



Integrating Social Determinants into Health Workforce Education and Clinical Training - A Case Study: Nepal

Background

Introduction:

There is a global consensus that addressing the social determinants of health (SDoH), the circumstances in which people are born, grow, live, work, and age, is key to reducing health inequities. To deliver relevant, quality care effectively and equitably, the health workforce—including health professionals, planners, managers, and community health workers—must understand the complex factors that influence the health of patients and communities and they must possess competencies to mitigate the negative effects of these factors.

The Local Health System Sustainability Project (LHSS) developed a case study series to identify, analyze, and document successful efforts to integrate SDoH into health workforce education and training, regulation and quality assurance, and service delivery. The project identified Patan Academy of Health Sciences (PAHS) as one of only a few health education institutions globally that has systematically and successfully integrated SDoH into pre-service education curricula for physicians, nurses, and public health professionals.

This case study describes and analyzes PAHS’s efforts and contributes to the knowledge base on how to maximize the positive impact of integrating the SDoH into the education and training of health workers.

Objectives of this case study are:

1. Identify how Nepal stakeholders perceive SDoH and PAHS’s key steps to integrate SDoH into health workforce education and training programs.
2. Describe the perceived enablers and barriers for integrating SDoH into education and training, and identify best practices.
3. Understand the perceived impacts of integrating SDoH into education and training for student learning and clinical practice.

Methodology:

The team chose Nepal and PAHS based on expert recommendations and findings from a relevant LHSS literature review. The team sought and obtained an international and local ethics approval, and reviewed published articles and websites of relevant authorities, as well as policy and curricular documents. The team conducted nine interviews with leaders in the nursing, public health, and medical programs and with graduates from each program, as well as with a clinical preceptor and supervisor at a rural field site.

Health System and Human Resources for Health Context:

In Nepal, the Ministry of Health and Population (MoHP) provides 67 percent of health services, private providers cover 26 percent, and nongovernmental and faith-based organizations provide 3 percent of services.¹ (See table 1.) The country has made great strides toward achieving Universal Health Coverage (UHC) and in reducing maternal, infant, and under-five mortality. Female Community Health Volunteers (FCHV) have been the backbone of these efforts. Even so, disparities persist within the country. For example, the national average for under-five mortality per 1,000 live births is 39, whereas it is 63 in Nepal’s mountain region and the rate for children in the lowest wealth quintile versus those in the highest one is 24 to 62.² Access to trained health workers plays an important role. While training of health professionals has increased, an estimated 40 to 50 percent of physicians emigrate after graduation;³ those who stay tend to work in urban areas. Kathmandu Valley has only one physician

Table 1: Background Country Data

Total population (millions)	30
Life expectancy at birth (years, both sexes)	70.88
Infant mortality (per 1,000 births)	23.6
Maternal mortality (per 100,000 births)	186
Poverty head count ratio at \$1.90 a day (percent of population)	15
Population using improved water sources that are safely managed	17.58
Nurses/midwives per 1,000 inhabitants	3.11
Physicians per 1,000 inhabitants	0.75
Community health workers per 1000 inhabitants	0.68
Current health expenditure per capita, PPP (current international \$)	180.41

Source: USAID: IDEA <https://idea.usaid.gov/cd/nepal/health>



per 850 people compared to one for every 150,000 in rural areas of Nepal.² To ensure UHC, the National Human Resources for Health Strategy (2021–2030) seeks to ensure the equitable distribution and availability of a quality health workforce, as per the country health service system, but it has not yet been fully implemented.

In addition to geographic location, other SDoH affect access to and use of health services as well. For example, factors such as poverty, education, ethnicity, low status of women, illiteracy, poor transportation, and disrespectful maternity care limit the uptake of maternal care services.⁴ Age, gender, rurality, and socioeconomic status also drive the rising burden of non-communicable diseases in Nepal.⁵

Health Workforce Education Context

Health professions education in Nepal, as elsewhere, is predominantly urban-based, hospital and bio-medically oriented, and does not adequately prepare graduates to understand and address the needs and SDoH context of rural underserved populations.⁶ Nepal has 21 medical schools, primarily located in the Kathmandu Valley; 17 are private, producing over 2,000 doctors annually, and an additional 400–500 receive training abroad. According to the Nepal Nursing Council, 50 colleges provide nursing education in Nepal and 12 colleges have post-graduate public health programs. The Ministry of Education, Science and Technology of the Government of Nepal (GoN) regulates the education system in Nepal, and it establishes and oversees various universities.

Studies suggest that the inadequate number and skills of health workers in rural areas is one of the most pressing issues for UHC in Nepal.⁷ The shortage of skilled health workers and poor staff retention, particularly in rural areas, lack of professional capacity development activities, and inadequate funding are major challenges for the health workforce in Nepal. The variability in the quality of this workforce is caused by, among other reasons, insufficient health workforce planning and inadequate quality control mechanisms in health workforce education.⁸

“What does good health mean at population levels? We have to start the discussion at leadership levels. Are we caring for the sick only or are we talking about building health as a social capital?”

Faculty member at PAHS

Integrating SDoH into the Curriculum at PAHS:

PAHS, established in 2008 in Lalitpur, is a public not-for-profit higher education institution “...work[ing] in close partnership with the national health

system to improve the health care services in the remote/rural areas primarily through producing technically competent and socially responsible health care workers.” PAHS currently provides degrees in medicine (bachelor’s and master’s), nursing (bachelor’s and master’s), and public health (master’s). The GoN does not cover operational costs but pays the tuition of 75 percent of PAHS’ undergraduate students in medicine and nursing and 100 percent of post-graduate students in medicine, nursing, and public health through scholarships. Students on scholarships are required to spend two years working at a location chosen by the GoN. The annual intake of

Site	Timing	Duration	Activity	Evaluation
Home Visits	Years I and II	Once every fortnight for 6 months	Home visits (and or hospice) for assigned patients with chronic disease, mentally/physically challenged child, terminally ill patients—to understand the SDoH and disease	Reflective log evaluated by clinical faculty during introduction to clinical medicine course and oral exam
Poor Urban Neighborhood	Year I	1 week	Prepare the report on SDoH for the population of a poor urban neighborhood	Report evaluated by Community Health Sciences (CHS) faculty
Health Post (Rural)	Year I	3 weeks	Work with the FCHVs Data collection on major diseases and SDoH (water supply, sanitation, school health, health-seeking behavior)	Work evaluated during CHS incl. by community members VIVA
Community	Year II	4 weeks	Community diagnosis: Prepare a report on health disease and SDoH. Report shared with the community.	Presentation evaluated by CHS and clinical faculty
Primary Health Centre	Year III	5 weeks	Clinical service where SDoH competencies are applied Group project: in-depth study on subjects like immunization, family planning, and Directly Observed Therapy for tuberculosis	Report submitted and evaluated by CHS faculty
District Health System	Year V	20 weeks	15 weeks: District hospital: clinical service 5 weeks: District public health office Group project: Strategic planning for district health system Individual project: In-depth study on any topic related to health delivery system	Presentation in the district and report shared. Report evaluated by CHS faculty during CHS VIVA (oral exam)

undergraduate medical students is 65 and post-graduate is 50. The intake for undergraduate nursing students is 40 and 28 for a master’s. Since 2020, the GoN requires candidates for all the education programs at PAHS to be selected from the merit list on the Medical Education Commission’s common entrance examinations. A certain number of seats are reserved from



students from rural areas. Forty percent of the 15 post-graduate seats in the master's in public health (MPH) program are allocated for government employees who, after completing the course, will work for the MoHP. Graduation rates are higher than 95 percent across all the programs.

As conventional health professional education was failing to produce a health workforce ready and willing to work in underserved areas, PAHS adopted a different approach centered on community-based learning and education. PAHS embeds the education of its students in rural community settings to ensure that they learn within the same context where they are expected to practice. Rural health practitioners, including FCHVs, are involved in teaching and evaluating learners. Community members participate in student evaluation, define graduate attributes and competencies, and contribute to the design and implementation of the curricula. The understanding of the effect of the SDoH on the health of underserved populations in Nepal was a driving force for creating the community-engaged and rural-oriented curriculum at PAHS.⁷ The development of theoretical and practical SDoH competencies is integrated throughout the curricula in medicine, nursing, and public health. Table 2 highlights how medical students at PAHS develop and apply SDoH competencies to practice. It also illustrates how PAHS assesses SDoH competency attainment and the stakeholders involved in that process. In addition to understanding the role of SDoH in health, health-seeking behavior, and success of health interventions, PAHS identifies and assesses what they call “non-cognitive” competencies that focus on behavior, attitude, conduct, and emotions. The SDoH-related competencies that students are expected to acquire and practice during field rotations (see table 2) include communication; relationship-building with patients, peers, and other stakeholders; empathy and compassion; teamwork; and leadership skills. Students also learn how to mobilize communities and facilitate processes to identify and solve health-related challenges with community members by applying asset- and strength-based approaches and creativity. Community members are directly involved in assessing these SDoH-related competencies.

While MPH students spend less time learning in rural and community settings than medical and nursing students, upon graduation they are expected to demonstrate SDoH-related competencies, such as commitment to social justice, human rights, and peace; act as leaders and agents of change; effectively advocate and engage within the political process to improve health equity; successfully partner with communities; and bring an SDoH lens to research, data collection, and analysis. These competencies and others are taught throughout the curriculum as students collect field data for their ‘Community Assessment’ model. They then use the collected information in the modules on ‘Planning and Implementation,’ ‘Leadership and Management,’ and ‘Health Policy and Financing.’

The three education programs (medicine, nursing, and public health) also work closely with community-based organizations, such as women's group and locals, as well as national government authorities.³ For example, PAHS works with the MoHP to identify sites for learning in community settings, post-graduate training, and employment. The programs are all relatively new, with medicine starting in 2010, nursing in 2016, and public health in 2017. Few cohorts have graduated and formal impact evaluations have not been completed. However, interviews with program leaders, graduates, and rural preceptors suggest that graduates are integrating the SDoH competencies into their practice including into the development of rurally based programs and interventions.

“We try to foster students’ commitment to serve the disadvantaged and produce graduates who listen to people and recognize them as partners in the process of improving health.”

Faculty member at PAHS

Lessons Learned on Integrating SDoH into Health Workforce Education and Training

Key best practices on the process of developing and implementing curricular reform related to the SDoH:

- Develop a clear mission, philosophy, and desired outcomes, built on a community- and patient-centered focus, based on available evidence and promising practices locally and globally. This should be aligned with local needs and contexts, using an iterative stakeholder engagement process to design and implement curricula and programs.
- Engage key stakeholders within and beyond the health sector, including health professional bodies, consumer groups, policy makers, health managers, and learners, as well as national and international academic experts. Engage representatives of communities that have been discriminated against or marginalized by the health system in defining attributes and competencies, designing and implementing programs, and evaluating learners’ performance.
- Program and school leaders should ensure that faculty internalize the importance of SDoH as a cross-cutting issue in the curriculum, and sustain their commitment by providing training, sharing evidence, providing concrete examples, regularly engaging with them, and drawing on their personal experiences.



- Ensure that the curriculum provides learners with ample experiences in living and practicing in underserved areas and working at each level of the health system, coupled with a strong focus on developing competencies, such as what PAHS calls “non-cognitive” ones mentioned above.
- Regularly review the curriculum in collaboration with stakeholders, including students and communities, reflecting on whether the program is on track and adjusting the program as needed.

Key enablers to integrating SDoH in health workforce education and clinical training programs:

- Commitment of leadership and faculty who use evidence, stories, political savvy, and a clear agenda to advocate for change and who listen to stakeholders when building the case for why integrating SDoH is so important.
- Strong relationship with a diverse set of stakeholders nationally and at clinical training sites at all levels of the health system. Such relationships should be developed and maintained by institutional and program leaders and faculty involved in community-engaged activities. It is important for faculty leaders to regularly spend time at distal teaching sites. PAHS experience suggests engaging internal stakeholders first, but also regularly engaging with institutional and political leaders and professional associations to advocate for SDoH-related approaches and share results and impact.
- Providing regular workshops for faculty to internalize the importance of SDoH.
- Bringing in diverse faculty from medical sociology and medical anthropology, the nongovernmental organization (NGO) sector, community groups, and others with health system experiences who bring important insights into the curriculum.

Key barriers to integrating SDoH in health workforce education and clinical training programs:

- Accreditation and professional bodies that do not consider SDoH-related competencies as important.
- Existing rules, standards, and regulations that are not designed for community-engaged approaches can add to the workload of the development and accreditation of programs because schools need to meet conventional standards in addition to their own community engagement and SDoH objectives.
- The time and effort needed for broad stakeholder engagement, as well as frequent changes in leadership and government, can frustrate and slow reform efforts. Such barriers can be overcome with building and sustaining faculty commitment and clear outcome measures, tied to improving health in underserved communities.
- Market forces, such as a higher cost of providing substantial community learning experiences, especially in rural areas, can act as a barrier or disincentive particularly if education institutions are for-profit. Demonstrating the return on investment, such as an increase in the number of graduates choosing to work in underserved areas, can help; partnering with NGOs and local authorities where students can help provide needed services can result in those partners paying for additional costs or providing in-kind resources.

“During the Covid response we worked in the most remote and poor areas of the country. Compared to graduates from other schools, I was much better prepared. The others had problems with communicating with illiterate people...SDoH are very important for quality of care. When one realizes it you deliver services very differently.” PAHS Medical Graduate working in rural hospital

Outcomes and impact quality and equity of care of PAHS’ integrating SDoH into education and training:

- The care that PAHS graduates provide is informed by their competencies that include enhanced ability to listen to, communicate with, and understand the complex factors that influence the health of patients and communities and identify ways to work with them to mitigate the negative effects of SDoH, hence improving the care that these patients receive. The graduates are familiar with the type of challenges patients face at home and at many health facilities. For example, providers spend time to educate patients and families, make sure they understand the roots causes of the health issue presented, and understand the potential barriers to adherence to treatment protocols. One graduate explained that she gave patients her personal phone number in case they had questions. They provide patients and families with the information on healthy behaviors, and ensure they have what is needed to follow treatment protocols. Understanding both the system and financial constraints of patients enables them to find ways to minimize the financial burden on the family, such as calling the insurance scheme to advocate for a patient and prescribing medications that are covered by insurance.



- Of the five cohorts of PAHS' medical graduates, more than 50 percent are currently working at primary-level government health facilities in different regions of Nepal; 75 percent of those are at primary-level health facilities outside Kathmandu Valley. A recent study shows that during the COVID-19 outbreak, PAHS graduates, although early in their careers, were frequently in communication, mobilization, and coordination roles, such as leading the pandemic response at their facility, and were involved in community engagement, team building, and liaising with the government and local authorities.⁹
- SDoH competencies are not systematically integrated into quality assurance processes, in either education or service delivery. However, PAHS continues to advocate for their integration with the professional councils. While SDoH competencies are not yet included, recent national planning documents are now referring to the SDoH.

"[PAHS] graduates understand community people. They integrate their rural experiences and that improves the care they provide."

Rural Preceptor/Medical Superintendent in rural hospital

- All stakeholders feel involved as learning outcomes in the programs are measured in multiple ways: through examinations, evaluation of community diagnosis, household surveys and implementation of health projects, feedback from community members, workplace-based assessment by rural health preceptors, and clinical and community health sciences faculty.
- Key indicators for measuring success in integrating SDoH into education and training include:
 - Are graduates applying their SDoH competencies in their work?
 - Do programs, research, and interventions that graduates are involved in specifically address or reflect an understanding of the role of SDoH in health?

Sources

PAHS's research advisory team: Professor Dr. Shrijana Shrestha, MBBS, MD, former Dean of the School of Medicine; Shital Bhandary, Associate Professor; Madhusudan Subedi, Professor and Chair of Department of Community Health Sciences and Coordinator of School of Public Health; and Dr. Shambhu Kumar Upadhyay, Department of Community Health Science

Peer-reviewed publications, PAHS institutional and curricular documents, and Key Informant Interviews.

- ¹ Martineau, T., Ozano, K., Raven, J., et al. 2022. *Improving Health Workforce Governance: the Role of Multi-Stakeholder Coordination Mechanisms and Human Resources for Health Units in Ministries of Health*. Research Square. DOI: 10.21203/rs.3.rs-1199054/v1.
- ² Nepal Demographic Health Survey 2016. <https://www.mohp.gov.np/eng/publications/nepal-demographic-health-survey> [accessed Mar 15, 2022].
- ³ Baral, K., Allison, J., Upadhyay, S., Bhandary, S., Shrestha, S., and Renouf, T. 2016. "Rural Community as Context and Teacher for Health Professions Education." *Cureus* 8(11): e866. <https://doi.org/10.7759/cureus.866>.
- ⁴ Khatri, R. and Karkee, R. 2018. "Social Determinants of Health Affecting Utilization of Routine Maternity Services in Nepal: A Narrative Review of the Evidence." *Reproductive Health Matters* 26 (54): 32-46.
- ⁵ Sharma, S.R., Matheson, A., Lambrick, D., Faulkner, J., Lounsbury, D.W., Vaidya, A., and Page, R. Apr 2021. "Individual and community experience of rising burden of non-communicable diseases in two case districts of Nepal: a qualitative exploration." *Glob Health Promot.*: <https://doi.org/10.1177/117579759211001718>.
- ⁶ Baral, S., Regmi, S., and Shrestha, P. 2022. "Understanding health system resilience to respond to COVID-19 in a federalised context: A case study of health workforce management at sub-national level in Nepal." *Rebuild Consortium*. Available at <https://www.rebuildconsortium.com/wp-content/uploads/2022/01/Understanding-Health-System-Resilience-to-Respond-to-COVID-19-in-a-Federalised-Context.pdf>.
- ⁷ Gurung G. B., and Panza, A. Jan 2022. "Implementation bottlenecks of the National Health Insurance program in Nepal: Paving the path towards Universal Health Coverage: A qualitative study." *Int J Health Plann Manage* 37(1):171-188. doi: 10.1002/hpm.3301. Epub 2021 Sep 9. PMID: 34505317.
- ⁸ Baral, K. P., Upadhyay, S. K., Bhandary, S., Gongal, R. N., and Karki, A. Jan 2016. "Development of Community Based Learning and Education system within Undergraduate Medical Curriculum of Patan Academy of Health Sciences." *J Nepal Health Res Counc.* 14(32):58-65. PMID: 27426713.
- ⁹ Shrijana, Shrestha, Shrestha, Ashis, and Acharya, Balakrishnan M. Dec 2021. "Perspective of medical graduates from Patan Academy of Health Sciences on the management of COVID-19, during the initial phase of pandemic in Nepal." *Journal of Patan Academy of Health Sciences* 8(3):30-37.