Data driven, technology assisted patient outreach to close gaps in pneumococcal vaccination
Optum One: Intelligent health analytics platform
Accelerating the data and analytics value chain

Clean, normalize and validate data

Transform data into actionable insights

Aggregate data from across the continuum

Orchestrate actions to improve outcomes

DATA
Clinical, claims, care management, socio-demographic

ANALYTICS
Population health and quality, Network and risk management

INTEROPERABILITY
Open, standards-based API, HL7v2, direct messaging

ACTION
Registry management, Care coordination, Patient engagement, Measurement & optimization
Longitudinal Medical Record

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR</td>
<td>Clinical + Billing + HL7s (SIUs for scheduling data)</td>
</tr>
<tr>
<td>Adjudicated Claims</td>
<td>May be provided from CMS or commercial payers.</td>
</tr>
</tbody>
</table>
Technology Partner: Emmi Solutions

Background:

Based in Chicago with 14 years experience
300+ provider and payer clients, 96% customer retention
2015 Top Ranked Outreach Vendor by KLAS
Patented communication platform engages patients via Web, Mobile, IVR, and SMS
NCQA pre-validated to meet PCMH criteria

Customers (sample):

- Hackensack UMC
- Centura Health
- Cleveland Clinic
- Stanford Health Care
- Houston Methodist
- Johns Hopkins Medicine
- Dignity Health
- Presence Health
- NorthShore University Health System
- Mercy

Products

- **EmmiPrevent** – proactive, IVR patient outreach campaigns to close gaps in care

- **EmmiEngage** – multi-media coaching programs to help patients take an active role in their care

- **EmmiTransition** – multi-media communication post discharge to ensure the patient’s recovery is on track
How it works
Patient Engagement Program Overview

Each organization’s patient outreach campaigns are deployed to a selected population based on individual priorities and available resources.

1. **Site-specific kickoff**
   - Program awareness & training
   - Gather information about organizational priorities
   - Review customization options

2. **Identify patients in Optum One**
   - Patients 65+, High-Risk or At-Risk 19-64
   - Naive or needing second pneumo vaccine
   - Targeted population reviewed, ‘cleaned’ and configured for outreach

3. **Initiate interactive phone recording outreach**
   - Deliver vaccination message and scheduling information
   - Facilitate appointment with phone transfer

4. **Vaccination visit**
   - PCV, PPSV, Booster
   - Pneumo vaccine information
   - Capture as usual in EMR (Optum One will extract)

5. **Measure & manage outreach performance**
   - Program analysis
   - Identify ongoing opportunities
   - Report impact
Patient Engagement Campaigns: Set Up and Customizations

1. **Site-specific kickoff**
   - Review options and customizations
   - Identify participating practices/providers
   - Review populations available for outreach
   - Review/configure staff training templates/FAQs

2. **Identify patients in Optum One**
   - ‘Clean’ data of missing/bad phone numbers and zip codes; consider geographic proximity
   - Review and modify the list manually as desired

3. **Outreach configuration**
   - Determine days/hours for outreach to occur
   - Determine Call ‘throttling’ setting
   - Determine where incoming calls will be directed

4. **Measure & manage program performance**
   - Biweekly updates of campaign status
   - End of campaign assessment of vaccination status changes
   - Additional support for organization specific custom analytics
How is it going?
AI 2.0 Patient Engagement Pilot Progress as of September 30, 2017

- 5 provider groups participating in a targeted IVR outreach campaign
- Total unique patients called to-date: **41,282**
- Additional campaign outreach planned across groups for Oct 2017 – Jan 2018

### Response Rates Among Patients Called

- **Patient "Engaged"**: 44%
- **Patient Unavailable**: 36%
- **Hung Up**: 13%
- **No Answer**: 6%

### Outcome Rates Among “Patients Engaged”

- **Told Due**: 3%
- **Given Scheduling Info**: 45%
- **Transferred to Schedule**: 42%
- **Already Completed**: 10%
# Campaign 1 Characteristics

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach population</td>
<td>Measure 1 [need both]</td>
<td>Measure 1 &amp; 2 [need 1+]</td>
<td>Measure 1 [need both]</td>
<td>Custom list [all measures]</td>
<td>Measure 1 &amp; 2 [need 1+]</td>
</tr>
<tr>
<td>Patients called</td>
<td>8,739</td>
<td>11,449</td>
<td>13,499</td>
<td>In progress 8,149 targets</td>
<td>In progress 739 targets</td>
</tr>
<tr>
<td>Call hours/wk</td>
<td>24 - 30</td>
<td>21</td>
<td>14</td>
<td>4</td>
<td>In progress</td>
</tr>
<tr>
<td>Call diffusion</td>
<td>60 transfer numbers</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Campaign Duration</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>16 weeks</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>How call is ‘announced’</td>
<td>Clinic</td>
<td>Provider</td>
<td>Organization</td>
<td>Provider</td>
<td>Clinic</td>
</tr>
<tr>
<td># Engaged</td>
<td>4236 (48%)</td>
<td>5761 (50%)</td>
<td>5598 (41%)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Change in vaccination status [engaged pts]</td>
<td>379 (8.9%) (over 11 weeks)</td>
<td>~370 (6.4%) (over 8 weeks)</td>
<td>378 (6.7%) (over 19 weeks)</td>
<td>TBD</td>
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Tips for a successful campaign
Right Size the Population

- Consider population size and/or prioritized populations

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<th>Provider Group</th>
<th>Measure 1</th>
<th>Measure 2</th>
<th>Measure 2a</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>39,226</td>
<td>26,818</td>
<td>66,866</td>
</tr>
<tr>
<td>B</td>
<td>6,366</td>
<td>5,521</td>
<td>15,195</td>
</tr>
<tr>
<td>C</td>
<td>235,749</td>
<td>162,236</td>
<td>175,607</td>
</tr>
<tr>
<td>D</td>
<td>8,587</td>
<td>6,130</td>
<td>13,027</td>
</tr>
<tr>
<td>E</td>
<td>282</td>
<td>411</td>
<td>959</td>
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- Focus on motivated providers/practices
- Use ‘risk stacking’ to prioritize outreach populations
What is Risk Stacking?

There is growing evidence “that among adults with multiple at-risk conditions, pneumococcal disease rates are notably high and are comparable to those among adults with high risk conditions.” This observation has been defined as “Risk Stacking”.

- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4438900/

Rethinking Risk for Pneumococcal Disease in Adults: The Role of Risk Stacking

Stephen I. Pelton, Kimberly M. Shea, Derek Weycker, Raymond A. Farkouh, David R. Strutton, and John Edelsberg

1 Boston University Schools of Medicine and Public Health, 2 Boston Medical Center, and 3 Policy Analysis Inc., Brookline, Massachusetts; and 4 Pfizer Inc., Collegeville, Pennsylvania
Number of Risk Factors

- 1 of 4: 82% (91,000)
- 2 of 4: 15% (16,735)
- 3 of 4: 2% (2,614)
- 4 OF 4: 0.5% (548)

Total: 110,897

19,897 (17.5%) 
3162 (2.5%)
Clean the data

- Clean up phone numbers
  - Missing
  - Geographically implausible
- Look for missing zipcodes
  - May be used to drive call times
- Clean up email addresses
  - noemail@123.com

“Connect” early

- Bring the call as close to the patient-provider connect as possible
  - ABC Healthcare v. Busy Clinic v. Dr Smith
- Decisions heavily influenced by provider attribution in the data
Timing (is everything)

- Prepare/train staff to facilitate incoming calls
- Balance outgoing calls against staff resources available to process patient appointment requests and answer questions
  - Will transfers be offered for immediate scheduling?
  - Will calls go to a central scheduling number or to individual practices?
  - What hours can staff process extra calls?
  - How many calls can staff take per ‘x’ time period?
    - i.e. 1 call q 10 min; max of 4 per hour
How long will it take?

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Thank you.

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