Linking Medicaid Claims Data and Safety Net Clinic Electronic Health Record (EHR) Data to Obtain a More Complete Picture of Diabetes Preventive Care Service Receipt among Vulnerable Populations

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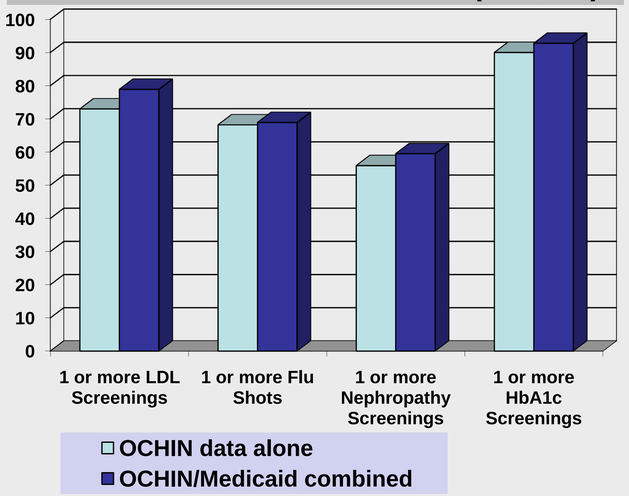
Background and Hypothesis

- Electronic health record (EHR) data can bridge gaps in insurance claims databases, especially for uninsured and underinsured populations.
- OCHIN, Inc. is a community health center-controlled network, which built and maintains a fully-integrated EHR system linking >30 safety net health center organizations across several states with a single medical record for each patient across all sites.
- OCHIN's EHR data has the potential to supplement Medicaid claims.

In a subset of established OCHIN diabetic patients, we tested the hypothesis that EHR data from OCHIN's linked network will contain more complete services utilization data than data found in Medicaid claims.

Figure 1. Percent of OCHIN Diabetics Receiving Preventive Services 2005-2007, According to OCHIN Data Alone and OCHIN/Medicaid Data Combined (n=4,240)



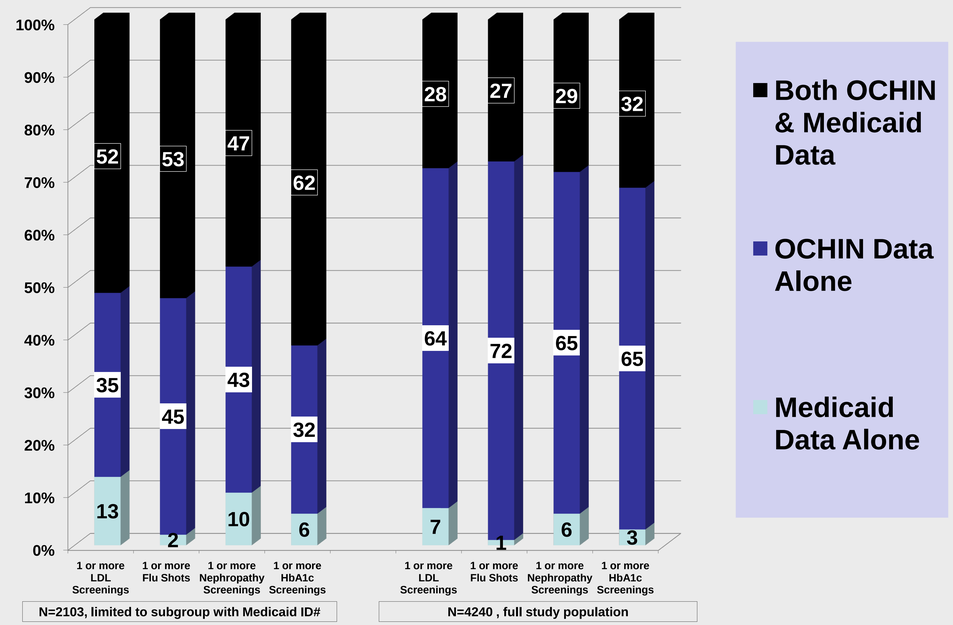
Design and Methods

- ***Objectives:*** To establish linkages between OCHIN EHR and Medicaid claims and to examine congruence between these two data sources.
- ***Data Sources/Population:*** EHR utilization data from 4,240 established patients with diabetes from 50 Oregon safety net sites affiliated with OCHIN. Among those with a Medicaid identification number (n=2,103), we made linkages between OCHIN EHR and Medicaid data, then compared services documented in only OCHIN EHR, only Medicaid, or in both datasets. We selected patients with continuity (>1 visit/year) 2005-2007 and with ≥2 visits associated with a common diabetes mellitus ICD-9 diagnostic code.
- ***Diabetes Preventive Services:*** Receipt of 4 diabetes-specific services: LDL cholesterol screening, influenza vaccination, nephropathy screening, hemoglobin A1c screening (HbA1c). Services were identified using common procedure codes and CPT codes.
- ***Analytical Strategy:*** (1) Assess the frequency of preventive services in the OCHIN EHR data and a combined OCHIN/Medicaid dataset (Figure 1); (2) Determine the number and percentage of services in either the OCHIN dataset alone, the Medicaid dataset alone, or both datasets (Figure 2); (3) Among the subpopulation with a Medicaid ID (n=2,103), assess the frequency of services according to the OCHIN data as compared with the Medicaid data (Table 1). All analyses were conducted in SAS version 9.2.

Table 1. Among Persons with a Medicaid ID# (n=2,103), Percent with Services Documented in OCHIN EHR Data Versus Oregon Medicaid Claims Data (2005-2007)

1 or more LDL Screenings		1 or more Flu Vaccinations		1 or more Nephropathy Screenings		1 or more HbA1c Screenings	
OCHIN Data	Medicaid Data	OCHIN Data	Medicaid Data	OCHIN Data	Medicaid Data	OCHIN Data	Medicaid Data
75.5%	62.6%	70.7%	43.3%	64.9%	45.6%	90.6%	71.9%

Figure 2. Percent of Services Documented in the Medicaid Claims Data Alone, OCHIN Data Alone, or both OCHIN & Medicaid Data



Results and Conclusions

- Few services received by OCHIN patients were missed in the OCHIN EHR data, when compared with Medicaid claims. In contrast, the Medicaid data alone was missing a significant portion of the services documented in the EHR for this vulnerable population of diabetics. As expected, the combination of EHR and claims data together provided the most complete picture.
- Safety net clinics' EHR databases can be linked to claims databases, such as Medicaid, and may prove to contain more robust data for the measurement of primary and preventive care services utilization in vulnerable populations.
- Further, our study demonstrates how safety net clinics can collaborate within information technology networks and effectively partner with researchers to study their own care delivery, to conduct comparative effectiveness research, to impact the translation of evidence into practice, and to inform policies that will make a difference to their communities.

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