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Conference Abstract

Implementing home telehealth monitoring in patients with a chronic disease: a budget impact analysis.

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Abstract

Introduction: Healthcare decision makers are becoming more interested in the potential benefit of telehealth for remotely monitoring patients with a chronic disease. Results from recent studies, such as the Whole System Demonstrator in the UK, have shown reductions in medical resource use arising from the implementation of telehealth systems. However, few studies have estimated the associated budgetary impact – information required by payers to support informed decisions regarding the adoption of these services.

Aims: The model estimates the short-term budget implications of introducing the Intel-GE Care Innovations™ Guide, under a service contract, for patients with a chronic disease from the perspective of the UK NHS.

Methods: A 3-year budget impact model has been constructed to estimate the impact of using the telehealth system for patients with chronic heart failure (CHF), chronic obstructive pulmonary disease (COPD) or stroke. The model allows payers to estimate the predicted return on investment from the introduction of telehealth in their local area.

Medical resource use calculated in the model included GP visits and nurse visits at home or in surgery, residential care-home admissions, unplanned hospitalisations, A&E visits and ambulance call-outs.

Population and disease incidence and prevalence data for England were taken from the Quality and Outcomes Framework data. Average costs per unit of medical resources, resource use per year for a typical CHF, COPD and stroke patient receiving standard care and estimates of the effects of telehealth monitoring systems on resource use were estimated from published literature on the impact of telehealth systems.

Results: Using the model and assessing the impact of introducing the Intel-GE Care Innovations™ Guide for a population of 500,000, assuming 30% of CHF, COPD and stroke patients who were considered appropriate for telehealth. The model estimated that delivering new care practices that incorporate the Intel-GE Care Innovations™ Guide, under a service contract, could result in cost savings in a short time period through reduced medical resource use; the main driver of the cost saving was a reduction in unplanned hospital admissions.

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Conclusions: With previous capital procurement approaches, the costs associated with implementation can be high, impeding adoption. However the model demonstrates that with service contracts these costs appear more manageable and may be offset quickly by savings in medical resource use.

The model allows payers to see a tailored estimate of the return on investment according to their local area and to consider different scenarios, including the disease area and the intervention type (on-going management or post-acute care). It is anticipated that such flexibility will support business planning moving forward.

It is important to note that actual results will vary. Many factors, such as adherence, type of intervention and the context of the intervention (e.g. rural/urban location); will affect the actual impact of telehealth. As more studies are published on the resource use for patients on telehealth, further analysis on the budget implications can take place.

Keywords:

telehealth, disease management, budget impact, implementation

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