

Moving Electronic Medical Records Upstream

Incorporating Social Determinants of Health



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Background: Knowledge of the biological pathways and mechanisms connecting social factors with health has increased exponentially over the past 25 years, yet in most clinical settings, screening and intervention around social determinants of health are not part of standard clinical care. Electronic medical records provide new opportunities for assessing and managing social needs in clinical settings, particularly those serving vulnerable populations.

Purpose: To illustrate the feasibility of capturing information and promoting interventions related to social determinants of health in electronic medical records.

Methods: Three case studies were examined in which electronic medical records have been used to collect data and address social determinants of health in clinical settings.

Results: From these case studies, we identified multiple functions that electronic medical records can perform to facilitate the integration of social determinants of health into clinical systems, including screening, triaging, referring, tracking, and data sharing.

Conclusions: If barriers related to incentives, training, and privacy can be overcome, electronic medical record systems can improve the integration of social determinants of health into healthcare delivery systems. More evidence is needed to evaluate the impact of such integration on health care outcomes before widespread adoption can be recommended.

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Introduction

Despite growing evidence demonstrating that behavioral and social factors impact short- and long-term health,^{1–15} electronic medical records (EMRs) generally do not capture data on social determinants of health (SDH). In 2013, the IOM convened an expert committee charged with articulating recommendations for SDH domains and measures to include in EMRs.¹⁶ Though there are limited data available evaluating the health

impacts of this integration, prefacing the IOM Committee's final report (due in late 2014), this paper highlights three case studies of EMR platforms that capture and address information on these fundamental mortality drivers.

Case Studies

Case Study 1: Tailoring Electronic Medical Record Social Screening and Referrals to Available Community-Based Agencies

Pediatricians from Johns Hopkins Children's Center Harriet Lane Clinic (HLC) capture families' basic resource needs in a social history section of the pediatrician's note (Figure 1) in their EMR, Epic. Physicians refer families with identified needs to Health Leads, a non-profit organization contracted by the hospital¹⁷ that uses trained college student Advocates, whom the hospital has granted EMR access as cleared hospital volunteers under Health Leads' Business Associates agreement, to link families with local social services. Categories in Epic parallel Health Leads' scope of services. Physicians can check off "Food,"

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The screenshot displays a social history form with the following sections and fields:

- Demographics:** Patient resident status, Family resident status, Household Income (Adequate), CPS involvement (Yes/No), CPS outcome.
- Concerns regarding basic needs:** A grid of checkboxes for education/GED/vocational training, health insurance, none, job resources/job training, food, child care, housing, utilities, and other.
- Day Care/Education/Employment:** Family caretaker during week (Aunt), Family child care provider (Yes/No), Preschool (Yes/No), Number of days per week attending child care/preschool (5), Child care center (Yes/No), Head start (Yes/No), and Prekindergarten (Yes/No).

Figure 1. Epic social history screen shot, Johns Hopkins Children’s Center.

for example, indicating that a family screened positive for food insecurity. Once a referral is initiated, Advocates document a family’s information in a proprietary external application, which includes patient demographics, resource eligibility, referrals, and referral outcomes. Advocates access Epic to receive referrals and communicate outcomes to referring physicians. Because social needs are captured as structured data within physician note templates and Health Leads’ system, reports can enable clinic leadership to study impacts of social needs and resource interventions on individual or population health over time.

Case Study 2: Creating Clinic-Level Efficiencies Through Electronic Medical Record–Based Shut-Off Protection Letters

A common legal need for low-income families is maintaining heat or electricity service after threat of disconnection for non-payment of bills. Many states have legal protections to avoid utility shut-off given the severe potential health consequences of loss of medical devices like nebulizers or respirators. To maintain service in these instances, a utility shut-off protection letter is sent from a healthcare provider to a utility company stating that the provider cares for a patient with a chronic illness and the patient’s treatment depends on utility service. The utility company is then obligated to guarantee uninterrupted service even if a family cannot afford utility bills. Barriers to including shut-off protection letters in clinical care include provider time and training. The medical–legal partnership at Boston Medical Center (BMC), MLP | Boston, devised a legally formatted shut-off protection letter that is now integrated into their EMR (GE Centricity). The provider can auto-populate this letter with the patient’s demographic information, and with the patient’s permission, note that the patient has a chronic serious

condition. Once completed, the letter is printed and sent to the power company and a copy is filed in the EMR.

Adding EMR shut-off protection letters decreased clinician time spent on providing protection letters from an estimated 30 minutes to 30 seconds.¹⁸ As a result of the EMR integration and associated training to increase provider awareness of utility shut-off consequences, there was a 300% increase in the number of completed protection letters in the BMC Pediatrics Clinic—from 193 in 2005–2006 to 676 in 2008–2009—during a time of stable clinical volume, approximately 20,000 outpatient visits a year.

Case Study 3: Using the Electronic Medical Record to Improve Team-Based Care for Homeless Veterans

In 2012, a primary care clinic co-located in the West Los Angeles Medical Center Emergency Department at the Veterans Affairs (VA) Greater Los Angeles Healthcare System (WLA ED) adapted an assessment tool originally developed by the National Center on Homelessness Among Veterans to identify patients who were homeless or at risk of homelessness to improve care for high-utilizer homeless Veterans. Veterans presenting with low-acuity symptoms to WLA ED during clinic hours are now asked about housing needs, including where they slept the preceding night and whether they have housing stability. Screening results are recorded via EMR in clinic notes and via homelessness Current Procedural Terminology codes, thereby facilitating electronic referrals to VA homeless programs, workload documentation, and higher reimbursement rates. In an evaluation conducted between May and December 2012, more than 200 of 400 Veterans seen in the WLA ED were identified as homeless or at risk of homelessness, and 63% of these 200 patients received same-day access to a primary care–

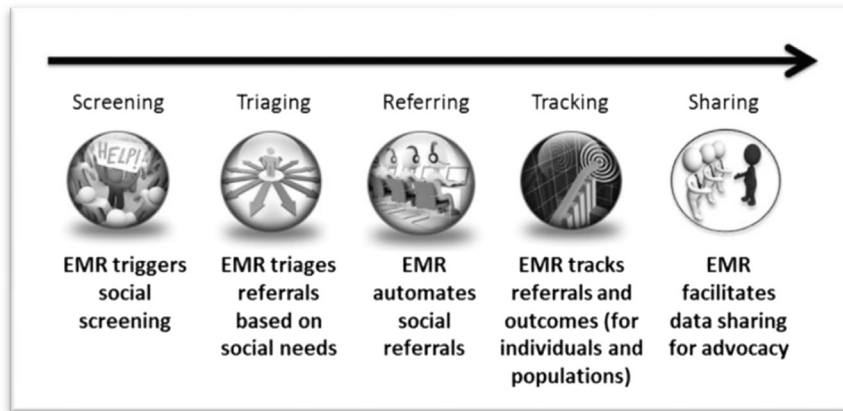


Figure 2. Key functions and facilitators of social determinants of health-EMR integration.

based, multidisciplinary, intensive care management program.¹⁹ In 2013, the initial four-item paper-based screening tool was replaced by a universal assessment of homelessness risk administered via the VA's EMR in all outpatient settings across the country.²⁰

Barriers and Opportunities

When adequately leveraged, electronic platforms improve integration between medical and social service delivery. These case studies highlight EMR features that facilitate this integration, including screening for social needs; triaging these needs and making referrals to internal, external, or automated resources; tracking both individual- and population-level data; and sharing tracked data with community partners (Figure 2).

Across healthcare systems, however, there are challenges to medical and social service integration that must be addressed.^{21,22} For instance, although there are considerable financial incentives to the adoption of EMRs embedded in recent federal legislation, there are not yet explicit financial incentives for clinics to prioritize data collection and resource allocation focused on SDH. Encouragingly, Stage 3 guidelines for EMR meaningful use under Medicare and Medicaid EMR Incentive Programs,²³ Patient-Centered Medical Home accreditation standards,²⁴ and changes in Internal Revenue Service non-profit hospital community benefit laws²⁵ may foster relevant financial incentives. By triaging and automating some referrals, EMRs may help maximize clinical professional efficiency to meet the demand for SDH interventions and follow-up. Healthcare teams will need to adapt roles to ensure members have expertise in relevant social needs and can meet the demand for services in any particular area.

Furthermore, there is little evidence on the best methods for identifying and intervening on SDH. EMRs could provide opportunities to improve the evidence by

improving data accessibility and standardization, linking SDH interventions with health outcomes, and supporting the examination of individual- and population-level data. At the very least, screening questions used in EMRs should be validated, such as the two-question “hunger vital sign” developed by Children’s HealthWatch [Within the past 12 months we worried whether our food would run out before we got money to buy more; and Within the past 12 months the food we bought just didn’t last and we didn’t have money to get more].²⁶

Finally, a comprehensive EMR that includes patient social needs and treatments could enable bidirectional electronic communication between medical and social service providers. This is likely to raise concerns about information privacy and security when social service providers sit outside the clinical setting. Clinics will need to utilize technology that is capable of electronically connecting and safely sharing information across clinical and non-clinical systems.

Summary

New recommendations are likely to be available soon from the IOM regarding SDH domains to include in EMRs. Using these recommendations, healthcare settings may create opportunities to integrate evidence-based SDH metrics systematically into clinical care processes, including functions related to social screening; triaging social needs; making referrals; tracking individual- and population-level data; and sharing tracked data. These could enhance the integration of social services and medical care, and improve health outcomes for individuals and communities.

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