מאיירס-ג'וינט-ברוקדייל
MYERS-JDC-BROOKDALE
مايرس-جوينت-بروكديل

SMOKLER CENTER FOR HEALTH POLICY RESEARCH

Organizational Aspects of Israel's National Health Information Exchange

Bruce Rosen ✦ Yael Ashkenazi ✦ Ofir Ben-Assuli ✦ Orit Karnieli-Miller ✦ Julian Zelingher ✦ Ohad Hochman ✦ Joseph Rosenblum

The study was funded by the Israel National Institute for Health Policy Research

RESEARCH REPORT

RR-758-17

Organizational Aspects of Israel's National Health Information Exchange

Bruce Rosen Yael Ashkenazi Ofir Ben-Assuli Orit Karnieli-Miller
Julian Zelingher Ohad Hochman Joseph Rosenblum

The study was funded by the Israel National Institute for Health Policy Research

Jerusalem November 2017

Editor: Ronit Ben Nun
English translation (executive summary): Naomi Halsted
Layout: Anat Perko-Toledano

Myers-JDC-Brookdale Institute
Smokler Center for Health Policy Research
P.O.B. 3886
Jerusalem 9103702, Israel

Tel: (02) 655-7400
Fax: (02) 561-2391

Website: http://brookdale.jdc.org.il/
e-mail: brook@jdc.org.il

מאיירס-ג'וינט-ברוקדייל
MYERS-JDC-BROOKDALE
مايرس-جوينت-بروكديل

Related Myers-JDC-Brookdale Institute Publications

Ashkenazi, Y.; Gross, R.; Rockoff, Y. and Rosen, B. 2011. ***The ISHA Continuing Medical Education Program at Clalit Health Services: Evaluation Report.*** RR-580-11 (Hebrew).

Rosen, R. and Nissanholtz-Gannot, R. 2010. ***From Quality Information to Quality Improvements – Interim Report: Summary and Analysis of Interviews with Health-Plan Managers.*** RR-562-10 (Hebrew).

Nirel, N.; Rosen, B.; Sharon, A.; Samuel, H.; Yair, Y.; Cohen, A.; Blondheim, O. and Sherf, M. 2010. ***OFEK Virtual Medical Records: An Evaluation of an Integrated Hospital-Community Online Medical Information System.*** RR-556-10 (Hebrew).

Reports and English summaries are available on the Institute website: brookdale.jdc.org.il

Executive Summary

Background

Israel is a pioneer in the nationwide implementation of health information exchanges (HIEs), which facilitate the sharing across organizations of patient-level data on symptoms, diagnostic test results, diagnoses, and treatments. An HIE system was implemented in all Clalit Health Plan hospitals and clinics over a decade ago, and recently this has been expanded to include all of Israel's hospitals and health plans.

The international literature suggests that HIE use can contribute to improved quality, safety and continuity of care while reducing costs. However, it also indicates that clinicians do not always make use of HIEs and of the data made available to them by HIEs, and that the extent of use can depend on a broad range of contextual, technological and managerial factors. However, these factors have rarely been explored empirically, and little attention has been given to the efforts invested in implementing HIEs.

Study Goals

The goal of the study was to explore how senior personnel in Israeli hospitals and health plans perceive the potential contributions of HIE to key organizational objectives; what they perceive to be the facilitators and barriers to HIE use; and what steps they have taken to promote it. A secondary goal was to learn about the extent of use of the HIE system in the hospitals.

Study Methods

The study was based on qualitative analysis of in-depth interviews with senior personnel in all four health plans (17 respondents) and in eight general hospitals (27 respondents); a quantitative analysis of HIE data utilization in hospitals; and a quantitative analysis of a survey conducted among hospital CEOs (91% response rate). The in-depth interviews were analyzed to reflect the issues of concern in the field and they were organized according to category.

Findings

There was consensus among the respondents that the potential contribution of Israel's HIE is substantial and multi-faceted (including cost reduction, quality improvement, and other contributions). There was also widespread consensus that the main contributions to date are to quality, more than to efficiency; to hospital care, more than to community care (particularly according to health plan respondents); and to complex patients, such as those in internal medicine wards (particularly according to hospital respondents).

All of the hospitals have adopted the HIE and made all the HIE data from the health plans accessible to relevant hospital clinicians. In contrast, **the situation among the health plans is more variable;** only two of them have made all the hospital HIE data accessible to the relevant health plan clinicians. The other two have shared with their clinicians the discharge summaries (in PDF format)

as well as alerts about recently discharged patients, but not the coded data from the hospitals about tests, diagnoses and treatments. This is because senior personnel in those two plans are concerned about inconsistencies across hospitals in data definitions and coding practices. These health plans preferred to wait for an improved version of the system that would respond to these problems.

Naturally, this difference among the health plans in the extent of HIE implementation has led to **substantial differences across the plans in the respondents' perception of the contribution of HIE to date.** The representatives of the health plans that have fully implemented the HIE perceive it to have made a substantial contribution to quality improvement, while the other two plans perceive the contributions to date as limited.

All the hospital respondents indicated that they **do not require physicians to make use of the HIE in all cases; instead, that they allow the physicians to decide in which cases to use of the HIE**. Some of the respondents emphasized **the importance of preserving physician autonomy** in deciding when to use the HIE in particular cases. At the same time, there were differences of opinion among the respondents regarding the proportion of the patients for whom HIE can make a significant contribution (from those who believe that the system can contribute to every patient, to those who believe that it should be used only for certain patients – the elderly, complex patients, etc.).

These differences of opinion appear to have contributed significantly to **differences across hospitals in the intensity of efforts to promote HIE use.** In some of the hospitals, promotion of HIE has been limited to launch events (in which senior managers spoke of the importance of HIE and technical staff explained how to access the system). In contrast, in other hospitals, senior managers promote HIE use on an ongoing basis, i.e., by distributing department-level comparative use statistics.

It is possible that these differences in the degree of effort derive from the differences in perceptions as to the extent to which the physicians need encouragement and incentives in order to take full advantage of the system's advantages. Some of the respondents believe that the physicians themselves will identify and understand how much (and for what) the system is useful.

The key factors facilitating HIE use identified by the respondents were:

- The perceived contribution of the data to clinical care
- The ease of access to the data.

Respondents identified a range of **barriers to HIE** use including:

- Inconsistency of data definitions and coding across hospitals and health plans
- Variation across health plans in the breadth of data transferred
- Incomplete integration of HIE data into the main EHR system
- The large amount of time required to find the relevant information
- Inadequate computer access
- Absence of the diagnostic images themselves.

The extent to which clinicians actually make use of the HIE was examined using system-generated data on "coverage rates;" these are defined as the proportion of patient encounters in which a clinician uses the HIE at least once. Data on coverage rates were available for the hospitals, but not for the health plans.

The coverage rates were highest for inpatients, lowest for outpatient clinic patients and intermediate for emergency department patients. For example, 24 months after the HIE was introduced, the median coverage rates in the government hospitals were 27% for inpatients, 18% for ED patients, and 4% for outpatient clinic visits. Overall, the coverage rates tend to be much higher in the Clalit hospitals than in the governmental hospitals, but there is also substantial inter-hospital variation within each of these two major hospital chains.

The findings from **the survey of hospital CEO**s were generally consistent with the findings of the in-depth interviews. However, the survey findings also revealed that, in general, the CEOs think that the physicians should be using the HIE far more than they are actually doing (as found in the analysis of the administrative data). This finding gives hope that the CEOs will invest efforts in promoting the use of the system in their hospitals.

Conclusions

The study found substantial variation across health plans with regard to the extent of HIE implementation and the investment in encouraging its use. It also found substantial variation among hospitals in the extent of use of HIE data and the intensity with which HIE use is being encouraged. There was substantial agreement that the HIE already makes important contributions to care, that the contributions are likely to increase in the future, and that managers can play an important role in encouraging HIE use. Hospital managers believe that HIE use levels should be greater than current levels, and there appears to be overall consensus regarding the types of patients for whom HIE use is particularly important.

Policy Implications

It is important to crystallize an explicit consensus among managers and leading clinicians regarding the types of clinical cases for which HIE use could make a valuable contribution, to monitor the extent of use, and provide particular encouragement for HIE use in those cases. The MOH, in cooperation with the hospitals and the health plans, is in the process of developing a new version of the national HIE that is expected to address some of the system shortcomings cited in this study. Once this system is in place, it will be important to step up efforts to monitor its use at hospital and department levels.

Table of Contents