



The Novel Application of a Provider Reminder System to Reorient Patient-Healthcare Interactions

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Objective

Evaluate a method of patient activation to close gaps in quality measures for cancer prevention and screening services.

Evaluate the equality of gap closure by this method for patients without health insurance, patients with HIV, and patients of non-white race.

Background

Nationwide, the gaps in completion of preventive services are significant compared to Health People 2030 goals, and may require healthcare system reorientation to health promotion and prevention.¹ Only 23% of visits among patients ages 18-64 are for preventive care, and this reason decreases as age increases.²

Healthy People 2030	Baseline	Goal
Proportion of visits by adults with obesity that include counseling on weight loss, nutrition, or physical activity (NWS-05)	24.8% (2016)	32.6%
Proportion of females screened for breast cancer (C-05)	72.8% (2018)	77.1%
Proportion of females screened for cervical cancer (C-09)	80.5% (2018)	84.3%
Proportion of adults screened for colorectal cancer (C-07)	65.2% (2018)	74.4%

Closing gaps in the electronic health record system can be measured by a data reporting and visualization system (DRVS). This should be associated with the completion of a preventive service and, therefore, the prevention of cancer. The DRVS Azara also provides a previsit planning tool to be used as a provider reminder system.

4:45 AM Tuesday, April 26, 2022 Visit Reason: HTN FU

DIAGNOSES (2)	HTN-E	Pre-DM	
RISK FACTORS (3)	ASCVD Intermediate (10.26)	BMI	Pre-DM
SDOH (2)	FPL<200%	RACE	

ALERT	MESSAGE	MOST RECENT DATE	MOST RECENT RESULT
Cervical Cancer Screening	Missing		
Colon CA 45+	Missing		
Mammo	Overdue	3/4/2019	
LDL	Out of Range	7/12/2021	124
BP	Out of Range	4/20/2022	155/80
Elevated ASCVD Risk & Statin Rx	Overdue		

OPEN REFERRAL W/O RESULT	SPECIALIST/LOCATION	ORDERED DATE	APPT. DATE
OB - Gynecology	Irby	3/15/2022	5/2/2022

Methods and Innovation

Two quarters of data one year apart were compared (October – December (Q4) of 2020 and October – December of 2021) between two groups of providers who had different methods of utilizing the previsit planning tool. The time periods were selected immediately after the implementation of this innovation, but in order to avoid the initial phase of the COVID-19 pandemic, during which time screening rates for breast, cervical, and colorectal cancers decreased approximately 80%.³

Cases		Controls
Clinical Degrees	Nurse Practitioner and Physician	Nurse Practitioners, Physician Assistant, and Physicians
Full Time Equivalents	Two	Fifteen
Specialties	Family Medicine	Family Medicine and Internal Medicine

The case provider teams shared the tool with the patients for their personal review:

- After the tool was reviewed by the medical assistant or nurse preparing the patient for interaction with the provider, the tool was then shared with the patient by placing the tool on the countertop of the clinic room next to the patient's chair.
- The patient was asked to remove the paper from the clinic room after the interaction with the provider.

In addition to the primary prevention measure of physical activity / nutrition counseling for those with BMI ≥ 25 (CMS 69v9), three clinical preventive screening services were selected: mammography (CMS 125v9), cervical cancer screening (CMS 124v9), and a combination of stool-based and visualization-based approaches to colorectal cancer screening (CMS 130v9). For colorectal cancer services offered by the cases, gap closure among three subgroups at risk for health disparities was further examined: lack of health insurance, those with positive HIV status, and of non-white race. The measures used came from a "Provider Scorecard" available through Azara.

Results

In the fourth quarter of 2020, 7,482 unique patients were eligible for CMS 69v9, physical activity / nutrition counseling, and of these, 1,506 were part of the intervention group. In Q4 2021, 1,495 were part of the intervention group and there were a total of 8,528 patients seen at our clinical site. The number of patients eligible for the other three measures was less.

Both controls and cases had fewer gaps closed in the physical activity and nutrition counseling, but the controls maintained rates above the organizational goal. All groups improved in mammography and pap smears, but colorectal cancer screening was improved only among the controls.

Closed Gaps	Cases Q4-2020	Cases Q4-2021	Controls Q4-2020	Controls Q4-2021
BMI Counseling	1,467 / 1,506 (97.4%)	1,445 / 1,495 (96.7%)	5043 / 5976 (84.4%)	5892 / 7033 (83.8%)
Breast	335 / 484 (69.2%)	325 / 449 (72.4%)	1420 / 1881 (75.5%)	1688 / 2230 (76.0%)
Cervical	430 / 672 (64%)	482 / 657 (73.4%)	1291 / 1989 (64.9%)	1729 / 2463 (70.2%)
Colorectal	470 / 779 (60.3%)	500 / 747 (66.9%)	2302 / 3322 (69.3%)	2677 / 3897 (68.7%)

In the patients seen by the cases and eligible for colorectal cancer screening, the subgroups of the uninsured and nonwhite race showed improvements, but not among those with HIV. Nevertheless, all changes were toward the overall mean.

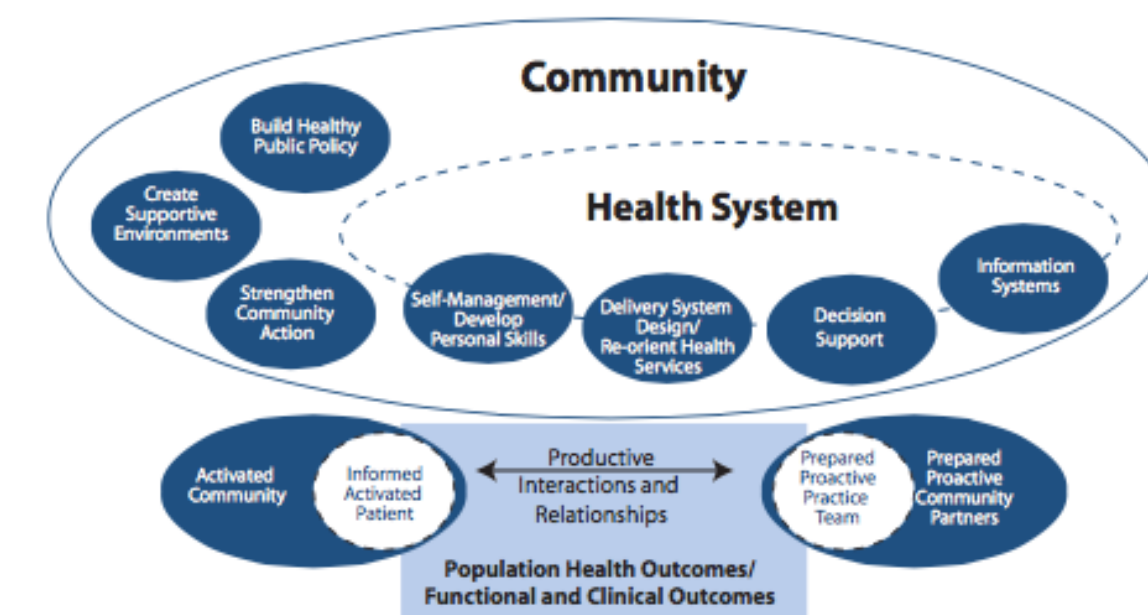
Colorectal Subgroups	Cases Q4-2020	Cases Q4-2021
Total Colorectal	470 / 779 (60.3%)	500 / 747 (66.9%)
Uninsured	36 / 106 (34.0%)	48 / 107 (44.9%)
HIV Positive	23 / 31 (74.2%)	19 / 27 (70.4%)
NonWhite	290 / 456 (63.6%)	295 / 428 (68.9%)



Conclusions

This method of patient – healthcare system is associated with comprehensive and equitable improvements in gap closure for early detection of cancer. Progress on closing gaps may be enhanced with reorientation of healthcare delivery by health professionals, especially when strengthening the central role patients have in managing their own care. Further replication of this model could provide a template for primary care health professionals to reduce cancer deaths through 2030 and beyond.

This is consistent with recommendations from the cancer workgroup of Healthy People 2030 to incorporate at least two approaches for the prevention of colorectal cancer, and with a theoretical framework for system reorientation from the expanded Chronic Care Model.⁴



References

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- Barr VJ, Robinson S, Marin-Link B, Underhill L, Dotts A, Ravensdale D, Salivaras S. The expanded Chronic Care Model: an integration of concepts and strategies from population health promotion and the Chronic Care Model. Hospital Quarterly. 2003; 7(1):73-82. [Link](#)

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