Learning Question 1: *What are the contributions of systems thinking approaches and tools to changes in health system outcomes? How do systems thinking approaches affect health system outcomes?*

The Universal Nurse Model: Using Systems Thinking to Improve Health Workforce Efficiencies in Kyrgyzstan

Venera Maitieva, Cholpon Asambaeva | Local Health Systems Sustainability Project Kyrgyzstan

HEALTH SYSTEMS STRENGTHENING ACCELERATOR

Context

Nursing professionals are the largest category of healthcare workers in Kyrgyzstan, providing affordable, acceptable and cost-effective health care along side physicians across all levels of the health system. Kyrgyzstan is undergoing reforms in nursing and education which are expected to lead to the following substantial results**: the creation of a multilevel system for training nursing staff, improving the quality of professional education, and delegating medical functions to nurses.**

With the introduction of new technologies into the nursing practice combined with the differentiated expansion of nursing functions at different levels of care, a change in the systematic work of nurses was required. Despite the fact that the staffing level of nurses in the Kyrgyz Republic averaged around 96% during the peak of the COVID-19 pandemic, the country was faced with a staffing crisis stemming from the low quality of training and the system of organization for nurses that separated them into different roles within the health system.

Prior to the shift in the nurse model, three distinct types of nurses worked in the hospital wards: procedure, ward, and dressing. During the COVID-19 pandemic, each nurse was providing medical services for up to 40 patients. The workload was too high, and the nurses could not provide quality care to the patient because of the division of functions.

Activity Description

The Ministry of Health implemented the Universal Nurse Model aimed at optimizing the work of nursing professionals and improving both the quality of nursing care and the safety of the hospital environment. Specific objectives included:

1. Rational staffing;
2. Redistribution of functions and work planning; and
3. Reduction of unproductive costs of nursing time.

The functions of the universal nurse were changed to address the patient's physical and psychological problems and to ensure infectious safety. By serving the patient and performing the entire scope of care, the universal nurse holds personal responsibility for each patient. In case of an emergency or urgent condition, they provide medical care within their competence; becomes a real partner to the attending physician, interacts with him or her more often, shares information about the patient, and provides psychological assistance not only to the patient, but also to his or her relatives. What is important for such a model as the universal nurse is that all nurses on the unit can perform dressings, injections, invasions, and nursing activities. In the context of staffing shortages, this is an important positive point; interchangeability among nurses emerged as a result of this model.

Implementation of the model was carried out in stages:

1. Analysis of nurses' work in pilot hospitals;

2. Calculations of the norms of nurses' workload;

3. Development of the functional duties of a universal nurse and patient charts in the hospital;

4. Training of nurses on Standard Operating Procedures and the order of work;

5. Implementation of the pilot project of the "Universal Nurse" and associated processes.

A gender and social inclusion (GESI) lens was applied across the project to ensure gender equity considerations.

Activity Impact

After the implementation of the Universal Nurse pilot model:

1. The nurse workload standards were revised downwards from 40; depending on the severity of the patient and location within the hospital, each nurse was not assigned from 8 to 12 patients per universal nurse and 3 in the Intensive Care ward.

2. **The functional responsibilities of nurses were redeveloped to focus on the patient**, including: teaching and counseling patients, conducting sanitary and anti-epidemic (preventive) measures, observation and care of patients, providing pre-hospital (nursing) medical care to patients in emergencies/non-emergency conditions, and providing psychological support to patients.

3. Nurses worked in accordance with the requirements of the hospital Standard Operating Procedures and **in compliance with the requirements of infection prevention** and control with lightened workload and more functional responsibilities.

4. Nurses closely adhered to the stages of the nursing process: nurses independently assessed the patient's condition, made a nursing diagnosis, planned, implemented the plan, and evaluated the result. With the change in patient-centered systemic nursing work, the nurse had more opportunities to work on the nursing process and pay more attention to the patient. **Quality nursing care was implemented, and regular conversations were held with patients or their relatives** on self-care, nutrition, lifestyle, and hygiene procedures.

5. Nurses maintained **patient cards** at the bedside of the patients, ensuring continuity in the "nurse-physician" work. Doctors noted that the patient card provided significant help in managing the individual patient care plan, and the card contained all necessary information for dynamic monitoring and adjustments of drug therapy during rounds on the patient's health status, translating to time-saving for the doctors and nurses. There are plans to transfer the patient record into electronic format in the future.

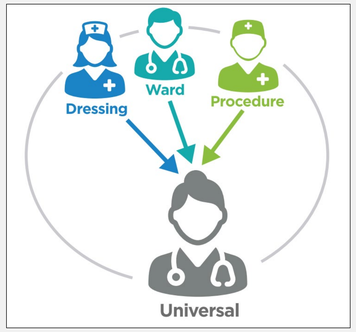
Evidence

Health Outcomes

- Patient to nurse ratios decreased significantly, greatly improving the quality-of-care patients received and the among of time spent with providers. From the high of 40 patients per nurse at the height of the pandemic, the universal nurse model **decreased the ratio to 8-12 patients**.
- In the Intensive Care Unit, the patient to nurse ratio decreased from **8:1 to 3:1**, greatly improving the level of attention each patient received.
- The rate at which all assigned nursing tasks were completed during a shift period increased from 40% to 90%.

Health Systems

- After the adoption of the universal nurse model, nurses and patients reported that care was more patient-centered and **the quality of care was greatly improved.**
- Nurses were able to provide more holistic care to their patients, including nutrition and life-style recommendations to focus on long-term care and prevent post-hospitalization complications.
- The Kyrgyz health system was more resilient and able to scale up to support health emergencies like COVID-19.



Facilitators

The introduction of the Universal Nurse model was initiated by the Ministry of Health in Kyrgyzstan and the USAID-funded LHSS project supported this initiative in line with the projects systems approach to solving health challenges.

The Chief Specialist of the Ministry of Health, who supervises nursing issues, Gulnaz Azhymambetova visited Lithuania in 2017 and observed that nurses were involved in all stages of patient care throughout the entire hospital stay. Upon returning, she advocated for changes to the nursing practice in Kyrgyzstan. However, her efforts to change the division of labor did not gain traction until the staffing challenges of the COVID-19 pandemic. COVID-19 hospital "red zones" began rapidly filling up with patients needing constant monitoring, and a 2020 assessment by the Department of Health found that basic COVID-19 patient care procedures were not being followed.

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ КЫРГЫЗСКОЙ РЕСПУБЛИКИ

Challenges

One key challenge to implementation was the long-standing, task-oriented human resources structure that assigned three different types of nurses, each with separate responsibilities, to care for a single patient. This previous staffing model was not able to surge to the patient numbers observed in health emergencies such as COVID-19. With the siloed nursing model, when the patient load dramatically increased, it was impossible to properly attend to COVID-19 patients or coordinate care across the health worker team.

Another key challenge was that in the hospitals selected for the pilot, there was an understaffing of nurses and an overloading of wards with patients. In most wards, the space and equipment of the wards did not meet the requirements for distancing and staff to patient ratios. There was a large flow of visitors to the wards that regularly disrupted patient care. Additionally, most of the nurse's time was spent on writing off medicines and medical devices.

Lessons Learned

Several key lessons were learned throughout the design, implementation, and scale up of this model:

1. The pilot hospitals already had Standard Operating Procedures for nurses that were developed as part of the Swiss healthcare project, which led to increased willingness among the Ministry of Health and hospital administrators to make staffing changes.

2. There was high interest and commitment from the Ministry of Health to strengthening the nursing process in health emergencies as part of global health security preparedness efforts.

3. In the peak of the pandemic, structural issues with the health system exposed major weakness that needed to be addressed in future strengthening efforts, including: nursing shortages, high patient burdens, lack of medications and Personal Protective Equipment, and emotional burnout among nurses.

4. When nursing roles were divided, nurses were not able to spend the majority of their time focused on the patient with the high burden of paperwork and coordination.

5. Focusing on the quality of care to patients was the best entry point to encourage uptake among hospital administration.

USAID FROM THE AMERICAN PEOPLE
RESULTS FOR DEVELOPMENT
HEALTH STRATEGY AND DELIVERY FOUNDATION
ICF
BILL & MELINDA GATES foundation