Electronic Health Records and Social Determinants of Health: A Collaboration between the New Jersey Department of Health and the New Jersey Hospital Association – Health Research and Educational Trust of New Jersey

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NEW JERSEY HOSPITAL ASSOCIATION - HRET

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Goal

To study the policies and practices of New Jersey hospitals with regard to utilizing electronic health record (EHR) systems to identify and refer at-risk patients to CDC-recognized lifestyle change programs and other supports and resources that address social determinants of health (SDOH)

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Background

NJDOH is federally funded to implement a CDC cooperative agreement titled "Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke" to :

- Assist healthcare organizations in implementing systems to identify people with pre-diabetes and refer them to CDC-recognized lifestyle change programs for Type-2 diabetes prevention
- Promote the adoption and use of electronic health records and health information technology to improve provider outcomes and patient health outcomes related to identification of individuals with undiagnosed hypertension and management of adults with hypertension

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NJHA's EHR Survey Project (Year 1)

- **Survey to assess acute care hospitals' capacity and utilization of EHR systems for identifying patients with undiagnosed hypertension (HTN), prediabetes and high cholesterol**
  - 20 responses, representing 38 hospitals
- **Hospital-specific bulletins and webinars**
  - EHR & Chronic Disease: Analysis of Diabetes and Cardiovascular Disease Management in Data
  - EHR and Chronic Disease Management

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EHR Survey Findings: Review of Patient Data Accuracy

Does your facility have a uniform process for effectively reviewing patient data for accuracy? If yes, for which purpose?

Purpose	# Hospitals Indicating "Yes"	% of Participating Hospitals
QI Control	25	66%
Data Accuracy	25	66%
Audit (e.g., pain, pressure injury)	24	63%
Health Disparities	19	50%

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EHR Survey Findings: Comparison of 2 Sampled Hospitals

Utilization of EHR	Hospital 1	Hospital 2
Monitoring management for patient population	✔	✔
Track patients and condition	✔	✔
Alerting providers for HTN		✔
Prompting to order tests, labs, follow-up		✔
Prompting screening		✔
Notifying provider of uncontrolled condition		✔
EHR offers clinical decision support tools	✔	✔

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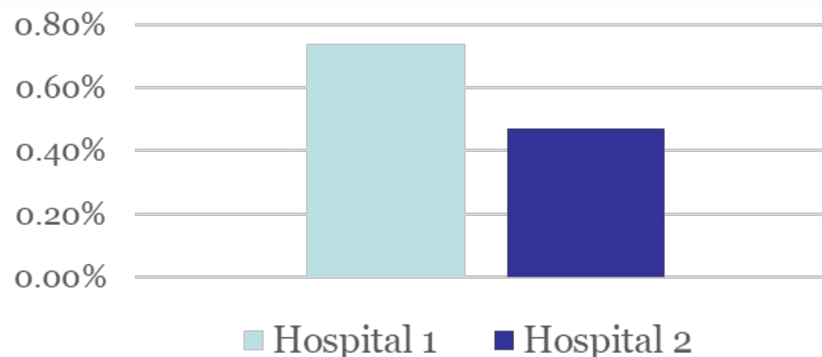
EHR Survey Findings: Comparison of 2 Sampled Hospitals

Hospital 2, which uses EHR more comprehensively to track, manage and follow up on patient conditions, had fewer hypertension complications



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EHR and Social Determinants of Health Project (Year 2)

PROJECT STRATEGIES:

- **Z Code Audit** – Medical records at 13 hospitals sampled to review social determinants of health (SDOH) captured as Z codes in the EHR system
- **Key Informant Interview** – Staff from 12 hospitals interviewed on barriers and facilitators to referral processes that connect patients in need to services and resources that address SDOH
- **Connectivity Analysis** – Deep-dive conversations with staff from 2 hospitals and local community-based organizations on processes for utilizing EHR to identify [illegible] hem to community resources

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SDOH Z Code Audit

- **Z codes are a subset of the ICD-10 classification system used to document non-medical conditions impacting health status**
  - SDOH Z code range: Z55 – Z65
- **Who can document a Z code?**
  - AHA guidelines as of FY22 allowed for documentation of SDOH Z codes by non-physicians
- **When can a coder assign a Z code?**
  - AHA guidelines as of FY23: Only code when documentation specifies associated problem risk factor new limitation

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Race and Ethnicity Data Accuracy

Facility	Race/Ethnicity		
	Hospital-Assigned Race/Ethnicity	Audit-Identified Race/Ethnicity	% Accuracy
Hospital-01	50	50	100%
Hospital-02	50	50	100%
Hospital-03	50	50	100%
Hospital-04	49	50	98%
Hospital-05	50	50	100%
Hospital-06	50	50	100%
Hospital-07	50	50	100%
Hospital-08	50	50	100%
Hospital-09	50	50	100%
Hospital-10	50	50	100%
Hospital-11	50	50	100%
Hospital-12	50	50	100%
Hospital-13	50	50	100%
Total	**649**	**650**	**99.8%**

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SDOH Z Code Capture Rate

Facility	SDOH Z Codes Captured		
	Hospital-Assigned Z Codes	Audit-Identified Z Codes	% Captured
Hospital-01	0	2	0.0%
Hospital-02	2	12	16.7%
Hospital-03	0	5	0.0%
Hospital-04	0	9	0.0%
Hospital-05	8	19	42.1%
Hospital-06	12	24	50.0%
Hospital-07	0	18	0.0%
Hospital-08	2	16	12.5%
Hospital-09	1	8	12.5%
Hospital-10	1	3	33.3%
Hospital-11	1	5	20.0%
Hospital-12	0	5	0.0%
Hospital-13	1	6	16.7%
Total	**28**	**132**	**21.2%**

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SDOH Z Codes Identified by Frequency

Code	Description	Hospital-Assigned Z Codes	Audit-Identified Z Codes	% Captured
Z560	Unemployment, unspecified	4	47	8.5%
Z5900	Homelessness unspecified	11	14	78.6%
Z62810	Personal history of physical and sexual abuse in childhood	2	7	28.6%
Z602	Problems related to living alone	2	5	40%
Z635	Disruption of family by separation and divorce	3	5	60%
Z636	Dependent relative needing care at home	0	5	0%
Z6379	Other stressful life events affecting family and household	0	5	0%
Z5989	Other problems related to housing/economic circumstances	1	4	25%
Z658	Other problems related to psychosocial circumstances	0	4	0%
Z62820	Parent-biological child conflict	0	3	0%
Z638	Other specified problems related to primary support group	3	3	100%
Z653	Problems related to other legal circumstances	0	3	0%
Z555	Less than a high school diploma	0	2	0%
Z597	Insufficient social insurance and welfare support	0	2	0%
Z5941	Food insecurity	1	2	50%
Z5948	Other specified lack of adequate food	0	2	0%
Z597	Insufficient social insurance and welfare support	0	2	0%
Z59811	Housing instability, housed, with risk of homelessness	0	2	0%
Z62811	Personal history of psychological abuse in childhood	0	2	0%
Z630	Problems in relationship with spouse or partner	0	2	0%

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Findings from Interviews & Connectivity Analysis

- For some facilities, the focus on SDOH and collecting data is relatively new and there are no existing champions leading the charge
- For other facilities, addressing SDOH is part of their strategic plan and built into the infrastructure
- Shared goal of establishing processes that are lasting and sustainable
- Identifying and addressing patient needs with appropriate referrals is a high priority
- Referrals are still one-way; need to foster better relationships with local community-based organizations
- earby communities, especially for
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Findings from Interviews:
High Priority Needs with Resources Absent

Unmet Needs	Response Count
Housing	11
Resources are limited	6
Food insecurity	5
Behavioral health	5
Reliable transportation	4
Policy change	2
Home health assistance	2
Insurance coverage	2
Legal services	2
Funding	1
Provider (physician education)	1
Patient education	1
Clothing	1
Addiction services	1
Intensive case management	1

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Recommendations for Providers

- **Establish performance improvement process aimed at raising SDOH Z code capture rates**
- **Establish SDOH coding policies/methodology**
- **Develop automated and workflow processes with EHR to identify patients at risk of developing chronic conditions and with unmet SDOH needs**
- **Examples of best practices:**
  - System flags/alerts for biomarker levels
  - Prompts for asking about and document SDOH information

family advisory councils to

ommunity resources

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Recommendations for Education/Programs

- Share findings with participating facilities to inform them of their current capture rates
- Offer hospital coding teams education on the impact of SDOH on individual and public health; applicable Z codes; and tips on identifying and documenting
- Publish/share findings to broader audience
- Offer seminar on evaluating SDOH Z code capture rates
- Conduct further analysis on which Z codes are under-reported and why

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Next Steps

- NJDOH continues to build on systems to improve outcomes for diabetes and cardiovascular disease
- Focus on Social Determinants of Health and upstream factors
- Focus on how systems interact to improve care and services (bi-directional referral, use of the NJ Health Information Network)

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Thank you!

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