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Moving nurses to cities: On how migration industries feed into glocal urban assemblages in the care sector

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Abstract

Migration industries include a diverse array of migration-related services provided by the state, commercial agents, humanitarian organisations and migrant social networks. The work performed by this array of providers, both non-state and state actors, includes facilitating, filtering/channelling and constraining migration. As a powerful example of how migration industries work in general, we examine their dynamics in the care sector as part of glocal (care) chains involved in the migration of nurses. The article provides a conceptualisation of the role of the 'migration industry' as part of a changing global business in the field of care work. We direct our attention to the drivers and institutions that facilitate and shape the arrangements of international care mobility and the constitution of glocal urban assemblages. Drawing on three models of nurse migration – bus stop (Philippines–Singapore), two-step (India–Canada) and triple-win (Vietnam–Germany) – we show how the socio-spatial configurations of glocal urban assemblages linked to the three models yield different social integration outcomes for migrant nurses.

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摘要
移民产业包括由政府、商业机构、人道主义组织和移民社交网络提供的各种与移民相关的服务。这一系列提供者（包括非政府行为者和政府行为者）执行的工作包括促进、过滤/引导和限制迁移。作为移民产业总体运作方式的一个强有力的例子，我们研究了护理部门移民产业的动态，并将其作为护士迁移全球本土化（护理）链的一部分。本文提供了"移民产业"作用的概念化，将其作为护理工作领域不断变化的全球业务的一部分。我们将注意力集中在促进和塑造国际护理流动安排和全球本地城市组合构成的驱动因素和机构上。基于护士迁移的三种模式—公交车站（菲律宾-新加坡）、两步（印度-加拿大）和三赢（越南-德国）—我们展示了与这三种模式相关联的全球本土化城市组合的社会空间配置如何带来了迁移的护士的不同的社会融合结果。

关键词
护理、性别、全球本土化城市组合、**治理、基础设施、移民、护士**

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care, gender, glocal urban assemblages, governance, infrastructure, migration, nurses

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Introduction

The mobility of healthcare personnel as a key feature of global migratory flows has often been analysed using the global care chains (GCC) approach that shows how care deficits are filled through the migration of predominantly poorer women from less developed to higher income regions (Hillmann, 2005; Hochschild and Ehrenreich, 2002). Leveraging on 'the international division of reproductive labour' (Parreñas, 2003), 'nurse production industries' operate through what Yeates (2009) calls 'global nursing care chains' (GNCCs) that demonstrate how a hierarchy of nurse recruitment and migration flows develops in response to wage and non-wage differences, professional status, opportunities for career development and potential return remittances to the family. Despite the uptake of the GCC concept and the wealth of studies highlighting the spatialities of the chains and networks involved in GNCCs, limited attention has been given to the nodes along these 'chains', beyond identifying general Global South–North directionality. Relatedly, analysis of migration industries organising the circulation of care workers within *urban* centres is scarce in both GCC and urban research (Fudge, 2011; McCann, 2004). This article is thus motivated by the desire to fill this gap at the intersection of care chain and urban research. In arguing that care migration industries are an essential part of urban assemblages, we show that these industries are at the service of all kinds of interests and reproduce power-laden practices between people and places in terms of care migration, thereby illustrating one example of how 'the introduction of market-type mechanisms seems to have extended cities' repertoire of structural coordination' (Leixnering et al., 2021: 2948).

Our article first outlines the theoretical groundwork for understanding GNCCs' spatial organisation, or as we term it, how migration industries operate within glocal urban assemblages in shaping nurse migration. Following a critical review of key concepts that frame our arguments, and a discussion of methodology, we illustrate our arguments through an international comparison of three pairs of regional dependencies between providers from developing countries to industrialised places: from the Philippines to Singapore, from India to Canada and from Vietnam to Germany. Through these case studies, we show how glocal urban assemblages operate as infrastructure shaping, facilitating, directing and perpetuating international flows under different modalities of control and regulation. We foreground the significance of the 'urban' and links with transurban networks while drawing out the kinds of mobility infrastructure generated by the migration industry under each model. We also consider the consequences of these arrangements for the integration of migrant nurses in host cities.

Extending the global care chain concept

Transnational migration researchers have argued for the importance of institutions and infrastructures in enabling or hindering migrant mobility (Xiang and Lindquist, 2014); for example, in terms of how 'nested jurisdictional boundaries' complicate achieving decent work (Fudge, 2011). In the case of the GNCC, exporting nations frame policies to increase the value of labour, such as developing language programmes to address the needs of bilateral labour agreements, which in turn determines the nursing migration circuits that nationals can become embedded within (e.g. lower value regional markets or higher value core English-speaking service centres). Variations in the formation of GNCCs are further influenced by receiving countries' social welfare models (Pfau-Effinger and Geissler, 2005). In many developed nations, austerity measures have diminished the numbers of domestic nurses and accorded low priority to retention and retraining policies, thereby expanding space for 'flexible' internationally trained nurses (Schwiter and Steiner, 2020). Governance, and more specifically credentialing, is another pivotal issue demarcating mobility within the GNCC. Mutual recognition and bilateral agreements frame some regional networks, although such framework utilisation and application has been limited (Te et al., 2018). Moreover, immigration regimes structure the process of settlement, length of stay and rights nurses can secure (Walton-Roberts, 2020). Additionally, if costs increase and rewards are harder to secure, this has implications for how effectively migrant nurses can be integrated into the workplace and the level of success experienced (Ortiga and Macabasag, 2021).

While many of the essential activities that are integral to producing, governing and moving nursing labour across international borders take place in cities, the significance of the 'urban' is often elided. To address this lacuna in the literature, we bring GNCC analysis and studies of urban assemblage together by focusing on how urban structures inform the migration and integration of nursing labour through different configurations of the migration industry. It is urban stakeholders – administrators, regulators and financiers – that (re)form the migration industries through their practices, connecting individuals to institutions within migration regimes.

Moving towards glocal urban assemblages

We consider the processes of training, recruiting, stratifying and integrating migrant nurses as embedded in various

urban nodes along diverse and complex trajectories of migration of the GNCC. As the place where educational resources are located and designed, the city not only plays a functional role in the organisation of care labour's distribution, but also serves as an aspirational magnet for migrants, becoming an important staging ground for achieving goals, including those that entail onwards and upward migration (Paul and Yeoh, 2021). Research that is explicit about how care processes operate at different urban scales has also identified important, but nuanced, differences for urban and suburban places (Pratt, 2002). The formation of these by no means random distributions and linkages within the care sector consolidates urban hierarchies. In short, not only does the city itself exert an important cultural, social and economic gravitational pull on migrants, the 'urban' assembles migration institutions and industries that are integral to regulatory control as well as to the filtering and distribution of migrants.

The 'urban' consists of a dense, heterogeneous and often contradictory field of institutions and players that process migrants and migration routes. In (re)arranging the global flows of nurses, these urban assemblages must rely on and operate through their relations to other places and scales and perform within distinct sociotechnical geometries of power (Wang, 2019: 4). Urban assemblage approaches invite multiscalar thinking, and thus analytically address the contemporary city in relation to the global condition (Kamalipour and Peimani, 2015: 405). Brenner et al. (2011: 225) explore how assemblage theory is applied to critical urban studies and argue for its use as an 'explanatory tool for understanding the sociospatial "context of contexts" in which urban spaces and locally embedded social forces are positioned'. Brenner et al. (2011: 237) argue for assemblage analysis as empirical or methodological extension of urban political economy in the drive to explore 'ongoing market-driven regulatory experimentation and intense sociopolitical contestation at all spatial scales'. Precisely because it exposes researchers to the complexity of actors, objectives and means of action in producing the urban fabric within the capitalist market economy, urban assemblage thinking sheds light on the hierarchical nexus between the urban, where migrant care workers are located, and migration industries, spurring the mechanisms that direct migrant workers to either the urban or beyond.

Viewing the city as an urban assemblage not only alerts us to the machinery for extracting labour and organising care chains through hierarchy, market and network governance modes (Leixnering et al., 2021); it also foregrounds the city as an important node in urban fields of imaginary and material power between two places, but not necessarily two states. The urban also deeply shapes migrant experiences, since it is the convergence point for multiple factors that comprise the GNCC; travel hubs, education sites, language training centres, credential agencies, immigration offices, migration intermediaries and employment brokers etc. Even if the city is not the final port of call, migrants must negotiate with services, functions and power grids assembled at urban sites. In other words, the urban context frames the sites where the GNCC's formations of inputs and outputs, territoriality and structures of governance combine, come to ground and relate to other more remote places. Cities are often the sites where migrants may stall or stay while paperwork is processed and employment secured, and the experience of living in the city may determine their subsequent trajectory to stay, return, move onwards or engage in 'multinational migrations' (Paul and Yeoh, 2021). The heuristic concept of assemblage is of value here, because it does not refer to a city as a simple output or resultant formation,

but as being produced through uneven, power-laden practices (McFarlane, 2011: 221), which we see in the centre of action within the internationally competitive field of nurse recruitment. Cities are complex ensembles of different actors with different resources and options, which form new institutional alliances in 'market-driven regulatory experimentation' (Brenner et al., 2011: 237).

It is hence at the scale of the glocal urban assemblage where the matrix of opportunities that migrants engage and negotiate with is situated. Glocalisation refers to being recast both above and below the nation in ways that alter power geometries and expose tensions between hierarchy, markets and networks. This can be seen in 'the strategies of global localisation of key forms of industrial, service and financial capital' (Swyngedouw, 2004: 37), in the outcomes of exclusion (Sassen, 2015: 99) and in the way processes become structured (McFarlane, 2011: 222). Rescaling and shifts in power geometries are occurring in the GNCC, a global service that sources, deploys and places migrant care workers across places and networks rather than between states. We speak of 'glocal' to underline the way national regulations are undercut by local actors and practices operating at the urban or inter-urban scale. The politics of scale and territoriality is registered in relations between actors within the assemblage, and in how migrants face multiple tipping points between the intensity of occupational stratification on the one hand, and the relative urban opportunities and resources they can access on the other. Migrant responses to these matrixes of opportunity can encourage them to stick and commit to the urban, depending on the degree to which they are attracted to the quality of urban life, their own intersectional positioning and other cosmopolitan advantages. We thus prefer thinking of cities as spatial assemblages produced by practices that are constantly re-established, held together, maintained and repaired by multiple forces (Farías, 2011: 370). This approach is warranted to map more closely the inputs, outputs and territorial and distributional effects of the GNCC. We see an important role for glocal assemblages in orchestrating this mobility, but also understand the importance of contextual difference that comparative analysis reveals (see the fourth section).

Migration industries: Linking GNCC to glocal urban assemblages

To understand better the emergence of glocal urban assemblages, we make use of the concept of migration industries that allows us to analyse the underlying dynamics of this process. Nyberg-Sørensen and Gammeltoft-Hansen (2013: 6f) define the 'migration industry as the array of non-state actors who provide services that facilitate, constrain or assist international migration' with the adherent subcategories of facilitation, control and rescue. Migration industries are about control, selection and management on behalf of employers and state institutions, comprising policies and practices of governments to regulate and manage migration (Hernández-León, 2013: 25).

The migration industry, as it pertains to the mobility of nursing care labour, involves a wide array of non-state and market actors, often working in collaboration with state agencies. Spaan and Hillmann (2013) point to networks consisting of recruitment and travel agencies, government training centres, educational institutions, medical services, advertisers and migration brokers, amongst others, connecting countries of origin, destination and transit and supporting the perpetuation of care-sector flows. The growth of the migration industry in this sector aligns with a general withdrawal of the state from public welfare provision and coincides with the increased participation of women in the

labour market, leaving a reproductive work void. Consequentially, care work has become commodified and marketised (Kofman, 2020: 221). The health sector in many industrialised countries has restructured and commodified since the 1990s according to neoliberal logics, making healthcare work unattractive for native applicants (Abramovitz and Zelnick, 2010). Privatisation and de-regulation following these new logics incentivised the growth of a healthcare migration industry to supply countries at the top of the care chain with 'flexible' nursing labour from Global South sources (Valiani, 2012). The care migration industry plays a crucial role in re/producing a stratified, gendered, multi-ethnic, underpaid and often migrant workforce in urban centres (Shannon et al., 2019). The functional role of such intermediaries is respresented for example by the temporary staffing agencies that Coe et al. (2007) have explored. The growth and internationalisation of temporary staffing agencies reflects service sector globalisation, including healthcare, and reveals differential spatial embeddedness according to the needs of local labour markets (and migration) regulations.

Methods

Our methodology operated in two stages. First, we used the comparative sequential method (Falleti and Mahoney, 2015) to facilitate a systematic comparison of historical sequences across cases. This method involves the decomposition of comparative cases into their sequences of events (demographic change, financial liberalisation, educational privatisation and internationalisation) related to the training of nurses for international markets (see Gahwi et al., 2021 for more details). Additionally, we mined data from the research team's previous research on the international migration of nurses. We integrated different statistical data sources and checked for estimates of migrant organisations where official data was not available. Second, we developed a cross-case comparison (between the three case study pairs) using key informant interviews (KIIs) (Tansey, 2007) with education, health, government and private sector representatives, employers, nursing unions and migration intermediaries. Each of the teams responsible for the three case study pairs (Philippines–Singapore, India–Canada and Vietnam–Germany) is at a different stage in terms of the number and range of KIIs conducted. Because of the global pandemic, coordination across the three international teams occurred via webinars and virtual meetings. This article draws on findings from both the comparative sequential method (using data mining from previous research) and KIIs to describe the spatial arrangements of the GNCC, the glocal urban assemblage and how it informs the stratification of migrants in each of the paired case studies. Each case is reviewed in the next three sections under three further subsections: socio-historical context, the machinery of the assemblage and the inherent opportunity structure for the migrant.

Three constellations of nurse migration pathways

Bus stop: From the Philippines to Singapore

Context: Migration pathways for nurses. As a labour-short city-state with globalising ambitions, Singapore's economy is highly dependent on attracting migrant labour at all skill levels. To meet this demand, the state has crafted a labour migration system predicated on contract-based temporary migration with limited pathways to permanent residency (except for the highly skilled) (Yeoh and Lam, 2016). The circulation of migrant labour on a temporary basis

underpins the prevailing migration regime in ASEAN countries. The recruitment of low- and mid-skilled migrant labour is in large part devolved to an extensive migration industry, which facilitates, calibrates and channels the flow of migrant labour from multiple sending countries to meet the needs of the globalising city. For the Singapore state, delegating responsibility to the migration industry to create migration pathways (while retaining tight control over entry and stay) not only obviates the need for formal cooperation with sending countries (Goh et al., 2017) but also leaves migrant welfare and rights to the oversight provided by individualised contractual terms.

Nurse migration pathways from the Philippines to Singapore well illustrate the 'bus stop' model. Faced with a rapidly ageing population and growing care deficits, Singapore's healthcare industry is plagued by a shortage of healthcare professionals such as doctors, nurses and allied health workers (Goh and Lopez, 2016). Since the 1980s, the city-state's public sector hospitals have been granted autonomy in recruiting foreign nurses to plug gaps in the system. By the 2000s, despite concerted efforts to promote nursing as a career choice among the local population through better pay, increased training opportunities and schemes to attract ex-nurses back to the industry, foreign nurses, primarily from the Philippines and Malaysia, constituted a significant proportion of the nursing workforce.[1] Illustrative of the 'bus stop' model, the state 'confines itself to a regulatory role by controlling the registration and enrolment of nurses and midwives to maintain professional standards' (Huang et al., 2012: 206). The middle ground between the prospective migrant and the destination is relegated to the migration industry, commercial intermediaries and recruitment agencies that act on behalf of employers to fill labour shortages in hospitals and elderly care homes.

As a financial powerhouse and hub city well plugged into the global system, Singapore capitalises on its cosmopolitan urban image as a key node for human capital. By far the most open to inflows of professional and skilled migrant labour relative to other destinations in Asia, the city-state's migration policies 'create a positive reputation among potential skilled migrants around the value the Singaporean government places on their human capital', allowing recruitment agents to leverage on 'reputational spillover' effects (Harvey et al., 2018: 651, 657). Stemming from its favourable positioning in the urban rank order, Singapore is as an aspirational destination for Filipino nurses, particularly those who prefer more proximate destinations in Asia (Amrith, 2017). Recruitment and placement procedures are also less protracted, and compared to western countries such as Canada, the US and the UK the processing time from application to arrival is relatively short (Choi and Lyons, 2012).

Machinery: The nexus of glocal assemblages and migration industries. Under the prevailing temporary migration regime, the import of nurses is both enabled and constrained by a glocal urban assemblage of actors drawn together in particular institutional arrangements and constellations of power. Nurse migration is predicated on an assemblage including hospitals and elderly care homes that generate demand for foreign nurses, low-cost flights and transport infrastructure that facilitate international travel and commercial intermediaries that link up and match prospective migrants to employers. Two pre-eminent sets of social relations involving migration intermediaries can be identified.

First, the nursing profession at destination sets criteria for eligibility in instituting a 'regime of skill' (Liu-Farrer et al., 2021) which employers and recruitment agents

must attend to in sourcing for prospective migrants. Recruitment agents in Singapore work with their mainly Manila-based partners in the Philippines to source candidates who fulfil professional qualifications at destination. To facilitate the mobility of Filipino nurses, recruitment agents leverage specialist knowledge in operating within the criteria for professional eligibility set by destination regulatory bodies. While Filipino nurses who seek overseas employment are degree holders who have passed the Philippines' Board of Nursing licensure examination, the Singapore Nursing Board applies a different 'regime of skill' that sorts the nursing profession according to a tiered system comprising *Registered Nurses* who are more experienced and better paid, and *Enrolled Nurses* with less experience and lower pay. A third category that does not qualify for professional eligibility may be recruited as *Healthcare Assistants*. As the criteria set by the Singapore Nursing Board is formally applied with stringency, recruitment agents have little room for manoeuvre between the two differing skills regimes.

Second, while the state outsources the recruitment and placement of nurse migrants to the migration industry, it retains strict border control and applies this using a hierarchy of immigration categories. Foreign workers are admitted into Singapore in three broad visa categories with graduated privileges: highly skilled workers (Employment Pass workers) with high earnings and the least restrictions in terms of job mobility, sponsorship of family members as dependents and eligibility for permanent residency; mid-skilled workers (S-Pass workers) with intermediate privileges; and low-skilled workers (Work Permit holders) who are not allowed to change employers, bring in family members or apply for permanent residency. Workers in the S-Pass and Work Permit categories are also subjected to quotas and levies that regulate the volume of foreign workers admitted into the city-state. Filipino nurses are mostly recruited to work in Singapore as mid-skilled S-Pass workers or low-skilled Work Permit holders and rarely in the high-skilled Employment Pass category, which has the effect of creating ambivalence as to whether nursing care is considered professional or low-skilled care labour. Recruitment agents play an important role in preparing and verifying documentation that migrants need to conform to the city-state's hierarchy of work passes and permits. While they provide prospective migrants with specialised assistance to navigate the labyrinth of regulations and proliferating paperwork to move to Singapore, they do so as an extension of the power of the state apparatus.

While recruitment agencies in the Singapore context are a central component of the glocal assemblage underpinning the 'bus stop' model, they operate in a regime of state power with limited degrees of freedom. The stringency of regulation is partly an outcome of the dual control vested in the professional regulatory body at destination as well as the receiving state's hierarchical immigration control. This level of control is possible in a small, highly centralised city-state where the contours of the urban coincide completely with the reach of state power.

Opportunity matrix: Glocal assemblages and the integration of migrant nurses. Nurse migration from the Philippines to Singapore hence operates through a glocal urban assemblage that conjoins strong state governance effected through a differentiated skills regime and hierarchical migration control, and an outsourcing to commercial intermediaries to match workers to employers and facilitate border crossing. Arguably, a regulatory environment that inflicts hierarchical control coupled with dependence on migration infrastructure that is commercially

oriented favours the receiving state rather than migrant workers. Filipino nurses are attracted by Singapore's high reputation as a cosmopolitan city-state in Asia, but in the end, find Singapore viable as a temporary destination, or 'bus stop', to accumulate working experience before onwards migration to destinations such as Australia (Matsuno, 2009; Walton-Roberts, 2021).

The combined effects of the skills regime and visa hierarchy render the sojourn in Singapore a transient experience for at least two reasons. First, placed at the lower rungs of the professional hierarchy compared to their Singaporean counterparts, Filipino nurses often see significant downgrading of their qualifications and only in exceptional cases experience upward mobility. A 2018 study also concluded that Singapore's long-term care workers – particularly nursing aides and healthcare assistants – are among the lowest paid compared to those in Japan, South Korea, Hong Kong and Australia (Tang, 2018).

Second, Filipino nurses in the lower-paid S-Pass or Work Permit categories are unable to sponsor family members as accompanying dependents, and neither can they apply for permanent residency. These restrictions, compounded by low pay and limited rights, engender a sense of transience and propel migrant nurses to treat Singapore as a stepping stone towards destinations with clearer prospects of better remuneration, working conditions and settlement options.

In sum, how Singapore's glocal assemblage underpinning nurse migration is configured is inextricable from its status as a hub city without a hinterland and hence heavily dependent on importing care labour. Conditions favourable to this 'bus stop' or 'temporary worker' migration model are rooted in the hyperconnectivity of urban space to facilitate a broad range of mobility patterns for transient labour (Paul and Yeoh, 2021).

Two-step migration: From India to Canada

Context: Migration pathways for nurses. Migration from India to Canada has a long history borne of colonial connections where the nature and conditions of immigration entry address the development needs of the receiving state (Walton-Roberts, 2017). Recently, Canadian immigration policy has shifted towards two-step migration models where migrants can convert from study to work visas (Hou et al., 2020). The India–Canada two-step case explored here represents an entangled mobility pathway that is of increasing scale and significance. International students comprise a highly flexible pool of labour whose education and labour market incorporation feeds into and depends upon variable state and non-state regulation, migration industry and educational institution activities (Williams et al., 2015). The total number of study permit holders in Canada has more than doubled in the last 10 years (from about 225,295 in 2010 to 638,960 in 2019), with over a third coming from India (IRCC, n.d.). Educational institutions have embraced the revenue generation that international students bring, and the Canadian state offers an uncapped flow according to visa criteria including language and financial factors (Hou et al., 2020). Qualified Indian nurses enrol as international students to develop their professional training and secure entry into the Canadian healthcare system (Walton-Roberts, 2019). Between 2009 and 2020, over 50% of international students registered in the fields of sciences in health (including nursing) were from India (Statistics Canada, 2019). In 2021, 26% of nurses (RNs and RPNs) in Ontario (Canada's most populous province and largest employer of migrant nurses) were internationally trained, with India as the leading source (College of Nurses of Ontario [CNO], 2021).

Machinery: The nexus of glocal assemblages and migration industries. The attraction and

conversion of international students into migrant care workers incorporates several actors and intermediaries with the goal of generating labour market-ready skilled workers. In India, a web of intermediaries located in metro and provincial cities and towns provide services such as language training, pre-departure education and visa processing (Gill and Walton-Roberts, 2017). Major nursing recruitment agencies are in India's metropolitan centres such as Delhi and Bangalore, but there is also a regional concentration of agencies in India's southern states reflecting the distribution of existing nurse training capacity (Khadria, 2007), and recent regulatory changes controlling the migration of nurses to the Middle East. Varghese (2020) depicts the organisation of this Middle East migrant assemblage as one of 'controlled informality', where the fluid intersection of multiple state and non-state actors across sending and receiving states is mediated through virtual technologies of recruitment. This allows recruiting agencies to use 'institutional gaps or negotiate a space for informality with other stakeholders including government officials, where control and regulation becomes a precondition for informal practices' (Varghese, 2020: 120). Concerns regarding fraudulent practices beset the Middle East migration pathway, and alternative two-step routes towards North America, Europe and Australia have become attractive, especially for aspiring nurse migrants in northern India (Walton-Roberts et al., 2017). Some of these actors present themselves as educational rather than migration agencies, and they service the two-step migration study–work pathways (Hawthorne, 2010). Educational institutions support the use of study–work pathways into the nursing sector, and Indian intermediaries position themselves as transnational education brokers by locating in large Indian and Canadian cities. These agencies promote the idea of nursing as a global 'brain train', and offer career services that build upon international training and work experience using the two-step pathway (Walton-Roberts, 2020: 4). As one educational broker in northern India explained: 'Canada has become very lenient in terms of study permits because of the huge demand. Passport, letter of offer, financial documents are required for the duration of their stay. Process is easy with a good success rate' (Interview, India, 1 June 2021).

Canada's largest cities of Toronto, Vancouver and Montreal play an outsized role in this two-step migration process, but most mid-sized Canadian cities, especially those with colleges and universities, are also increasingly engaged (Williams et al., 2015). International students enter Canada to study and work as well as to seek permanent residence, but their visa status conversion can be variable, depending upon policy change, employment conditions and the skill of the intermediaries utilised (Walton-Roberts, 2019). Students typically enrol in one- or two-year programmes of study that focus on nursing competencies prioritised in Canada, and simultaneously submit their paperwork to provincial nursing regulatory agencies to be processed while they upgrade. Once approved, nurses in Ontario can complete the entry-to-practice test based at testing centres in the cities of Hamilton, London, Ottawa and Toronto. Alternatively, if there are competency gaps identified, Ontario applicants must complete specific tests, such as the Objective Structured Clinical Examination (OSCE). These tests are only administered at the dedicated testing agency in Toronto and costs CA$1500.

Opportunity matrix: Glocal assemblages and the integration of migrant nurses. The majority of educational, testing and assessment locations are in major urban centres, but securing full-time permanent employment is difficult for immigrant nurses in major cities

(Baumann et al., 2021). Once qualified, migrant nurses may secure employment in elderly care centres in smaller centres, or alternatively find work in other provinces where nursing shortages are more acute. Research on international students in the healthcare sector (Walton-Roberts, 2019; Williams et al., 2015) has suggested that one entry point into health-related employment is through unregulated personal support worker (PSW) positions in elderly care facilities where acute staff shortages have been recorded. Increasingly, international students can find employment in such facilities during and after their studies, with research in 2021 suggesting that 22% of those working as PSWs in southwest Ontario were international students.

Employment as a PSW allows international students the chance to develop practice competency and improve their communication skills (Quirico, 2020). These students – recently graduated with some professional experience and moderate to high language skills – meet researchers' criteria for 'ideal candidates for international migration and employment' (Covell et al., 2017: 13). Currently the twin demands for PSWs and nursing staff in Ontario's elderly care homes and the financial and professional needs of Indian international students in health programmes suggest a highly practical match between the two streams. However, there is the risk of already qualified Indian nurses being trapped and deskilled into the elderly care sector as unregulated PSWs.

The urban assemblage in the two-step India–Canada pathway consists of migrant intermediaries, educational and professional regulatory agencies that benefit from state regulations that decentralise management of the human capital care stream. Despite the financial and human capital benefits to the assemblage, the resulting allocation process has the effect of servicing both lower paid unregulated, as well as higher paid regulated care service needs. In both cases, working in the elderly care sector is a clear outcome, since this is where the demand is and where job opportunities exist. This entanglement is spatially channelled through the urban concentration of educational and assessment agencies, but with employment options incorporating rural and semi-urban locations experiencing acute staff shortages. The glocal urban assemblage acts as a staging ground and processing platform for the testing, training and accreditation of internationally trained nurses, who are later channelled into employment within and outside of Toronto, the major urban centre. The state moderates the needs of subnational units through its control of the student visa process, and brokers, agents and educational institutions create educational pathways for migrant nurses, with the professional regulator filtering which applicants gain what recognition.

Triple win: From Vietnam to Germany

Context: Migration pathways for nurses. Germany has long relied on imported labour and has been a major destination for migrants over the past years. Despite this, migration pathways are restricted to a highly selective spectrum of occupations, including care work and nursing. Germany's administrative structures treat migration as a cross-ministerial responsibility involving five ministries as well as regional authorities in a complex regulation grid of activities.

In March 2020, the law on the recruitment of skilled workers came into force. On first sight, the fragmented migrant care work labour market looks like a mix of ambitious state-led programmes and private interests. But on second sight, as the analysis of the Vietnam case reveals, the attempts to fix shortages in this field rely on established migration networks and recruitment

practices that are embodied in already established spatial constellations.

Germany's healthcare personnel shortage is massive and has been for some time. An ageing population and a baby boomer generation likely to retire in the next few years are expected to increase the demand for even more imported care work.[2] The elderly care labour market segment itself is known to be understaffed and unattractive, showing high rates of turnover. Healthcare personnel with foreign citizenship have recently doubled to 10 percent of the total workforce. One fifth of the hospitals and elderly homes, mostly the bigger ones, rely on international recruitment, especially so in cities.

Envisioning further labour shortages in the care sector, the German government started in 2012–2013 its triple win project. The project took up the idea of the triple-win migration initiative that pointed to the dangers of brain drain from developing countries. A first pilot in the field of care workers for the elderly (2012–2016) and a second pilot on nurse recruitment (2016–2019) were created (Braeseke et al., 2020: 8). These pilots were designed to meet the interests of the migrants (obtaining a recognised education, being able to make a living and eventually to send remittances), as well as those of the country of origin (avoiding brain drain, establishing further institutional contacts with Germany) and of Germany itself (avoiding shortages in the health sector, providing high standards of care and nursing, reducing the turnover of care workers). Between 2013 and 2020, in total 3577 qualified nurses were recruited through the programme, of which the majority came from the Philippines, Serbia and Bosnia-Herzegovina (Bundestagsdrucksache, 2019). The programme also included nurses from Vietnam. Here, many of the still existing migrant networks, established since the 1980s between Vietnam and the former GDR, were reactivated. The total number of Vietnamese care workers in the triple-win programme was small, but added to an increasing share of nurses with Vietnamese nationality in Germany (185 care workers held Vietnamese nationality in 2013; in 2020, the number was 3644). Official data is scarce, but these growth dynamics are in line with the results of our interviews. Since 2015, after the introduction of the triple-win approach, a proliferation of private agencies in the health sector took off. Some spoke of a 'gold rush', with Vietnam being a favourite country of recruitment. In June 2021, well aware of these developments, the federal Ministry of Health pushed for a quality seal that would guarantee shared standards of recruitment and prevent abuse of applicants once they arrived in Germany.

Machinery: The nexus of glocal assemblages and migration industries. The first pilot programme to recruit workers from Vietnam was set up by the Ministry of Economic Affairs and Energy (BMWi) in 2012, recruiting about 100 young workers from Vietnam to become part of educational training schemes (2014 and 2016). The Federal Employment Agency (ZAV) in collaboration with GIZ recruited candidates for training as nurses and elderly care personnel, based on a bilateral memorandum of understanding between different official stakeholders (GIZ, ZAV and MOLISA [Vietnamese Ministry of Labour, Invalids and Social Affairs]) and realised through the Department of Overseas Labour in Vietnam (DOLAB and COLAB). The 280 Vietnamese trainees were integrated into the vocational education system in Germany, and most of them took up healthcare employment after the completion of their programme. The goal was to sensitise the German care industry to the goals of fair migration as well as to encourage private agencies to offer similar training approaches for newcomers. A second pilot programme followed (2014–2019). From the outset, the

intention of the programme was to open a migration pathway for care workers to Germany while showing what fair migration could look like.

The experiences with the two pilot projects were mixed. The process of recruitment (contacting the places of origin, publishing the tender, the selection of candidates, language and intercultural training and the transfer to Germany) was long, it took between one and a half and two years before the workers finally arrived in Germany. Further, it was costly, between €8000 and €14,000 for each recruited person (BMWi, 2020: 10). The recruitment process involved highly bureaucratic, sometimes opaque, procedures. It was slow and expensive but it secured high standards. None of 100 trainees quit the training, and the patients were positive about services received. The costs were shared by state agency budgets and recruiting hospitals located all across Germany (BMWi, 2020).

In the slipstream of this state-imposed programme, with favourable conditions for the recruited workers, a separate private market developed as care personnel were urgently needed in hospitals and elderly care homes. Private agencies mushroomed. The emerging migration industries took up old international legacies to recruit care workers, reshuffling glocal assemblages of nursing intermediary agencies, and in the process a confusing, jeopardised situation emerged. Suppliers partly worked in cooperation with the authorities, with the help of private agencies. In other cases, hospitals and homes for the elderly hired workers directly from Vietnam, without intermediaries. Further, vocational trainings schools training schools in Berlin welcomed Vietnamese migrants who substituted for declining native trainee numbers. Many of the private agencies concentrated on educational adaptation, offering care personnel as part of their portfolio. Also, many of the recruited care workers who already held an academic degree when they arrived in Germany were offered different working terms to gain full occupational recognition. Language training became the crucial threshold for acceptance to Germany's professional care work classification, while occupational standards varied regionally. On top, private agencies and educational institutions in Vietnam started to design language courses and to help with bureaucratic procedures, moving faster than the state-led programmes could.

It is precisely through such newly evolving linkages between the education sector in Vietnam and the expected export of care personnel for institutions in Germany that the spatial pattern of the recruitment became glocalised. Private agencies in Germany had to connect with intermediaries in this bilateral trade and they turned to Vietnamese educational institutions. A range of interview partners said that they had reactivated their old contacts in Vietnam, mainly study colleagues or former GDR contract workers. Often, the contacts were located in smaller urban centres in Vietnam, the big cities already being siphoned off to other players – as one of our interviewees put it bluntly. Still, the big cities remained in the focus of the mechanism as they were the places where binational connections were made, where the necessary paperwork prior to emigration had to be completed and where coordination was taking place. The recruiting counterparts in Germany (hospitals and elderly care homes) were spread all over the country, not necessarily tied to urban centres.

The opportunity matrix: Glocal assemblages and the integration of migrant nurses. Initial interviews suggest that the glocal assemblages (re)produced by the migration industries repeat some of the features we know from former recruitment practices. As was the case in the 1960s guest-worker system, a team of recruiters initially travelled to the

capital cities (Hanoi and Ho Chi Minh City) to select applicants. Those applicants then chose the German hospitals they wanted to work in. Comparable to the procedures of the guest-worker system, the hospitals cooperate with housing associations in the place of arrival to provide furnished flats to the newcomers, bypassing the overly expensive big city housing markets. The Vietnamese workers are supposed to live together in apartments, thereby remaining somewhat under the surveillance of the recruiting agency, which also effectively oversees their integration process. In cities with existing Vietnamese networks, recruited personnel could connect with the co-ethnic community and were sometimes absorbed and 'lost' into those networks. Often the nurses expected and preferred to be in cities than in rural areas.

Discussion of the comparative cases

In understanding cities as both relational and territorial (Wang, 2019), we draw on the idea of glocal urban assemblages to highlight the 'nature of interactions between components and the capacities such components exhibit when arranged in different ways' (Savage, 2020: 333). The three cases of migrant nurse pathways discussed represent distinct configurations of migration industries operating under different migration and governance regimes. The Philippines–Singapore case is representative of a temporary migration regime with highly limited pathways to residency for most Filipino nurses, and where the glocal urban assemblage exhibits explicitly extractivist tendencies. The India–Canada example reveals a different matrix of opportunities, including explicit mechanisms for securing permanent residency. The initial two-step or study–work pathway, however, represents a drawn-out process that takes time and incurs costs. The Vietnam–Germany pathway also represents a matrix of opportunity that offers potential permanent residency. Here, the opportunity matrix partly reflects the internal contradictions that exist within the scheme as played out across a complex federal and regional governance structure.

The nature of the relevant glocal assemblage and the migrant industries involved in the migration pathway also varies and evolves in a sector with stiff international competition. The glocal urban assemblage in the Philippines–Singapore pathway is dominated by agencies that operate within strong state regulatory frameworks that control the regime of skills and the conditions of entry and stay. The recruitment agencies do the work of filtering out and selecting nurses and fitting them to the needs of employers and the hierarchical immigration categories of the state. In the India–Canada pathway, the glocal urban assemblage connects sending country agencies involved in accessing international student visas to study in relevant educational institutions in Canada. The state facilitates this process via the immigration bureaucracy, which also sets language requirements. An important actor in the glocal assemblage is the professional regulator, who controls testing, assessment and recognition of credentials for those seeking to work as registered nurses, with the main testing centres located in Toronto and other large urban centres. However, eventual and interim employment might be in rural elderly care facilities. In the Vietnam–Germany triple-win case, all nurse migrants must pass through the cities of Vietnam to complete language training before joining their employers in Germany. Employers may be distributed across any number of small centres in Germany. In the triple-win model, the state and the private sector have effectively started competing in the recruitment of care workers.

Concerning the glocal urban assemblages, we observe the common pattern in all three

cases that the migration industries in the country of origin, including language schools and training centres, are in the urban centres. Urban spatial patterns at the destination also matter, with cities such as Singapore, Toronto and Berlin offering an important matrix of opportunities including networks of co-nationals, employment opportunities and cosmopolitan lifestyles – but challenging housing opportunities. Nevertheless, the distributional logics of the migration industries at work also result in the dispersal of nurses to suburban and rural areas in the case of Canada and Germany, and onwards to other countries in the Singapore case. In all these cases, the process of migration is both a material and imaginary one. The matrix of opportunities presented to nurse migrants must be able to balance both the pros and cons of migration, and the urban locale is often part of that imaginary.

The three cases differ in terms of how glocal assemblages inform worker stratification, or migrant integration experience. The Philippine–Singapore bus stop model combines a strong state with commercial agencies that offer limited options in terms of the matrix of opportunities and that impose a time limit on staying. Due to its monopolistic structure, it constitutes an extremely hierarchical urban assemblage. In the India–Canada two-step migration pathway, the matrix of opportunities offers a potential pathway to permanent residency, but this may include deskilling or the underutilisation of skills for those already trained as registered nurses, and/or relocation outside of the major cities. In the Vietnam–Germany pathway, the social integration of nurses is supported by employers and the Vietnamese nurses are expected to create bonds with the new environment, while living with co-national peers. The hospitals themselves become glocal brokers as they import potential workers from urban areas in Vietnam to locations all over Germany. In Germany, the state's 'model' recruitment process has proliferated through the private sector, and key regulatory features such as language training become an important form of control for the state.

The comparison of these three pathways reveals the importance of understanding how various glocal urban assemblages frame the process of labour mobility within different social policy settings. This approach allows us to highlight different constellations of private and state-tied actors involved in the migration industries at work, and the long-term influence of these structures on the stratification, incorporation and career progression of workers.

Conclusions

Our article focused on how the urban is produced within the uneven, power-laden field of practices in the internationally competitive care sector by adopting an assemblage perspective. Three conclusions can be deduced.

First, by focusing on how migration industries organise the circulation of care workers within and across *urban* centres, we address a gap in urban studies as well as in GNCC research. Using specific case studies, our research illuminates how GNCCs tether to glocal urban assemblages and set up momentum for further exploration of the organisation, orientation and composition of the migration industries that structure these flows, and their impact on workplace integration and stratification.

Second, our findings reveal that the urban is a staging ground for the glocal assemblage that filters and distributes the care labour across and beyond the urban (and in the case of Singapore to other national contexts) with the help of migration industries. We claim that care chains are tied to emerging glocal assemblages, in which urban centres are

assigned to play a crucial role for the perpetuation and directionality of flows.

Third, we illustrate how hierarchy, markets and networks come together in the functioning of the urban glocal assemblage in relation to global care chains. Overall, our article brings migration and urban studies into closer dialogue regarding the roles, functions and operations of dynamic glocal partnerships in care provision. Further research should consider how global care chains are implicated in the development of new urban forms of care provision, especially elderly care facilities where migrant care labour is essential to addressing care deficits.

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Notes

1. Among Singapore's nursing workforce in 2018, 29% of registered nurses and 43% of enrolled nurses were foreign. Filipinos constituted by far the largest share of foreign nurses in Singapore.
2. In 2017, around 35,000 positions in the health sector were vacant, half of them in the elderly care sector (23,319 positions, of which 14,785 were for skilled personnel and 8443 for helpers) (Beschlussprotokoll, 2019; Bundesärztekam mer [Federal Association of Physicians], 2018).

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