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Title

A Clinical Interaction Model with Tiered-Based Outreach via Mobile Notification Increases follow up for Chronic Conditions

Priority 1 (Research Category)

Patient engagement

Presenters

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Abstract

CONTEXT: Ensuring patients with chronic conditions achieve regular follow up is a challenge in primary care. While disease-based algorithms provide guidance for care, many patients need more individualized care plan recommendations that are delivered through mobile applications. **OBJECTIVE:** Develop a tiered-based outreach system that provides follow-up recommendations for patients in primary care. We tested whether these recommendations, delivered through a mobile-app notification system, increased patient follow up.

STUDY DESIGN: We developed an algorithm for assigning patients to different primary health care need tiers based on the Charlson Comorbidity Index (CCI) and the presence of a subset of chronic conditions described by the Medicare Chronic Conditions Data Warehouse. Medical Directors assigned a recommended frequency of primary care visits for each of four tiers. **SETTING/POPULATION:** Primary care patients of a national membership-based primary care delivery system, operating in several metropolitan locations in the US.

INTERVENTION: We ran two randomized experiments to assess whether patients receiving a care recommendation for follow-up via a mobile application were more likely to follow-up than those who did not receive a recommendation. The mobile application is linked to our EHR.

OUTCOME MEASURE: Percentage of patients booking a primary care appointment.

RESULTS: The outreach system classified patients as Tier 1 (CCI=0, no chronic conditions), Tier 2 (CCI=0, at least one chronic condition), Tier 3 (CCI=1 or 2), Tier 4 (CCI>2). In the 8000 patients randomized in Tiers 2 and 3, 17% in the intervention group booked a visit, compared to 9.9% in the control ($p<0.01$). In the 2404 patients randomized in Tier 4, 17% in the intervention group booked a visit, compared to 8.2% in the control ($p<0.01$).

CONCLUSIONS: A tiered-based outreach system based on clinical criteria and delivered via push notifications increases patient engagement for chronic conditions. Future research can look at the clinical outcomes of these outreach methods.