



## **Improving Public Health through Interdisciplinary Collaboration: Insights from Nursing, Emergency Medicine and Health Assistant**

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### **Abstract**

#### **1. Introduction to Interdisciplinary Collaboration in Public Health**

Public health practice is often an intense and fast-paced endeavor undertaken in varied, resource-poor environments, sometimes in the face of disaster, and through multiple communication styles, languages, and perceptions. Disasters, drug shortages, emergent or emerging infections, and shifts in the geography of disease and resource scarcity make collaboration among individuals from different disciplines a global health necessity. To be clear, there will always be individuals collaborating with each other from multiple disciplines, often with ease. However, the benefits of actively structuring efforts and training discussions to better effect that collaboration could be innumerable and should not be



overlooked. Ensuring that collaborations, previously arranged or impromptu, among those who don't naturally think the same way, occur can be structured, albeit in a flexible manner.

## **Methods**

We conducted five one-and-a-half-hour workshops with 36 undergraduate nursing, health assistant, and emergency medicine students during their professional path and program management course, which is included within all health profession-specific BA programs. The workshops were built around a modified nominal group technique that used information about the implementation of the Adult Trauma Life Support course and aimed to highlight the benefits associated with improving public health through an interdisciplinary approach. The five main stages of the mNGT are: (1) introduction and explanation; (2) silent generation; (3) round-robin presentation; (4) clarification, highlighting, and ranking; and (5) voting, discussion, and/or consensus.

## **Conclusion**

The potential for nurses, physicians, and other healthcare professionals to improve public health is enormous, but remains poorly tapped. The numerous interprofessional collaborations exemplified by community-academic relationships should galvanize leaders in other communities to seek out equally promising connections in their own. Policymakers faced with major population health problems have a major opportunity in health care reform to bring this potential closer to reality for many of the most needy patients. The synergies of lower costs, improved health, more satisfied patients, and the possibilities of giving a fresh start for communities make the promise of wider-reaching alliances of health care and public health an extremely exciting opportunity for the future of our nation.

### **1.1. Definition and Importance of Interdisciplinary Collaboration**

What is interdisciplinary collaboration? Interdisciplinary collaboration occurs when professionals from different disciplines use a shared theoretical framework and work together with openness to institutional activities to develop best practice methods for providing care to individuals, caregivers, and families within communities. A defining feature of interdisciplinary collaboration is that the practitioners are more open to each other's views and have shared objectives for communally created systems, persons, individuals, and environmental care outcome processes. Interdisciplinary collaboration between nurses, health assistants, and emergency medicine is essential to provide safe and effective high-quality care to persons and families in community health care settings. We, as health professionals, must focus on our point of care practice and patient safety as an important central care issue. Nursing, health assistants, and emergency medicine settings all must take the lead in building the optimal patient system and person group model to focus on and teach how the delivery of care can be optimized. Our role models include developing internships, preceptor-led classes,



interprofessional-focused didactic and clinical experiences for both students and our experienced staff. Also, referral strategies for the system to consult with our health professional colleagues and to work as collaborative practice partners.

## **2. Roles and Contributions of Nursing in Public Health**

**Impacting Health Access and Outcome Nursing Role** The university-educated nurse is critically important to the provision of quality care and the facilitation of public health. Nurses provide services, with a focus on the promotion of health, disease prevention, and management of acute and chronic illnesses. Specifically, nurses can assess patient symptoms, order diagnostic tests, evaluate therapeutic responses, and monitor for side effects. Nurses also administer medications, manage patient care between other healthcare encounters, counsel patients and families, and consult and refer to other healthcare resources. Nurses often direct populations to trustworthy, accurate health information and use teaching and partnering skills to promote and maintain healthy behaviors across the lifespan. Further, nurses are equipped and encouraged to work within the patient-centered medical home and community-based care models. Stakeholder convergence included an emphasis on nurses directing populations to trustworthy, accurate health information, including the promotion and maintenance of healthy behaviors across the lifespan and satisfaction in the ability to use their practice skills. A health assistant answers patient questions, facilitates wellness programs, and offers support from nearby community and government resources. In multilingual patient encounters, a language line telephone allows communication. For patient transportation to educational programs, clinic appointments, tests, and treatments, transportation services are offered when demand endures.

### **2.1. Primary Care and Preventive Health Services**

Public health is the primary care provider, performing tasks ranging from care of common health problems to the provision of preventive care services. The latter include immunizations, blood pressure checks, and cholesterol monitoring—services that nurses in the nursing-led model are able to provide. Public health has a role in maximizing the promotion of health and the prevention of disease and incapacity through population-based intervention, protection, and rehabilitative services for the consensus objectives. Direct patient care services are provided within the context of the health-illness continuum, and the setting of care may be not only in hospitals but also through primary care centers, public health clinics, home health, school, and industry.

To decrease disparities in health status, health disparities research focused on diverse populations will continue as a priority. In collaboration with various community groups, projects seeking to eliminate health disparities are in progress. Finally, it is assumed that there are multiple pathways to positive health and well-being. Understanding the varying



contributions of health promotion, health protection, and restoration activities is required. Consequently, with the intention of increasing overall levels of wellness, services from the continuum of care must continue to be addressed. In conclusion, whether working with individuals or within or between communities, public health practitioners are key members of these interdisciplinary teams.

### **3. Roles and Contributions of Emergency Medicine in Public Health**

Public health has numerous uses and misuses that come to fruition with the interest, belief, and money behind it. Aside from the growing number of disease prevention, health promotion, and disaster management jobs projected to be available with the current workforce shortage, this chapter illustrates how some diverse medical specialties can play and are playing important roles in public health improvement. Although nursing is not a specialty area or a medical field, it is strategically the focus of understanding some of public health's fundamental achievements. The role of the nurse shifts focus between independence, interdependence, and dependence depending on the health care and chronic condition being managed and the interdisciplinary nurse's team members working for the best outcome. Emergent care is one of the areas within emergency medicine where physicians' time and expertise are predominantly directed to diagnosis, treatment, observation, inpatient hospital care, and consultation. Concurrent operations are emergency departments' mainstay functions, involved in disaster management, injury prevention, management of the elderly, epidemiology, education, teaching, system health, and patient satisfaction. Emergency medicine's uniqueness concentrates on its presence—the service is open all the time, is well-founded at keeping the waiting room clear, and its physicians must understand and manage trauma, sepsis, respiratory, metabolic, academic, arrhythmic, and toxicologic dysfunctions rapidly. Direct, emergent duties for public service range between the police department, emergency communication personnel, itinerant television personnel, counselors, and fire station nurses who manage in-city medical transport.

#### **3.1. Emergency Response and Disaster Preparedness**

Introduction Through this paper, we discuss opportunities for collaboration in new research and public health activities between three critical contributors to public health. Nurses have skill sets that have not been fully integrated into the health system but are demonstrably necessary for improving health. Nurse practitioners can fill some of the training and professional gaps in health services delivery, especially in rural and resource-poor areas. This paper surveys skills nurses and nurse practitioners can provide to contribute to the health system. Emergency medicine practitioners have specific skills in emergency care, community hygiene, and sensitivity to the needs of vulnerable citizens that have resulted in disaster relief clinics in many settings. There are a set of technical competencies for this group that are common to health assistants and local government volunteers. There are few educational



institutions serving this group, and so these emergency response teams may be unduly affected by restricted access to continuing professional development.

3. Discussion 3.1. Emergency Response and Disaster Preparedness Provision and receipt of emergency care require a highly trained, mobile workforce that can deploy both on short notice. Nurses are well suited to this role, with long-standing contributions to disaster planning in areas like hazard reduction, vulnerability assessments, and training of health care providers. In terms of operations, the close attention to hygiene and contact prevention that nurses employ in more normal health care settings serves the emergency care environment well. Nurses with disaster preparedness training have made home visits with health extension practitioners the morning after disasters, getting assessment and treatment begun 24–36 hours earlier than would otherwise have been possible. Such actions fundamentally improve the community trust underpinning a strong, proactive response to future incidents.

#### **4. Roles and Contributions of Health Assistants in Public Health**

There is no singular definition of health assistants (HAs). There are other terms used to refer to HAs, including community health workers and other intermediate level providers. The contributions of HAs are also varied in different contexts, such as whether HAs are providing care at home to support mentally ill individuals or people living with other conditions, or at a primary care level in the public sector providing preventive and promotive health services, or whether they are nurses performing the tasks of HAs. In Malawi, HAs are the backbone of health service delivery. They complement the nurses that the government usually hires over time to increase the ratio of nurses per population that is acceptable. At the Ministry of Health level and at the district health office level, professionals who head different sections, such as surveillance or dispensaries, are nurses. The role of the HAs who work in the dispensaries is to provide nursing functions as well as manage and supervise other HAs.

HAs, in general, provide services such as basic management of diseases; tasks such as giving immunizations, antenatal care, basic childbirth care, growth monitoring, and management of common childhood illnesses; and helping with health education and community mobilization. Every HA is expected to follow a standard list of procedures when people come to a health facility. Whether an HA can act beyond laid-down procedures was previously determined by the conditions of their employment. Since the beginning of the social health assistant cadre in 1994, the number of HAs has been increasing, especially in the community and for a number of services. However, the number of HAs working at the facilities remains the same. Many HAs are very flexible and are performing duties that only nurses are supposed to do.

#### **4.1. Community Health Outreach and Education**

Health assistants are essential components of the wraparound approach that is being developed in specified communities to achieve wellness among high-utilization patient



populations. The assistants serve as health navigators, visiting vulnerable patients in their neighborhoods after discharge. Assistant goals include access to affordable, healthy food and adherence to medication regimens. A follow-up study in which outcomes data is tracked. Improved strategies include visiting patients in transition living facilities. The patient outreach approach is scalable. Characteristics of high-utilization patients include being homeless, low income with difficulty affording medications, food, or transportation, elderly, non-English speaking, or discerning individuals who find the hospital threatening and experience the distress of seeing opioid-use disorders as not understood by most hospital caregivers. The assistant health navigators play crucial roles as part of the Discharge Planning team, ensuring that the true and correct medical diagnosis and patient characteristics are recognized, and mobilizing and sensitizing the properly staffed clinical and administrative resources to provide the in-hospital care that is essential for patient well-being.

In the realm of nursing, the community outreach team brings a Mobile Health Program to a variety of rural settings, delivering services at health fairs, country stores, and senior centers. Electrophysiology nurse practitioners improve the care of patients with atrial fibrillation through community outreach and the use of a mobile application, whereas care is transformed positively for populations outside the hospital by the health assistants. Nurses and health assistants are members of similar teams that work in different locales, bringing evidence-based specialty medical care to high-risk populations. With stepwise modification, the Discharge Planners, extenders, and navigators can evolve into a wraparound health services delivery team that achieves better outcomes and patient satisfaction in a variety of settings.

## **5. Case Studies and Best Practices in Interdisciplinary Collaboration**

Humans are complex, and what often ails us is even more so. Recognizing that a single profession often lacks the diversity and depth of knowledge and skills needed to address a complex health issue, interdisciplinary collaboration has always had an essential role in health care practice. This essay outlines some general case studies from undergraduate level Nursing and Health Careers programs, and some general recommendations for best practice when aspiring to achieve improved public health through interdisciplinary collaboration. Part 5 follows, offering brief reflections on the philosophical grounding for interdisciplinary public health collaboration. (Wei et al.2020)(Schot et al.2020)(Seaton et al.2021)(Moirano et al., 2020)(van Diggele et al., 2020)(Singh & Matthees, 2021)

In this section, we offer some anecdotes and practical reflections about how interdisciplinary Nursing, Health Careers, and Biology programs operate to help address the undertreated aspects of the opioid crisis affecting the North Country. This is followed by a discussion of how such nursing skills are being used to address some of Lowville, NY's public health issues, in collaboration with the public health nurse who serves the town and other



community agencies. Such a structure can also benefit from a small, multidisciplinary example for programming and organization, to efficiently and effectively serve the health needs of New York State's aging population.

### 5.1. Successful Models of Collaboration

There has been successful incorporation of health assistants in health care in many countries. In Mozambique, mid-level health care providers work in inpatient emergency and obstetric services where they perform lifesaving tasks both independently and in collaboration with more highly trained staff. Health assistant education was first established in Mozambique in 1976, and there are now about 3,100 health assistants practicing in the country, with institutional deliveries increasing by nearly 400 percent in the last decade. In 2007 alone, health assistants were responsible for the delivery of 40% of all babies without supervision by midwives or medical doctors.

In 2007, there were 160 health assistants working in 57 out of 128 health facilities located in 6 remote districts of the Nampula Province in the northern region of the country, where maternal and child mortality rates are very high. Roughly 89% of the country's health assistants worked in the northern region, and in 2008, approximately 35% of all baby deliveries in this region were attended to by health assistants without medical supervision. To help ensure that health assistants could perform their roles properly, a systematic approach that encompassed three priority intervention pillars was used to prepare health assistants: 1) competency-based training; 2) ongoing supportive supervision and mentoring that occurred at the workplace; and 3) institution-building activities that engaged nurses, doctors, and hospital managers at the various hospital, district, and provincial levels of the health system.

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