Upgrading Regional ICT Technologies for Integrated Care

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Abstract and Objective

There is universal usage of EHRs among public primary and secondary care providers in the Hospital District. Integration of care between these providers has been supported by healthcare information exchange (HIE) that has been refined from point-to-point messaging to wide-area networks. The aim of this paper was to assess progress achieved by HIE in information access and care management with shared EHRs. This was done by clustering results from both reported and unpublished studies [1]. Initially, eReferral and eConsultation messaging decreased the demand for secondary care services reducing first visits to the outpatient clinic with more patients treated at less cost. Advancing interoperability of federated repositories with a regional locator system (RLS) improved information access and shared EHRs. A usability interview of 30 physicians indicated that HIE benefited 85 % of the patients in one of several ways. Finally, aggregating data from four feeder data and EHR sources into a regional diabetes register (T2DR) allowed monitoring of clinical outcomes and quality of care.

Keywords:

Shared EHR, Health information exchange, eReferral, eConsultation, Record locator service, Diabetes register

Introduction

Consideration of two tiers in clinical ICT may be useful. The information access vision, i.e. using ICT to provide the right information at the right place and time (1st tier), seeks to achieve incremental benefits and often fails to address transformation of processes and reaps mostly modest returns. Using ICT for care management enables successful continual improvements in the process of caring for individual patients and patient populations (2nd tier).

Methods and Results

Over 200.000 *e*Referrals and discharge *e*letters are exchanged annually between primary care and three university hospitals. Interactive messaging offers options for eConsultations. During an eight-month prospective, comparative study with one-year follow-up 292 adult patients were referred to the internal-medicine outpatient clinic. Forty-three per cent of the total number of *e*Referrals ended up in outpatient visits, whereas rest of the patients avoided a visit due to *e*Consultations. Productivity in the outpatient clinic increased threefold [2].

The RLS is applied in 28 public health centers and 20 hospitals for regional HIE by 7.000 professional end-users to view over 200.000 documents monthly. In a controlled study, 60 patients with a conservatively in an A&E clinic treated fracture were followed in either a digital or control primary care center. The incident images were available on-line for GPs from all 41 patients, whereas none of the GPs in control centers tracked these images at the first visit 1-2 weeks later. The time for preparing the digital process by nursing and administrative staff was only 16 % of the staff time needed in the traditional work process and running costs of the process were halved.

T2DR validation was performed against the FinDMII data (national monitoring system). A total of 37 611 diabetics (prevalence 4,6 %) were identified among citizens of two metropolitan cities. Uniform data retrieval and feedback allows comparison of performance with peers and care delivery system redesigns appear to improve the share of diabetics with good glycaemic control and planned visits in primary care.

References

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