Effects of an integrated service delivery approach on health care utilization: background & preliminary

a Robert Wood Johnson Foundation Collaborative Research Center project

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I have no relevant relationships to disclose.
IU Collaborating Research Center Partners

• Indiana University Richard M. Fairbanks School of Public Health
• Eskenazi Health
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Research Team

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- Jennifer Long
- Karen Comer
- Mark Bustamante
- Jennifer Ferrell
- ...and many others...
Support the collaboration and partnership of the health care, public health, and social services systems in addressing social determinants of health.

Focus area: the delivery of integrated care services in an urban safety-net population.
Study 1
Impact of integrating social determinant services

Study 2
Social determinants of health decision support

Study 3
Integration of public health into case conferencing

Focus of this presentation
Increasingly, patients require services and expertise that go beyond the traditional scope of health care services.

- Increased emphasis on the social determinants of health
- Increased organizational accountability for health and prevention
- Insufficient time in a single clinical visit to address social, behavioral, environmental, and contextual factors
Examples of social determinant of health services integrated into primary care

- behavioral health
- social work
- dental
- dietetics
- respiratory therapy (includes asthma education)
- financial counseling
- patient navigation
- pharmacy assistance
Measuring the association of between patient receipt of social determinant of health services and avoidable utilization

**Setting - Eskenazi Health**
- Public hospital system serving the Indianapolis, IN area
- 315 bed hospital
- Federally qualified health center (FQHC) operating 10 sites

**Subjects**
- 9 year propensity score matched panel
- Adults
- >1 primary care visit before 1/2011 and >1 primary care visit after 1/2011 (Eskenazi increased offerings of services in 2011)
Indiana Network for Patient Care
• Largest & oldest health information exchange in the nation
• Data from >100 health systems, hospitals, & outpatient providers
• Encounters, demographics, etc.

Social determinant of health services
• Eskenazi Health billing & registration systems
• Orders from the G3 electronic health record system
• NLP of outpatient clinical documents (e.g. visit notes)
Approach: a difference-in-difference like approach in propensity-score matched panel

**Matched sample**
- Logistic regression model estimating the probability of receiving social determinant of health services
- Including: patient demographic characteristics, diagnoses, and prior utilization
- 3 matched controls

**Outcomes**
- Readmissions (30 day)
- Ambulatory care sensitive admissions
- Avoidable emergency department encounters
About our sample (as of making this slide)

- 50,116 individual patients
- 44,078 identified social service encounters (and counting)
  - Navigation ~ 8%
  - Dental ~ 17%
  - Dietician ~ 50%
  - Behavioral health ~ 15%
  - Respiratory therapy ~ 2%
Lessons

• Identifying service delivery data is challenging (especially over time)
  • Multiple systems within a single organization (10 systems)
  • Diverse practices across services, locations, and providers (e.g. actual order, documented in notes, billed...)

• Conceptual issues & labels
  • “integrated services” vs. “co-located services” vs. “wraparound services”
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