Prioritizing Adult Vaccination and Building a Comprehensive Process

HIGHLY PROGRESSIVE, INTERNATIONALLY–RECOGNIZED IDS

This case study is from a highly progressive, internationally-recognized integrated delivery system (IDS) in the Midwest that cared for over 1.3 million patients from all 50 states and 143 countries in 2015. In addition to a large national and international patient population, the system also delivers primary care services to 140,000 patients living in the local geographic area.

During the past several years, like many health systems in the United States, the organization has acquired numerous affiliated satellite locations and new health care providers to increase the size of our network. Despite adding these locations and health care providers, Population Health Management and the wellness of the patient community remain top priorities.

The clinical practice areas that use the clinical decision support tool in the electronic health records (EHR) have vaccination rates above the national average and *Healthy People 2020* goals. In fact, **for one of the adult vaccines, the vaccination rate is twice the national average.**

Assessing Rates Reveals Opportunity With Adult Vaccination

The Adult Immunization Schedule recommended by Advisory Committee on Immunization Practices (ACIP) has become increasingly complex in recent years. The pediatric and adolescent schedules are primarily based on age of the child; however, the adult schedule is more nuanced. In addition to age, the vaccine recommendations also depend on underlying diagnoses and medications.

Many older patients have multiple medical problems. The organization realized that physicians caring for these patients have limited time during the medical appointment to address all the acute issues in addition to the many recommended preventive services; this led to inconsistent reviewing of vaccine history and missed opportunities to recommend vaccines. Nursing protocols are one way to fill this gap in preventive services, and the vast majority of patients received vaccines by protocol. The protocols, however, guide the nurse in determining that a vaccine is appropriate to give to an individual patient – they do not alert the nurse that the patient needs to receive the vaccine.

As a result, vaccination rates in adult patients were suboptimal compared to organizational goals. Additionally, the organizational growth of affiliated provider practices and practitioners presented the need to standardize clinical processes in such a way that they are able to be replicated by all health care providers for all preventive services, not just for vaccination.

Building the Process to Prioritize Adult Vaccination

Training and Education of Staff

The organization created an internal website that serves as a resource for comprehensive vaccine information for its health care providers. It provides adult vaccination schedules, vaccine recommendations, indications, and contraindications, and summarizes updates from the ACIP. Health care providers can also submit questions to internal organizational vaccine experts through the website. Questions are answered within 2 business days. There are 5 to 10 questions submitted each week. About 25% of the questions are related to processes specific to the institution. The rest of the questions are either general vaccine questions or questions about a unique patient situation.

Use of Health Information Technology for Clinical Consistency

Primary care physicians typically have 15 to 30 minutes for each visit, and most of their time is spent addressing acute problems, leaving little or no time to address preventive services. To help the focus on prevention, the organization developed a computerized analytical tool that overlays the EHR and is able to search the record for patient demographics, past diagnoses, medication list, and past vaccination and other relevant medical history.

Clinical decision support based on current guidelines, including ACIP recommendations, is then applied, and the health care team is presented with a list of recommended preventive services on a screen within the EHR. This includes all recommended adult vaccinations. Services that the patient is overdue for appear in red. A customized patient version can be printed and shared with the patient.

Standing Orders for Nurses

The vaccine logic in the clinical decision tool is reviewed annually as well as whenever new ACIP vaccine recommendations are published. The recommendations for preventive services are visible to all members of the health care team and are included in the patient rooming packet.

This enables the nursing staff to start a discussion about the recommended vaccines and administer vaccines by nursing protocol even before the provider sees the patient. If patients are uncertain about vaccination, the provider is notified and can clarify/reiterate vaccine recommendations.

Steps Taken to Prioritize Adult Vaccination

Identified a health care leader to champion vaccination

Engaged the entire health care team in vaccination

- Determined insurance coverage of vaccines prior to a patient's appointment.
- Provided comprehensive vaccine education to all health care providers.
- Implemented nursing protocols and standing orders.

Implementation

The computerized analytical tool overlaying the EHR was first piloted in the Primary Care Internal Medicine Practice. It was well received by physicians and nursing staff, and the number of adult patients receiving preventive services increased substantially. A similar effect was noted in a second pilot in the Family Medicine Practice. This process was then rolled out to the other adult primary care practices and subsequently throughout the Department of Medicine in the main site of the organization.

The disparate EHR systems used in affiliated clinics and practices were a limiting factor in expanding the use of the clinical decision support tool. Therefore, the organization is moving to a single EHR across the entire organization. This will make it easier to implement decision support tools across multiple sites.

Measurement and Impact

In each of the two pilot areas, in the first month after implementation of the computerized analytical tool in the EHR, the number of doses administered of one of the adult vaccines doubled. Overall vaccination rates for this vaccine have continued to increase throughout our organization. The clinical practice areas where this tool is in use currently have vaccination rates of this vaccine that are twice the national average. The vaccination rate is also considerably higher than the *Healthy People 2020* goal.

Actions Taken to Improve Vaccination

Adult catch-up protocol

- When patients turn 59.5 years old, outbound communications are sent via the patient portal or hardcopy mailings to inform patient of missing vaccines.
- Customized messages from the patient's provider are sent and continue every 6 months until the patient takes action.

Assessed vaccination needs at all patient encounters

- Administered (or co-administered) missing vaccination(s) when a patient was in the office/clinic.
- Included vaccination in the template for annual physicals and Medicare Well Visits.
- Vaccinated prior to procedures or treatments which could alter a patient's immunocompetency.

Conducted vaccination clinics

Sustainability and Next Steps

The organization has implemented similar clinical decision support prompts to health care providers in the EHR for additional adult vaccines. Additionally, efforts are underway to generate patient notifications based on the alerts, so that patients can be reminded about vaccines that they are due for even if they are not being seen in person. These patient reminders can be sent via the patient portal or sent as a hardcopy mailing to patients who do not use the portal.

This highly progressive integrated system is committed to routine assessment of each component of its comprehensive process to ensure that adult patients receive recommended vaccinations. The commitment is to provide patient-centered care and to ensure that patients have access to preventive health on a routine, ongoing basis. Vaccination is a part of that priority.

Summary of the Organization's Key Learnings

Establish clinical decision support systems to improve preventive care

- Use a computerized analytical tool overlaying EHR to search patient health information.
- Provide a list of recommended preventive services including age- and medical condition-appropriate vaccines.

Utilize EHR functionality to achieve clinical consistency at Point of Service

- Create Alerts, Reminders, Order sets to ensure adult patients receive indicated vaccinations based on ACIP recommendations, ICD-10® codes, and/or patient age.
- ePrescribe vaccinations not administered in the office.

Outreach communication to engage and educate patients

- Identify subsets of patients who may need vaccination by querying on age, ICD-10® code, CPT® code of missed vaccination to encourage these patients to make appointments so they can get vaccinated.
- Provide disease information prior to appointments or about follow-up actions needed.

The content of this Case Study has been drafted, reviewed, and approved by an authorized representative from the Healthcare System. The specific integrated delivery system's name has been withheld as a requirement of that organization.

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VACC-1166631-0000 05/16