

# Remote Monitoring

Does it promote better patient outcomes?



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## Objectives

- Discuss changes in healthcare and advancements in technology as drivers for interest in remote monitoring
- Explain of structure and variability of remote monitoring systems
- Present outcomes of various remote monitoring programs
- Discuss remote monitoring & ESRD population
- Discuss considerations for development of remote monitoring programs

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## Changing Healthcare Landscape

- More insured individuals
- Growing population of seniors
- More individuals managing multiple comorbid conditions
- Testing payment and service structures
  - Government
  - Providers
  - Payers
  - Educators



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### How does remote monitoring fit into the changing landscape?

- Access to care
  - Brings care to the patient where they are (home, work, school)
- Patient safety & quality
  - Mitigate gaps in care
  - Proactive & preventative
- Patient satisfaction
  - Convenient yet still a sense of connection to providers
  - Patients want technology benefits
- Efficiency
  - Integration into existing workflow
  - Chronic disease burden on system




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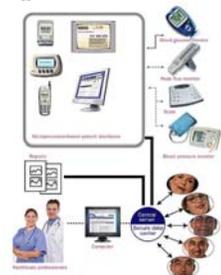
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### How does remote patient monitoring work?

- Devices for collection of data
- Devices for transmission of data
- Service partners – Platform
- Valuable data display & decision support
- Reports and storage
- Reinforcement of education




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### Promoting better patient outcomes?

- Three studies of Continuous Glucose Monitoring for Diabetes demonstrated that, when used per protocol the best outcomes occur. <sup>100</sup>
- One Utah study used three clinics in a tele-monitoring program that resulted in mean A1C decrease from 9.73% at baseline to 7.81% at the end and mean systolic blood pressure declined from 130.7 mm Hg at baseline to 122.9 mm Hg at the end. <sup>101</sup>
- One study showed automated device-based and mobile monitoring were effective in reducing the risk of all-cause mortality and HF-related hospitalizations. <sup>102</sup>
- One review looked at 14 trials that used structured telephone support or tele-monitoring without regular clinic visits for patients with CHF. Pooled estimates showed a statistically significant 20% reduction in all cause mortality with remote monitoring programs. <sup>103</sup>




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Promoting better patient outcomes?

- Small remote monitoring study with 6 patient on CAPD using a tablet platform. No major adverse events and served as proof of concept that this type of platform is a feasible concept for PD. <sup>(8)</sup>
- One PD pilot study demonstrated a decrease in hospital & ER visits and lower costs. <sup>(9)</sup>
- 246 PD patient study in India, divided into rural and urban looked at the impact of telemedicine with results that showed similar technique survival, peritonitis rates and exit site infection rates in both groups. The rural group had better 5-year survival rates. <sup>(10)</sup>




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Remote monitoring has the potential to promote better patient outcomes

- Small studies to date – Varied platforms
- Larger studies are needed for a more definitive claim
- Important to remain open to technology integration
- Special consideration to patient needs
- Intense focus on the RIGHT DESIGN!!




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Remote monitoring program design considerations

- Partner with experts
- Evaluate the needs of the patient population
- Evaluate the needs of the clinicians
- Investigate integration with current systems and workflow
- Data output must be valuable and easy to access, evaluate and address
- Design to decrease burden on clinicians
- Design to decrease burden on patients

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### Summary

Promising data to suggest that remote monitoring and other forms of telemedicine have the potential to promote better patient outcomes.

The ESRD population has the potential to benefit as remote monitoring is already being integrated into chronic disease care.

Collaboration between clinical experts and remote monitoring service providers around thoughtful design is critical to the success of remote monitoring programs.

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### Resources

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### Resources

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