I have a disease, I will worry about that and I have no money for treatment. Thus, I am afraid to go…" (FGDs)

"....if we go [to health centers for medical examination]*, I will lose one working day, and may be worry about my disease… When we go to health centers, we will have a disease, or serious or not, but will have a disease, for sure…. So I do not want to do it, I just go to drug stores ...."* (FGDs)

Influences of the family: Health seeking behaviors of seasonal migrants are also influenced by their family, especially their husbands or wives. These influences may be positive or negative for their health seeking behaviors. For instance, they may be encouraged by their family to seek health care services but they may not use a health service if their husband or wife does not use one.

"... sometime I ask my husband to go for checking health at health centers, but my husband does not want to go, and thus I do not go… My husband says that he is very healthy, he does not have to check his health" (FGDs)

".... my mother-in-law says that we earn money so that we have to care for our health, but my husband does not care, he does not go… and this makes me lazy to go" (FGDs)

"... I do not know why I cough up blood. My husband worries about that and ask me to check my health, but we have no money, thus I do not go..." (IDIs)

Difficulties of local health programs: In principle, there are some health programs that involve both non-migrants and migrants. In reality, however, most programs focus on local residents, rather than seasonal migrants because they usually do not have a temporary registration or they stay at the destination for a short-time.

"We have free medical examination programs for every people annually. But these programs mostly focus on local residents – i.e. persons with resident registration or temporary registration. Seasonal migrants usually do not register so that we do not cover them...." (IDIs)

".... Most people in this commune are poor. Most of them are freelance workers; they have no health insurance, both compulsory and voluntary health insurance. Meanwhile, there are only 2-3 free programs of medical examination per year so that we could not cover all people. If we want to care for migrants, we have to have huge budget, but we have not...." (IDIs)

"Some programs ask migrants to participate in, but they move a lot, for example, today they work here and tomorrow they move to other commune to work.... and their working time is flexible... We find difficult to reach them...." (IDIs)

Lack information about health centers at destination: Ba Dinh is a central district of Ha Noi and has many health facilities – both public and private health centers – available for migrants. As discussed above, cost of health services is one obstacle for seasonal migrants in using health services. Moreover, the lack of information about health centers or health programs at destination also influences on health seeking behaviors of seasonal migrants.

".... In this commune [Phuc Xa]*, there are many public and private health care center... nearly 400.... Thus, we* [local health staffs] *think that migrants have many oppoturnities to use health services. I think our health system can cover migrants..."* (IDIs)

"....We do not know where to go as getting sick... Now if we want to have regular health check, we do not know which health center we can go to... We are afraid to go health

centers with bad quality…. This makes us waste money and time, and sometime dangerous for our health…" (FGDs)

Health insurance: Most seasonal migrants understand benefits of health insurance; however, they usually do not have it. Firstly, they do not want to pay insurance fees because of their low income. Secondly, they feel very healthy and believe that they do not need health insurance. Thirdly, they are suspicious about the quality of health services under insurance. Finally, health insurance procedures remain complicated. All these reasons lead to low health insurance coverage of seasonal migrants.

"... I know that health insurance is very good, because if I get sick and use health services at health centers, I will be covered by insurance. However, I have to save money for other things, so I will buy health insurance later…" (IDIs)

"... I really want to buy health insurance but now I have no money… I have to work for a while and save enough money to buy…" (IDIs)

"In fact, we feel healthy so that we do not need health insurance. But when we get older and weak, we will buy health insurance…." (FGDs)

"Health insurance procedures are very complicated…from commune to district and to national hospitals…. they [health centers] *need a lot of documents and procedures….In addition, this will take time a lot"* (IDIs)

"Health services under health insurance are usually not good… most normal drugs, not special drugs… to be honest, some people use health insurance for medical examination, but they do not use drugs under insurance…." (FGDs)

Conclusions

This study identified obstacles of the access to health care services for seasonal migrants. Unlike other migrant populations, low income is the main obstacle that influences their utilization of health care services. This makes them pay less attention to their health, available health programs, and health insurance. In addition, this also encourages self-treatment among seasonal migrants.

Health promotion programs may bring more opportunities of using health services to seasonal migrants. However, these programs will not be succesful in improving the access to health services of migrants, if the root cause - as discussed above - is not addressed. In other words, improving life conditions through increasing income of seasonal migrants play an important role. This, in fact, is not a task of health system, but of the government. Meanwhile, it is possible for increasing the access to health services of people, especially seasonal migrants, through the increase of health insurance coverage. Therefore, it is needed to improve health insurance procedures, diversify the forms of health insurance, communicate benefits of health insurance to migrants, and strengthen the quality of health services under health insurance.

Appendix 2 Người lao động di cư đến các khu công nghiệp: điều kiện sống, sinh hoạt và tình hình sử dụng dịch vụ y tế

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Tóm tắt

Tổng quan: Di cư ra thành thị là một trong số ít những cơ hội để dân cư nông thôn có thể tiếp cận với các ngành nghề có mức lương cao hơn. Tuy nhiên, người di cư cũng gặp nhiều khó khăn như điều kiện sống, sinh hoạt, sức khỏe và dịch vụ chăm sóc y tế.

Mục tiêu: mô tả thực trạng điều kiện sống, sinh hoạt và tiếp cận DVYT của người lao động di cư đến các KCN tại Hà Nội, Đà Nẵng và TP. Hồ Chí Minh.

Phương pháp: Nghiên cứu định tính (phỏng vấn sâu và thảo luận nhóm) được thực hiện với chọn mẫu chủ đích các cán bộ các cơ quan công lập và người lao động di cư trên 18 tuổi. Phân tích chủ đề được thực hiện sau khi gỡ băng và mã hóa.

Kết quả: Điều kiện sống và sinh hoạt của người di cư gặp nhiều khó khăn, tuy nhiên đa số họ chấp nhận và hài lòng vì gánh nặng làm việc và thu nhập. Điều này cũng làm đa số người lao động di cư chưa quan tâm đến sức khỏe và tìm kiếm dịch vụ chăm sóc y tế khi có bệnh. Tự mua thuốc điều trị là cách được lựa chọn nhiều nhất. Người có bảo hiểm y tế cũng gặp khó khăn do cơ sở đăng ký xa và thời gian mở cửa chưa phù hợp với thời gian làm việc của họ. Trạm y tế là nơi dễ tiếp cận hơn nhưng người di cư chưa tiếp cận nhiều và ít thông tin về quyền và cách sử dụng dịch vụ y tế ở đây. Kết luận: Việc cân bằng giữa áp lực thu nhập và chăm sóc sức khỏe là vấn đề quan trọng của người lao động di cư. Tính dễ tiếp cận của dịch vụ sẽ tăng cường sử dụng dịch vụ của họ. Đây là vấn đề mà các nghiên cứu và can thiệp cần được tiến hành.

Từ khóa: người di cư, khu công nghiệp, dịch vụ y tế, định tính

Living conditions and the utilization of health care services among migrants working in industrial zones: a qualitative study

Abstract

Background: Migration is one of few available mechanisms to access employment providing better wages for people in rural areas. However, migrants – especially temporary migrants – have faced many difficulties.

Objectives: To characterize living conditions and the use of health care services of migrants in industrial zones in Ha Noi, Da Nang, and Ho Chi Minh City.

Methods: Qualitative research using in-depth interviews and focus group discussions. Participants included staff of governmental agencies (i.e. local government, local health centers, labor-invalid-social affairs), employers, social organizations (Youth Union, Women Union), and community and migrant representatives aged 18 and over.

Results: Migrants face difficulties including poor and unsafe living conditions. Still, they feel comfortable because they focus mainly on their work and income. This makes them take less care about their health and use of health care services once they are ill. They usually buy medicine at pharmacies and treat themselves. Also migrants with health insurance, they perceive it difficult to access health centers because health centers (those where migrants have their health insurance registered) are commonly far from their home. In addition, opening hours of centers are overlap with their working hours. Commune health center are more accessible to migrants, but they are rarely used.

Conclusions: It is important to balance between income pressure and health care for migrants. Improving accessibility of health services will encourage migrants in using the services. This should be emphasized in further interventions.

Keywords: migrants, industrial zones, health services, accessibility, qualitative research

Appendix 3 Thực trạng điều kiện sinh hoạt và tình hình sử dụng dịch vụ y tế của người lao động di cư tại Khu công nghiệp Sài Đồng, Quận Long Biên, Hà Nội năm 2011

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Tóm tắt

Mục tiêu: Nghiên cứu nhằm tìm hiểu thực trạng điều kiện sinh hoạt, những khó khăn trong cuộc sống và tình trạng sử dụng DVYT của người lao động di cư tại KCN Sài Đồng, Long Biên, Hà Nội

Phương pháp: Nghiên cứu cắt ngang kết hợp định lượng và định tính, thực hiện trên 430 người lao động di cư làm việc tại KCN Sài Đồng, Long Biên, Hà Nội được lựa chọn ngẫu nhiên từ những người lao động di cư tạm trú tại phường Sài Đồng.

Kết quả: Nghiên cứu cho thấy hầu hết người lao động di cư thường gặp nhiều khó khăn trong cuộc sống như tìm nhà ở (31.2%), tiếp cận nước sinh hoạt và điện với giá cả phù hợp (27.0%). Trong khi đó, họ thường ít gặp khó khăn trong hòa nhập cộng đồng nơi tạm trú. Khi gặp khó khăn, khoảng 45% người di cư nhận được sự giúp đỡ từ gia đình trong khi họ hầu như không nhận được giúp đỡ từ nơi sử dụng lao động hoặc chính quyền địa phương tạm trú. Đa số người lao động di cư có bảo hiểm y tế (86.5%). Trong 6 tháng trước thời điểm nghiên cứu, 56.7% đối tượng có vấn đề sức khỏe cần chăm sóc y tế, tuy nhiên chỉ 53.3% đến các cơ sở y tế để sử dụng dịch vụ và hầu hết những người này đến khám chữa tại cơ sở đăng ký bảo hiểm (73.8%). Lý do chủ yếu người lao động di cư không tiếp cận cơ sở y tế (CSYT) khám chữa bệnh là do quan niệm bệnh nhẹ, tự điều trị có thể khỏi (63,2%), CSYT đăng ký bảo hiểm y tế xa nơi ở (50,8%) và sợ mất thời gian (45,6%).

Kết luận: Người lao động di cư làm việc tại KCN thường gặp khó khăn về vấn đề nhà ở, tuy nhiên chưa nhận được nhiều giúp đỡ từ chính quyền địa phương và cơ quan sử dụng lao động. Mặc dù tỷ lệ bảo hiểm y tế cao nhưng việc sử dụng dịch vụ y tế tại các cơ sở y tế còn hạn chế; do

đó, cần xem xét việc đăng ký và sử dụng thẻ bảo hiểm y tế để hiệu quả hơn trong việc sử dụng.

Từ khóa: lao động di cư; khu công nghiệp; điều kiện sống; cơ sở y tế; sử dụng dịch vụ y tế.

Living conditions, difficulties in life, and the utilization of health care services among migrant workers in Sai Dong industrial zone, Long Bien district, Ha Noi 2011: a cross-sectional study

Abstract

Objectives: This study aimed to characterize living conditions and difficulties in life among migrant workers in Sai Dong industrial zone (IZ) and describe their utilization of health care services.

Methods: A cross-sectional study with mixed-method was conducted among 430 migrant workers in Sai Dong IZ, Long Bien, Ha Noi.

Results: This study showed that migrant workers usually face many difficulties such as finding housing (31.2%), and access to electricity/clean water (27.0%) with affordable fees. Meanwhile, they did not face difficulties to integrate into the community at destination. As to difficulties, about 45% migrants received supports from their family, but none from their employers nor from local government nor community. Health insurance coverage was 86.5%. About half of participants needed health care (56.7%) in the 6 months prior to the study; however, the proportion of health care service utilization remained low (53.3%). Most migrants sought health care services at the health centre where their health insurance was registered (73.8%). Among sick migrants who did not use health care at health centres, 63.2% people thought that their health problem was mild; about 51% stated that health centres (where health insurance was registered) was too far (50.8%); and 45.6% did not want to waste time for health care so that they applied self-treatment.

Conclusion: The health insurance procedures need to be improved to increase the use of health care services, although the coverage of health insurance is high among this migrant population.

Key words: migrant workers; industrial zones; living conditions; use of health care services.

Appendix 4 Nhu cầu sử dụng dịch vụ khám chữa bệnh và tiếp cận thông tin về nhiễm khuẩn đường sinh sản của phụ nữ di cư phường Thạch Bàn, Quận Long Biên, Hà Nội năm 2011

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Tóm tắt

Mục tiêu: Nghiên cứu này nhằm mô tả thực trạng, nhu cầu sử dụng dịch vụ khám chữa bệnh, và việc tiếp cận thông tin về nhiễm khuẩn đường sinh sản (NKĐSS) của phụ nữ di cư tuổi 18 – 49 lao động trong các KCN.

Phương pháp: Nghiên cứu cắt ngang mô tả được thực hiện tại phường Thạch Bàn và Sài Đồng, Long Biên, Hà Nội. Đối tượng nghiên cứu bao gồm 300 nữ lao động di cư 18-49 tuổi làm việc tại KCN Sài Đồng, Long Biên được lựa chọn ngẫu nhiên hệ thống từ 1200 đối tượng.

Kết quả: Nghiên cứu cho thấy trong 291 đối tượng, có khoảng 25% đối tượng có triệu chứng NKĐSS, nhưng tỷ lệ sử dụng dịch vụ khám chữa bệnh tại các cơ sở y tế của nhóm này rất thấp (21.6%). Nhiều lý do ảnh hưởng đến việc sử dụng dịch vụ y tế, trong đó chủ yếu là do quan niệm chưa đúng của đối tượng về bệnh, thiếu cung cấp thông tin của cơ sở sử dụng lao động và sự phối hợp với y tế địa phương. Do đó, nhu cầu được tiếp cận thông tin về bệnh NKĐSS (bao gồm cả nhiễm khuẩn lây truyền qua đường tình dục và HIV/AIDS) là rất lớn, chủ yếu nữ lao động di cư mong muốn nhận được thông tin tại cơ sở sử dụng lao động và sử dụng dịch vụ y tế địa phương.

Kết luận: Nghiên cứu này đã chỉ rõ các khó khăn, hạn chế, nhu cầu sử dụng dịch vụ và tiếp cận thông tin về NKĐSS, từ đó làm cơ sở cho các can thiệp nâng cao sức khỏe sinh sản cho nữ lao động di cư trong thời gian tới.

Từ khóa: nữ di cư, khu công nghiệp, nhiễm khuẩn đường sinh sản, sử dụng dịch vụ y tế.

Needs regarding health services and access to information about reproductive tract infections among female migrants working in industrial zones in Long Bien, Ha Noi, 2011

Abstract

Objectives: This study aimed to describe current status of reproductive tract infections (RTIs) for female migrants aged 18-49 working in industrial zones (IZs), and capture their needs for health care services and access to information related to RTIs.

Methods: The observational cross-sectional study was conducted in Thach Ban and Sai Dong commune, Long Bien district, Ha Noi. Participants included 300 female migrants aged 18-49 years who worked in Sai Dong IZ. These participants were randomly selected from a sampling frame of 1200 female migrants.

Results: Among 291 participants, 25% had symptoms of RTIs; of which the proportion of using health care services at health facilities remained critically low (21.6%). The most important reasons for low utilization frequency were misperception that RTIs are not a serious health problem and insufficient information for RTIs of female migrants. Another reason was inefficient collaboration between enterprise, where female migrants worked, and local health system. Thus, female migrants need to receive more information about RTIs, sexual transmitted infections, and HIV/AIDS and health services at local health facilities.

Conclusion: The study identified some important barriers to the utilization of health services for RTIs among female migrants working in IZ. These results can serve for further intervention programs in promoting health status of female migrants.

Keywords: female migrants, RTIs, industrial zones, health care services

Curriculum vitae

Personal information

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Nationality	Vietnamese
Date of birth	3, April, 1978
Gender	Female
Profession	Medical Doctor, Master of Public Health, PhD candidate
Position	Lecturer and Researcher, Department of Epidemiology and Biostatistics
Institution	Ha Noi School of Public Health, VIET NAM

Education

Dates	**2010 – now**
Title of education	**PhD Candidate - Doctor of Philosophy in Epidemiology**
Place	The Faculty of Science, University of Basel, SWITZERLAND
Dates	**January 2005 – July 2007**
Title of qualification awarded	**Master of Public Health**
Specialization	Standard Program
Place	University of Queensland, AUSTRALIA
Graduation Grade	Distinction
Dates	**September 1995 – June 2001**
Title of qualification awarded	**Medical Doctor**
Specialization	General Practitioner
Place	University of Medicine and Pharmacy, Ho Chi Minh City, VIETNAM

Graduation Grade	Distinction

Training

Dates	**2011**
Title of course	**Observational epidemiological studies: advanced methods for design and analysis**
Place	Basel, SWITZERLAND
Title of course	**Analysis of clustered data: multilevel modelling**
Place	Basel, SWITZERLAND
Title of course	**Data analysis in epidemiology**
Place	Basel, SWITZERLAND
Title of course	**Concepts in Molecular Epidemiology**
Place	Basel, SWITZERLAND
Title of course	**Health Systems**
Place	Basel, SWITZERLAND
Title of course	**Inter-regional training course (IRTC) for Asia – NCCR North-South**
Place	Kathmandu, NEPAL

Dates	**2010**
Title of course	**MARPs sampling**
Place	Ha Noi, VIET NAM
Title of course	**GIS and Public Health**
Place	Ha Noi, VIETNAM
Title of course	**Introduction to SEM using AMOS and MPLUS**
Place	Ha Noi, VIET NAM

Dates	**2009**
Title of course	**Inwent' TOT course for District Health Management training program**
Place	Ha Noi, VIETNAM

Dates	**2008**

Title of course	**Logistic Regression and Measurement Quality**
Place	Ha Noi, VIET NAM
Title of course	**Workshop on Policy Communication for Health Research**
Place	Institute for Health System research, Ministry of Health, MALAYSIA
Dates	**2007**
Title of course	**Factor Analysis**
Place	Ha Noi, VIETNAM
Title of course	**Regional training course on Gender, Sexual and Reproductive Health and HIV/AIDS**
Place	Kunming, CHINA
Title of course	**Principles of Good Clinical Practice (GCP)**
Place	Do Son, VIET NAM
Dates	**2004**
Title of course	**Biostatistics in Medical Research**
Place	Ho Chi Minh City, VIET NAM
Dates	**2003**
Title of course	**Training course on Injury Prevention and Control**
Place	Ha Noi, VIET NAM
Dates	**2002**
Title of course	**Application of Epidemiology and Biostatistics in doing nutrition research**
Place	Ha Noi, VIET NAM

Awards and honours

Dates	**January 2005**
Title of award	Scholarship awarder of University of Queensland for Master course
Dates	**2000**

Title of award	Honour for excellent students

Work experience	Lecturer in Biostatistics, Epidemiology (basic and advanced courses) and Scientific Research Methodology to BPH and MPH students Trainer of Clinical Epidemiology for Hospitals Trainer and co-trainer of Advanced Biostatistics courses in CDC project Trainer of MARPs surveillance courses in CDC project Trainer of Epidemiology module in District Health Management courses Supervisor of BPH students' thesis; co-supervisor of MPH students' thesis

Research experience

Dates	**2010 - now**
Responsibility/Title	Principle investigator/Health and access to health services among rural-to-urban migrant populations in Viet Nam (PhD dissertation)
Partner organisation	Hanoi School of Public Health, VIET NAM Swiss Tropical and Public Health Institute, University of Basel, SWITZERLAND
Responsibility/Title	Investigator/Improving health for old people (aged 60+) by enhancing their participation into social activities (e.g. a health intervention of reducing alcohol use of male aged 20-60) in Tien Hai, Thai Binh, Viet Nam
Partner organisation	Hanoi School of Public Health, VIET NAM VietNam Public Health Association
Responsibility/ Title	Principle investigator/Intervention in reducing alcohol use of male aged 20-40 In Tien Hai, Thai Binh Viet Nam
Partner organisation	Hanoi School of Public Health, VIET NAM VietNam Public Health Association, VIETNAM

Responsibility/Title	Investigator/VietNam National Injury Survey
Partner organisation	Center for Injury Policy and Prevention Research, Hanoi School of Public Health, VIET NAM
Dates	**2009**
Responsibility/Title	Principle investigator/Intervention in reducing alcohol use of male aged 20-40 in Le Loi, Chi Linh district, Hai Duong, Viet Nam (a time-series study)
Partner organisation	Hanoi School of Public Health, VIET NAM
Responsibility/Title	Principle investigator/Baseline survey and public poll of the project "Strengthening the implicationand enforcement of smoke-free policies in public and workplace in Hanoi"
Partner organisation	HealthBridge Canada, VIET NAM
Dates	**2008**
Responsibility/Title	Principle investigator/Situation assessment of national health research system in Vietnam – a country report
Partner organisation	SEARO/WPRO World Health Organisation
Dates	**2007**
Responsibility/Title	Principle investigator/National Health Research System in Viet Nam
Partner organisation	World Health Organisation, VIET NAM; Council on Health Research Development (COHRED)
Responsibility/Title	Principle investigator/Assessing program needs in cervical cancer prevention in Vietnam
Partner organisation	World Health Organisation, VIET NAM
Responsibility/Title	Biostatiscian/World Health Survey in Vietnam
Partner organisation	Ministry of Health, VIET NAM

Responsibility/Title	Biostatiscian/Baseline survey of the intervention project "Injury prevention for children under 18 in DaNang City, Viet Nam"
Partner organisation	Center for Injury Policy and Prevention Research, Hanoi School of Public Health, VIET NAM
Dates	**2006**
Responsibility/Title	Biostatiscian/Patterns of iron deficiency anaemia in Australia
Partner organisation	School of Population Health, University of Queensland, AUSTRALIA
Responsibility/Title	Principle investigator/ "Requirements for assessing outcomes of surgery for congenital heart disease in children (under 18): a review" - A project with High Distinction Degree, submitted in conformity with the requirements for the degree of Master of Public Health, The University of Queensland
Dates	**2003**
Responsibility/Title	Researcher/Knowledge, attitude, and practice of medical doctors graduating from 8 medical schools in Vietnam
Partner organisation	The Netherlands-Vietnam Project in 8 Medical Schoosl in Viet Nam
Dates	**2002**
Responsibility/Title	Data collector/Physical health of young people aged 15-24 in the South Viet Nam
Partner organisation	Ministry of Health, Viet Nam

Publication

Books

Cuong, P.V et al (2011). *Data analysis by Stata*. In process

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Anh, Le T. K. And Thi, Nguyen T. (2003). *The medical cooperator network in Ben Luc, Long An, Viet Nam.* Oral presentation. Youth Conference of Medical Science and Technology, The University of Medicine and Pharmacy at HoChiMinh City, Viet Nam.