HIMSS Davies Award Site Visit

Ambulatory Process Improvements

Michael Sheinberg, MD
Medical Director of Medical Informatics

Jennifer Stephens, MD
Medical Director, LVPG & LVHN ACO

© 2015 Lehigh Valley Health Network
Ambulatory Care Process Improvement

Agenda

- Local Problem
  - Fragmented EMR and lack of patient engagement
  - Need for unified EMR and patient portal

- Design and Implementation
  - Portal benefits
  - Strategy for implementing
  - Results

- How Health IT was utilized
  - Portal functionality case studies
  - eVisits
  - Patient entered questionnaires

- Value Derived
  - Clinical outcome improvement
  - Real-time data reflects tangible program improvements
Ambulatory Care Process Baseline

The Local Problem
Ambulatory Care Process Baseline

5 Fragmented EMR’s = Fragmented Care
- Niche Systems
- Restriction of Access
- Scheduling Inefficiencies
- Absence of Shared Communication
- Lack of Patient Engagement
Ambulatory Care Process Baseline

- Average ambulatory registration time was **7 minutes and 40 seconds**
- Baseline metric **41.4 minutes** for overall encounter time per visit
- Patient satisfaction at the **39th percentile** for the Press Ganey Access Bundle
- Exchange of information Electronically: **None**
- Average no show rate for all Ambulatory practices: **7%**
- Average % of Patients Communicated to between Visits: **34%**
- Access % New PCP Appointments within 2 weeks: **26%**

1,000+ Practitioners, 45 Specialties, 200+ Sites

2.2 Million visits/year

400,000 Patients (>1/2 Lehigh Valley’s population)
Ambulatory Care Process Baseline

**Key Component:**
Robust Patient Portal

- Unified EHRs
- Operational Standards
- Internal and External Marketing
- Vibrant Utilization
- Functionality and Integration
Ambulatory Care Process Improvement

*Design and Implementation*
Ambulatory Care Process Improvement

*Patient Portal – Good for Providers, Good for the Organization*

- Reduced costs with online test results
- Fewer phone calls
- Less time spent charting with online questionnaires
- Decreased no-shows and money saved with online scheduling
- Enhanced patient loyalty
- Lower costs with online bill pay
- Increased revenue and time saved with E-Visits

“I can provide care and interaction between visits and make the time in front of my patient, face-to-face, more meaningful”

“We get to have a healthcare connection with our patients that finally transcends an office visit. . . a closer bond”
Ambulatory Care Process Improvement

Proactive identification of several priority areas of focus that would contribute most significantly to the portal’s success:

- **Education** for new functionality to patients, providers, and staff
- **Marketing** to empower patients to seek activation
- **Network** priority to aim for higher enrollment percentage rates
- **Support** for patients, providers, and staff

✔️ Enroll Staff & Providers
✔️ In-office Activation
Ambulatory Care Process Improvement

*Patient Portal Governance*

MyChartAdvisory Group

(Marketing Chair)

Steering Committee

Epic Project

Legal/Risk

Epic Ambulatory Manager

MyChart Analyst

Epic Medical Lead

Cadence Manager

Organizational Development

Data Analytics

HIM
Ambulatory Care Process Improvement

*Patient Portal Journey*

**Wave 1:**
- Ambulatory Go-Live
- LVPG Pilot Practices Promotion

**Wave 2:**
- Inpatient Go-Live
- All Patient Promotion
- Mass Media Campaign
- Patient Entered Questionnaires
- Televox Autocalls To Patients
- Direct Scheduling Enabled
- E-visit and Virtual Visit Pilots Launch
- App Optimized
- Colleague Promotion
- FY17 Goal Setting
- Open Scheduling
- Waitlist Appointment Offers (Fast Pass)
- eVisit Expansion
Ambulatory Care Process Improvement

- Pilots induce learning from controlled environments
- A network goal and included in LVHN Shared Success Plan
- Colleague Engagement
  - FY16 Goal tracking
  - How to enroll video
  - Email blasts
  - LVHN Daily articles
  - Department meetings
  - Scripting
- Mass Media Campaign
Ambulatory Care Process Improvement

How Healthcare Information Technology was Utilized
Ambulatory Care Process Improvement

*Portal Activation*

**Number of Patients Activated and Percentage of Total Network Base (~420K)**

<table>
<thead>
<tr>
<th>Month</th>
<th>Number Activations</th>
<th>% of Network Patient Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul'15</td>
<td>20,000</td>
<td>0%</td>
</tr>
<tr>
<td>Aug'15</td>
<td>40,000</td>
<td>5%</td>
</tr>
<tr>
<td>Sep'15</td>
<td>60,000</td>
<td>10%</td>
</tr>
<tr>
<td>Oct'15</td>
<td>80,000</td>
<td>15%</td>
</tr>
<tr>
<td>Nov'15</td>
<td>100,000</td>
<td>20%</td>
</tr>
<tr>
<td>Dec'15</td>
<td>120,000</td>
<td>25%</td>
</tr>
<tr>
<td>Jan'16</td>
<td>140,000</td>
<td>30%</td>
</tr>
<tr>
<td>Feb'16</td>
<td>160,000</td>
<td>35%</td>
</tr>
<tr>
<td>Mar'16</td>
<td>180,000</td>
<td>40%</td>
</tr>
<tr>
<td>Apr'16</td>
<td>200,000</td>
<td>45%</td>
</tr>
<tr>
<td>May'16</td>
<td>220,000</td>
<td>50%</td>
</tr>
<tr>
<td>Jun'16</td>
<td>240,000</td>
<td>55%</td>
</tr>
</tbody>
</table>

**FY 16 Goal:** 61,000

**FY 17 Goal:** 150,000

YTD %: 44%
Ambulatory Care Process Improvement

*Patient Engagement through the Portal*

Portal Engagement – **110K Patients**
Percentage of cohort engaging in portal activities over the year

<table>
<thead>
<tr>
<th>LVHN Portal Engagement Programs</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient medical advice request</td>
<td>48%</td>
<td>55%</td>
</tr>
<tr>
<td>eCheck-in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appointment request (non-direct)</td>
<td>59%</td>
<td>63%</td>
</tr>
<tr>
<td>Patient medication renewal request</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History questionnaire submission</td>
<td>65%</td>
<td>67%</td>
</tr>
<tr>
<td>Patient appointment direct cancel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General questionnaire submission</td>
<td>68%</td>
<td>70%</td>
</tr>
<tr>
<td>Patient appointment schedule request</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copay payments</td>
<td>71%</td>
<td>72%</td>
</tr>
<tr>
<td>MyLVHN scheduled appointments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-visit</td>
<td>72%</td>
<td>73%</td>
</tr>
</tbody>
</table>

E-visit: 2016: 48%, 2017: 55%
Ambulatory Care Process Improvement

- Real-Time Patient Engagement Dashboards
- Real-time summary network results
- 200+ LVHN clinics utilize for patient-engagement activities with clinic-level detail reports
LVHN implemented virtually all of the portal functionalities (30+ features) and will focus on a few case-study examples.

### MyLVHN Patient Portal Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-entered data</td>
<td>✓</td>
</tr>
<tr>
<td>Self scheduling</td>
<td>✓</td>
</tr>
<tr>
<td>Open communication</td>
<td></td>
</tr>
<tr>
<td>eCheck-in</td>
<td>✓</td>
</tr>
<tr>
<td>Rx Refills</td>
<td></td>
</tr>
<tr>
<td>Lab trending</td>
<td></td>
</tr>
<tr>
<td>Bulk messaging</td>
<td></td>
</tr>
<tr>
<td>Medical advice</td>
<td></td>
</tr>
<tr>
<td>Bill payment</td>
<td></td>
</tr>
<tr>
<td>Virtual visits</td>
<td>✓</td>
</tr>
<tr>
<td>Early appointments</td>
<td>✓</td>
</tr>
</tbody>
</table>
Ambulatory Care Process Improvement

*Patient-Entered Data*

- **Leveraging the Portal**
  - Improve patient access and engagement
  - Removed clipboards and replaced with over 600 Tablets

- **Electronic Patient Entered Questionnaires**
  - Patients complete questionnaires prior to visit via MyLVHN or at Check-In
  - Welcome Tablet
  - Automated based on upcoming visit type and need

- **Benefits**
  - Improved clinical intelligence and pre-visit planning
  - Efficient documentation
  - Patient engagement
  - Reduced encounter times resulting in increased patient access
Ambulatory Care Process Improvement

*Patient Entered Data Improves Visit Cycle Time*
Ambulatory Care Process Improvement

*eCheck-in*

- Complete most of check-in process from the convenience of home via Portal
- Patients save time on arrival at practice
- Better patient experience at the office front desk

- Minimizes arrival “paperwork”
- Minimizes privacy concerns

© 2017 Epic Systems corporation. Used with permission.
Ambulatory Care Process Improvement

*Automated Earlier Appointments*

- Patients self-select on a ‘Wait List’ for notification of earlier appointments, when available through an automated notification process
- Patient self-scheduling

- Patient satisfier, enhances patient engagement
- Automated process liberates the staff and expedites scheduling
- Increases access and filling open slots
Ambulatory Care Process Improvement

*Virtual Visits*

- **eVisit** – Convenient virtual encounter with a provider for patients with a non-urgent visit but allowing for asynchronous timing for provider and patient

- **Video Visit** – Virtual video encounter for face-to-face care which are scheduled but don’t require the patient to be physically where the provider is

- **10 – 15 eVisits** types in production and planned

- **24 hour/day** video visits through Urgent Care
Ambulatory Care Process Improvement

*Patient Self-Scheduled Visits*

- Allows patients to choose a **provider and convenient time** to directly schedule their own visits
- Well and sick visits, Annual Medicare Physical, Mammogram, Dexa scans, Holter monitor, and PFT
- Direct Patient Access to Care

- **Average no show rate for Self-Scheduling: 2%** (baseline 7%)
- Convenient for patients and efficient for staff

© 2017 Epic Systems corporation. Used with permission.
Ambulatory Care Process Improvement

*Patient Self-Scheduled Visits*

Patient self-scheduling more than doubled in the first 6 months of go-live

Self scheduling available for the following visit types:
- Bone mineral density (Dexa)
- Cardiac Holter monitor 24 & 48 hours
- Pulmonary function test (PFT)
- Screening mammogram
• Express Care Walk-in Wait Times Dashboard
• Visual of wait times across all our express care facilities
• Can be seen by our central schedulers to guide patients to appropriate practices
• Being rolled now to our Patient Facing external website for self-management
Overall improvement in patient experience at LVHN’s Physician Practice Group increased from 87.2% to **91.0%** over a 12-month period

Equates to moving up from 37% to **64%** national ranking
Ambulatory Care Process Improvement

Value Derived
Ambulatory Care Process Improvement

- Visibility Wall
- Daily Huddle
- Problem Solving
# Ambulatory Care Process Improvement

## Portal Activation

<table>
<thead>
<tr>
<th>Process Improvement Program</th>
<th>Pre-Implementation</th>
<th>Post-Deployment Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average ambulatory registration time</td>
<td>7 minutes, 40 seconds</td>
<td>&lt; 2 minutes</td>
</tr>
<tr>
<td>Overall encounter time per visit</td>
<td>41.4 minutes</td>
<td>38 minutes</td>
</tr>
<tr>
<td>Patient satisfaction represented by Press-Ganey Access Bundle</td>
<td>39th percentile</td>
<td>64th percentile</td>
</tr>
<tr>
<td>Exchange of information Electronically</td>
<td>None</td>
<td>1.7M patient records</td>
</tr>
<tr>
<td>Average no-show rate for Open Scheduling practices</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>New PCP appointments within 2 weeks</td>
<td>26%</td>
<td>53%</td>
</tr>
</tbody>
</table>

![Diagram of Lehigh Valley Health Network](image-url)
Ambulatory Care Process Improvement

Clinical Outcomes Realized

- Engagement around Quality dashboard
  - Enterprise level / Division or Practice / Clinician
- Operational reports – easily accessible
- Countermeasures included Portal utilization
  - Blast emails for those on “not met” listing, targeted outreach for Annual Wellness Visit (AWV) due
- Patient Entered Questionnaires were integrated into workflows / documentation needs
- Make it easier to engage with patients and for documentation of key clinical events / health maintenance tracking
- Optimize top of licensure performance
  - Maximize pre-visit planning / rooming protocols
Ambulatory Care Process Improvement

- Real Time Data / Quality Outcomes across all of ambulatory sites.
- Trending of quality data
- Transparency comparisons at individual, practice division and group levels
Ambulatory Care Process Improvement

*Tangible Results from Multi-Faceted QI*

Annual Wellness Visit - Medicare/Medicare Advantage

© 2017 Epic Systems corporation. Used with permission.