Utilizing the EMR to Guide QI Initiatives in Primary Care Settings in South Texas

South Central Area Health Education Center
The Team

- Paula Winkler, M.Ed, South Central AHEC
- Belinda Flores, RN, South Coastal AHEC
- Raquel Lozano Romero, MD, Family and Community Medicine
- Jose Sosa, MD, Private Practice, Pearsall, Texas
- Amistad FQHC, Corpus Christi, Texas

- Facilitator: Hope Nora, PhD

Sponsor Department:

South Texas AHEC Program & Department of Family and Community Medicine
Aim Statement

The aim of this project is to improve the process of documenting in the Immunization Section of the Outpatient EMR for patients age 60 and over at two South Texas clinics by January 10, 2014. Improvement goal target is 30% over baseline level of each site.

The process begins when the patient reports for a clinic visit and ends when the documentation for that visit is entered in the EMR. This is important to improve because timely immunization of the targeted population is a major public health safety concern.
Project Milestones

- Team Created: July 2013
- AIM statement created: September 2013
- Weekly Team Meetings: Sept – Jan 2014
- Background Data, Brainstorm Sessions, Workflow and Fishbone Analyses: September 2013
- Interventions Implemented: Oct – Nov 2013
- Data Analysis: December 2013
- CS&E Presentation: January 2014
What the “heck” is AHEC?
Area Health Education Center

- Since 1996 the South Central AHEC has worked with area school districts, colleges, universities and regional community based partners to increase the capacity of communities to address the unmet and disparate health needs of their citizens.
- The mission of the South Central AHEC is to improve access to quality health care through facilitation of community-based health professionals training programs and initiatives.
- Of particular concern is the health of the population 60 years and older who reside in the rural and underserved areas of AHEC service area.
- Immunization for illnesses such as the flu, pneumonia and shingles is one means of assuring the long term health of this group.
- To this end, it is critical that the information documented in the EMR immunization section be accurate and current.
Project Sites

- Two underserved sites were selected for the project.
  - 1. Pearsall, Texas (rural): A private practice. There is one physician and his sister is the Office Manager. As is common in many small rural towns, office staff turnover is high because the younger citizens often move to larger towns. It is not uncommon for the physician to be the only individual who maintains the data in the EMR.
  - 2. Corpus Christi, Texas (underserved)- Amistad Community Health Center, an FQHC, was founded in 2005 as a non-profit, faith-based organization aimed to address the growing number of community members lacking health insurance, a primary care provider, and a place to receive affordable, quality medical attention.
Clinic Flow

- Patient Arrives
- Check in
- Paperwork and Insurance verification
- MA takes patient to exam room
- MA opens EMR

EMR prompts any missing preventive measures missing or due

If prompted on immunizations pending, MA will query patient if vaccines have been received, reviews list and updates chart

Tabs on VS, history, med list and chief complaint

Physician reviews EMR before entering room and also reviews missing preventive measures

Pt receives vaccine

Noted in chart

If vaccines pending will recommend

Patient refuses

EMR will continue to prompt at each visit
<table>
<thead>
<tr>
<th>Project Activities</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create the chart Audit tool</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Data Chart Abstraction</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Chart Abstraction Time Frame</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic Report Preparation</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Box Preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clinic Members Training</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic Report Delivered</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Box Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Bi-Weekly Performance Reports</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Chart Abstraction</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic Report Preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Final Clinic Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
## Screening Tool

**Critical Elements: 12 items**

- Gender
- Ethnicity
- Insurance
- Type of Insurance
- Immunization Status for both Zoster and Pneumovax
- Was vaccine recommended to patient, Yes or No
- Received, if so When & Where?
- If Declined, reason why?
- Where there contraindications, if so, what?
- Area of EMR where immunizations documented

### Eligibility Criteria

- Patient’s age at last office visit: __________ Date of last office visit (mm/dd/yy): __________
- Is the patient at least 60 years of age? __Yes*__ __No__
- Has the patient been established in your practice for at least 12 months? __Yes*__ __No__

*Response must =YES for patient chart to be eligible

### Demographics

<table>
<thead>
<tr>
<th>Field</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male, Female</td>
</tr>
<tr>
<td>Ethnicity or race</td>
<td>Hispanic, Black, Asian, White</td>
</tr>
<tr>
<td>Zip code</td>
<td>__________</td>
</tr>
<tr>
<td>Does the patient have insurance?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>If yes, what type of payment plan?</td>
<td>Medicaid, Private, Other</td>
</tr>
</tbody>
</table>

### Immunization Status

- **Zoster**
  - During the past 12 months, did the vaccine was recommended to this patient? __Yes__ __No__
  - Received: Yes __Date__ Where: At the clinic __Outside__ Documented __
  - Declined: Yes __Date__ __Why__
  - Contraindication: Yes __Date__ __Why__
  - Area of EMR where information was documented:

- **Pneumovax**
  - During the past 12 months, did the vaccine was recommended to this patient? __Yes__ __No__
  - Received: Yes __Date__ Where: At the clinic __Outside__ Documented __
  - Declined: Yes __Date__ __Why__
  - Contraindication: Yes __Date__ __Why__
  - Area of EMR where information was documented:

### Factors Contributing to Lack of Immunization

- If one or more of the above vaccines NOT received, check which vaccine and the factor(s) applies
  - Zoster __Pneumovax__ Immunization deferred due to illness or injury
  - Zoster __Pneumovax__ Immunization records missing or incomplete
  - Zoster __Pneumovax__ Insurance coverage or cost issues
  - Zoster __Pneumovax__ Patient uncertain of immunization status
  - Zoster __Pneumovax__ Vaccine not available in practice
  - Zoster __Pneumovax__ Vaccine not considered indicated for this patient at this time
  - Zoster __Pneumovax__ Other factors contributing to this patient’s lack of immunization: [please describe]
### Eligibility Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Response Must = YES for Patient Chart to be Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient's age at last office visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of last office visit (mm/dd/yy)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the patient at least 60 years of age?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the patient been established in your practice for at least 12 months?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Demographics

1. **Gender**
   - Male
   - Female

2. **Ethnicity or race?**
   - Hispanic
   - Black
   - Asian
   - White

3. **Zip code:**

4. **Birthdate (mm/dd/yy):**

5. **Does the patient have insurance?**
   - Yes
   - No

6. **If yes, what type of payment plan?**
   - Medicaid
   - Private
   - Other
   - Medicare
   - Self-Pay
   - None

### Immunization Status

#### Zoster Pneumovax

- **During the past 12 months, did the vaccine was recommended to this patient?** Yes | No
- **Received: Yes** Date | Where: At the clinic | Outside | Documented
- **Declined: Yes** Date | Why:
- **Contraindication: Yes** Date | Why:

Area in the EMR where this information was found

#### Pneumovax

- **During the past 12 months, did the vaccine was recommended to this patient?** Yes | No
- **Received: Yes** Date | Where: At the clinic | Outside | Documented
- **Declined: Yes** Date | Why:
- **Contraindication: Yes** Date | Why:

Area in the EMR where this information was found

If one or more of the above vaccines NOT received, check which vaccine and the factor(s) applies

- Zoster Pneumovax  Immunization deferred due to illness or injury
- Zoster Pneumovax  Immunization records missing or incomplete
- Zoster Pneumovax  Insurance coverage or cost issues
- Zoster Pneumovax  Patient uncertain of immunization status
- Zoster Pneumovax  Vaccine not available in practice
- Zoster Pneumovax  Vaccine not considered indicated for this patient at this time
- Zoster Pneumovax  Other factors contributing to this patient’s lack of immunization: (please describe)

### Total 12 points
Sample of chart audit data collection tool

- Important Elements in the EMR
  - From chart 1 =____
  - From chart 2 =____
  - From chart 3 =____
  - From chart 4 =____
  - From chart 5 =____
  - From chart 6 =____
  - From chart 7 =____
  - From chart 8 =____
  - From chart 9 =____
  - From chart 10 =____

- Important Elements in the EMR
  - From chart 11 =____
  - From chart 12 =____
  - From chart 13 =____
  - From chart 14 =____
  - From chart 15 =____
  - From chart 16 =____
  - From chart 17 =____
  - From chart 18 =____
  - From chart 19 =____
  - From chart 20 =____
Corpus Christi Clinic Pre-Intervention Data
EMR Immunization Section
Critical Data Elements Documented
Plan/Do

Intervention

- Training session to entire staff on importance of immunization/prevention
- Small training session for MAs to allow discussion, ideas and feedback for what would work best.
- Provide a tool kit to the staff with handouts, flyers and information sheets on the immunizations for patients over 60 years.
- Commitment from staff to promote prevention/immunizations
- Follow up with staff to review process and progress

Implementation

- Change of EMR prompt to include Zoster and Pneumovax
- Staff consent that MAs will document in the immunization tab.
- Provided tools will be implemented in patient rooms and waiting areas
- Commitment from staff to promote prevention/immunizations
- Commitment to show improvement by next chart audit.
Are you 60 Plus? You May Be Eligible

- **Shingles** (Zoster) Vaccine: once, only for adults over 60 yrs.
- **Pneumonia** (Pneumococcal) Vaccine: two if under 65 yrs., one if over 65 yrs.
- **Flu** (Influenza) Vaccine: every year

Not sure? Ask us and get up to date!!
It may save your life!!
**Are You 60 Plus?**

<table>
<thead>
<tr>
<th><strong>Flu</strong></th>
<th><strong>Shingles</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza Vaccine:  every year</td>
<td>Zoster Vaccine:  once, only for adults over 60 yrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Pneumonia</strong></th>
<th><strong>Tetanus &amp; Whooping Cough</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal Vaccine:  two if under 65 yrs;  one if over 65 yrs</td>
<td>Tdap Vaccine:  One Tdap, then TD booster every 10 years</td>
</tr>
</tbody>
</table>

Let us know if you have any questions, or are due for an immunization.
Pearsall Clinic Pre and Post Intervention Data
EMR Immunization Tab
Critical Data Elements Documented

% increase = 94%
Corpus Christi Clinic
Pre and Post Intervention Data
EMR Immunization Section
Critical Data Elements Documented

% increase = 33%
Healthcare Costs (ROI)

**Zoster**
- No Insurance = $250
- With Insurance = $60 co-pay
- ER Visit = Average Cost $1365 per visit
  - 100 patients x $1365 = $136,500 versus
  - 100 patients x $250 = $25,000

**Pneumovax**
- No Insurance = $25
- With Insurance = Free
- ER Visit = Average Cost $1365 per visit
  - 100 patients x $1365 = $136,500 versus
  - 100 patients x $25 = $2,500

Total Savings: $111,500

Total Savings: $134,000
An ounce of prevention is worth a pound of cure...Benjamin Franklin

- HEB pharmacy called and asked, “What are you guys doing over there? We have had a big increase in immunization requests, especially Zoster.”
- “You have given us focus, we were totally unaware of this issue before. You are a true change agent for our practice.”
- “We just didn’t think it was that important.”
- “This project allowed us to learn how to maximize the features of the EMR for prevention.”
Project ROI

**Net Return**
- Total Savings = $245,500

**Project Cost**
- Materials, Supplies, Travel, Telephone = $500.00

ROI Index: 491
Staff commits to promote immunizations as part of preventative care
¡Muchas Gracias!