LEVERAGING TECHNOLOGY TO SCALE HIGH-QUALITY ADVANCE CARE PLANNING

Ryan Van Wert, MD
CEO and Co-founder
Vynca
Learning Objectives

• Describe 1-2 technology strategies that can unify and streamline advance care planning.

• Create a technology business case for developing an electronic platform that supports person-centered advance care planning documentation at your organization.

Agenda

• Current State of ACP
• Barriers to Scaling ACP
• Technology Options
  – EHR
  – State Registry
  – 3rd Party
• Build a Business Case
What is the Current State of ACP?

CARE PROVIDER

- Inaccurate Documentation
- Difficult Conversations
- Various Care Settings

PATIENTS/FAMILY

- Uncordinated Participation
- Educational Gap
- Unclear Values

The Patients Were Saved. That's Why the Families Are Suing.
Barriers to Scaling Advance Care Planning

CARE PREFERENCE ≠ CARE PROVISION

37% Medical error rate in end of life care plans [1]

87% Care plans are not available at the scene of an emergency [2]

13% ACP locatable in EHR [3]

Technology Options for Building an ACP Program

• EHR

• State Registry

• 3rd Party
The EHR features capabilities that include:
- Scan and upload of documents
- Storage of documents
- Electronic provider signature

These features can be added through a custom build (and money):
- Automatic update of state-based documents
- ACP conversation guides and content
- Utilization and value-based reporting
- Billing support for ACP codes
What is Needed for ACP Beyond EHR Functionality

- Complex logic and error checking features
- Electronic patient signature
- Inclusion of patient engagement and educational tools
- Multi-language functionality
- Easy one-click access to ALL ACP documents
- Display of most recent, legally valid document
- Accessibility to providers in all care settings, including those outside the organization

State Registry
State Registry Technical Requirements

- HIPAA-compliant technology platform
- One central, accessible repository
- Document creation and upload capabilities
- Ability to easily and quickly retrieve documents
- Leverage existing networks and infrastructure (i.e. HIEs)

And of course sustainable funding to support the technology!

Components of a Successful Registry, and Why Some Fail

<table>
<thead>
<tr>
<th>Component</th>
<th>Idaho</th>
<th>Utah</th>
<th>Washington</th>
<th>Oregon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registry tied to local group or coalition</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Integrated into clinical care application</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Mandatory submission of completed forms via supporting legislation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Easy access to data in emergency settings</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Electronic ACP forms</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Marketing and awareness</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Sustainable funding</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
</tbody>
</table>
3rd Party Technology Approach to High-Quality ACP

<table>
<thead>
<tr>
<th>CARE PREFERENCE</th>
<th>TECHNOLOGY</th>
<th>CARE PROVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPTURE</td>
<td>ACCESS</td>
<td>HONOR</td>
</tr>
</tbody>
</table>
| • Ensure high quality  
• Create accurate care plans  
• Eliminate errors | • Single source of truth for care preferences  
• Connect the care ecosystem | • Clinically integrate at the point of care  
• Drive person-centered care |
Components of ACP Technology

CAPTURE
- Web & Mobile Individual
- Family
- Web & Mobile Clinician
- EHR Integration

ACCESS
- Machine Learning Patient Matching
- Analytics & Storage
- Data Verification & Error Checking

HONOR
- Ambulance Integration
- EHR Integration
- HIE Integration
- Registry Functionality

Standardized ACP Process
Embedded Educational Content

Smartphone Linking Technology for eSignature

Advance Care Planning Dashboard

Current POLST

Cardiopulmonary Resuscitation
Do Not Resuscitate / DNR

Medical Interventions
Limited Additional Interventions

N/A

Data from Somewhat Health Services
EHR Integration

ePOLST: YES
Adv Dir: None

ACP Documents are Available Across All Care Settings

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS & ELECTRONIC REGISTRY AS NECESSARY FOR TREATMENT

**Physician Orders for Life-Sustaining Treatment (POLST)**

Follow these medical orders until orders change. Any section not completed implies full treatment for that section.

**Patient Last Name:**

**Patient First Name:** Training

**Patient Middle Name:**

**Date of Birth:** (mm/dd/yyyy) 08/03/1964

**Gender:**

- [ ] M
- [ ] F

**Address:**

- Street / city / state / zip:

**A**

- [ ] Comfort Measures Only. Provide treatments to relieve pain and suffering through the use of any medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Patient prefers no transfer to hospital for life-sustaining treatments. Transfer if comfort needs cannot be met in current location.

**B**

- [ ] Do Not Attempt Resuscitation/DNR

**MEDICAL INTERVENTIONS:**

If patient has pulse and is breathing.

**CARDIOPULMONARY RESUSCITATION (CPR):**

- [ ] Attempt Resuscitation/CPR

Unresponsive, pulseless, & not breathing.

If patient is not in cardiopulmonary arrest, follow orders in B and C.

- [ ] Do Not Attempt Resuscitation/DNR

Treatment Plan: Provide treatments for comfort through symptom management.
**Promoting Change Through Data-Driven Reporting**

**Case Study: Technology Impact Across Multiple Health Systems**

**BACKGROUND:**
- Review of health systems in the northwest
- 5,711 ED visits analyzed from April 2015 – July 2017

**ADMISIIONS:**
- Hospital admission rate
  - 40% when ACP was not accessed
  - 25% when ACP was accessed
- ICU admission rate
  - 9% when ACP was not accessed
  - 3.7% when ACP was accessed

**IMPACT (April 2015 – July 2017)**
- 5,711 reduction in ICU admissions when ACP was accessed
- 37% reduction in hospital admissions when ACP was accessed
- 59% reduction in ICU admissions when ACP was accessed
Case Study: Standardization of ePOLST Across a Health System

ORGANIZATION:
• Oregon Health and Science University
• 528 Beds[1]
• 30,188 hospital admissions[1]

VYNCA IMPLEMENTATION:
• Back-loaded 9,848 POLST forms available upon launch
• Trained clinical staff and instituted standard processes
• Integrated within EHR clinical workflow

IMPACT (First 6 months)
11,893 times accessed
0% error rate in completed forms
2X increase in POLST intake

Build a Business Case
Creating a Business Case for ACP

• Demonstration of value is critical to obtaining support
• Highlighting the intrinsic value to the stakeholder is critical to adoption and sustainability
• High quality advance care planning requires:
  – Ongoing Research
  – Marketing and Awareness
  – Training
  – Technology

ACP Improve the Patient Experience

★★★★★ 34% ➞ 51%
• Primary care: 686 patients over 75 years old, or over 50 with chronic illness

★★★★★ 65% ➞ 93%
• Hospitalized patients: 309 elderly patients randomized to ACP or usual care

ACP Support Quality and Value Metrics

- 30% Reduction in death in hospital
- 83% Increase in hospice use
- 43% Reduction in hospital admissions through systematic post-acute ACP program

Teno et al. JAGS 2007; 55:189-194; Molloy et al JAMA 2000; 283(1437-1444)

ACP Achieves Cost Savings

<table>
<thead>
<tr>
<th>A</th>
<th>Number of Medicare Members in Population</th>
<th>10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Estimated Percentage of Members with Advanced Illness</td>
<td>23%¹</td>
</tr>
<tr>
<td>C</td>
<td>Estimated annual number of hospital admissions per member</td>
<td>0.9²</td>
</tr>
<tr>
<td>D</td>
<td>Estimated number of hospital admissions</td>
<td>2070³</td>
</tr>
<tr>
<td>E</td>
<td>Conservative Estimate Reduction in Hospital Admissions</td>
<td>10%⁴</td>
</tr>
<tr>
<td>F</td>
<td>Number of Avoided Admissions</td>
<td>207⁵</td>
</tr>
<tr>
<td>G</td>
<td>Average cost of Medicare Admission</td>
<td>$11,600⁶</td>
</tr>
<tr>
<td>H</td>
<td>ESTIMATED ANNUAL SAVINGS</td>
<td>$2,400,000⁷</td>
</tr>
</tbody>
</table>