# Health Workforce Policy Brief

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## Remote Monitoring Technologies in Long-Term Care: Implications for Care Team Organization and Training

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### I.       Introduction/Background

The current health care delivery model in the U.S was not developed to manage care needs associated with extended life expectancy and growing rates of chronic conditions. Remote monitoring programs aim to enhance the patient's and provider's surveillance of chronic conditions in order to anticipate and identify exacerbations, thus avoiding unnecessary emergency room visits, re-hospitalizations, surgeries, premature death, and excess costs to the health care system. This study examines how remote monitoring programs are preparing and leveraging the health care workforce to manage patients with chronic illness and long-term care needs who are living at home.

### II.       Methods

Literature Review: A preliminary search revealed that remote monitoring technologies are used for numerous high-burden conditions in a variety of settings. We sorted the technologies by the types of chronic conditions for which they are used, and selected 4 conditions with high prevalence among those at risk for institutionalized care, which carry high risk of hospitalization and re-hospitalization, and for which remote technologies have shown some evidence of benefit.

Case studies: We conducted 20 semi-structured interviews with health care providers, managers/administrators, and technicians who are part of care teams that utilize remote monitoring technologies, and with authors of research trials investigating remote monitoring technologies.

### III.       Findings

Literature review:

Across the 4 chronic conditions – CHF, DM, COPD, and CKD – much of the same type of clinical remote monitoring data was collected and positive outcomes were achieved across the conditions. A multidisciplinary team approach was associated with more positive

## Conclusions and Policy Implications

1) To achieve the full potential of remote monitoring, programs need to invest in training.

2) Well-established remote monitoring programs use a team-focused approach, which requires technology that facilitates effective communication. Registered nurses often play a central role in care coordination and conveying information to other health professionals and patients.

3) Increased sharing of information across remote monitoring programs would accelerate learning and enhance success. Additional research is needed to identify best practices and standards for alerts and intervention.

biometric and health care system outcomes. Remote monitoring models that incorporated subjective symptom questionnaires with biometric data were more often associated with positive findings compared with studies that solely examined subjective symptom or biometric data in isolation.

**Case study review:**

Because RNs' experience allows them the independence to perform assessments while simultaneously communicating and acting upon data, they are the primary health professionals involved in remote monitoring programs, with allied health professionals providing support. Remote monitoring programs partially substitute for RN home visits, although this depends on each program's funding structure. The VA's Home Telehealth program is the most widespread, best developed, and longest-running remote monitoring program in the U.S. The VA's program is a model that can be disseminated widely and for multiple chronic conditions.

## IV.     Conclusion

Patient-centered monitoring technologies have the potential to improve the efficiency, cost, and accountability of chronic health care delivery and will require appropriate medical professional support, training, and role distinction. A range of clinical experience and skills are critical for successful telemonitoring programs. Nurses must rely on critical thinking skills and their ability to verbally assess patients, ask the right questions, and make clinical judgments. Protocols that include customizing parameters to the patient, close monitoring, and case management with input from the whole care team appear to be the best approach.

## V.     Policy Implications

Telemonitoring will never fully replace hands-on clinical care; however, to fully achieve the potential of remote monitoring, programs should invest robustly in training. An expanded effort to share information across remote monitoring programs would accelerate learning and enhance success. Additional research is needed to identify best practices and standards for alerts and intervention. As health care organizations face greater pressure to improve the quality of care while controlling costs, they will need to accurately determine the costs of each of the components of remote monitoring programs and assess their value.