Inpatient Wound Care: Why is it so Difficult?

LISA Q. CORBETT, DNP, APRN, CWOCN
HARTFORD HEALTHCARE WOUND PROGRAMS
HARTFORD, CT AND YALE UNIVERSITY SCHOOL OF NURSING
LISA.CORBETT@HHCHEALTH.ORG

ARTI B. MASTURZO, MD, ABPM/UHM
EXECUTIVE VICE PRESIDENT - CLINICAL INNOVATION
HEALOGICS, INC
ARTI.MASTURZO@HEALOGICS.COM

The Sixth Annual Meeting
of the
American College of Wound Healing and Tissue Repair
December 1, 2016
Chicago, IL
Inpatient Wound Care Delivery: Dynamics

- Volume
- Social Determinants of Health
- WOCN Integration
- Workforce Skill
- Team Structure & Efficiency
- Patient Complexity
Case Study: Jackie

Jackie’s Wound Story
Volume

Acute Care Wound Prevalence

- Pressure: 1.1-26.7%
- Diabetic Foot: 1.2-20.4%
- Venous: 0.5%
- Arterial: 1%
- Surgical/Trauma: 25%
- Infectious: SSSI 2%

Pressure Ulcer Registry

Patient Complexity

- 83% of pts. with VLU have ≥ 4 comorbidities
- 67% of VLU pts have PAD
- POA-PU pts. arrive with a mean of 18 diagnoses
- 20% of hospitalized elderly have protein calorie malnutrition


Gibbons et al, 2015; Molnar et al, 2014; US Wound Registry, 2014; Corbett et al, in press
### Social Determinants of Health

*Clinical care accounts for only 20%*

#### Economic Stability
- Employment
- Income
- Expenses
- Debt
- Medical bills

#### Neighborhood and Physical Environment
- Housing
- Transportation
- Safety
- Parks
- Playgrounds
- Walkability

#### Education
- Literacy
- Language
- Early childhood education
- Vocational training
- Higher education

#### Food
- Hunger
- Access to healthy options

#### Community and Social Context
- Social integration
- Support systems
- Community engagement
- Discrimination

#### Health Care System
- Health coverage
- Provider availability
- Provider linguistic and cultural competency
- Quality of care

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**Health Outcomes**
- Mortality
- Morbidity
- Life Expectancy
- Health Care Expenditures
- Health Status
- Functional Limitations

Kaiser Family Foundation, 2015
9.2 hrs. of Wound Education

Mentorship/Residency

MD/DO

APN/PA

DPM

33% Inaccurate Staging

Dept. of HHS, 2015; Patel & Granick, 2007; Pieper & Kirsner, 2013; Magliato & Davis, 2016
# Wound Care Workforce: Certification

<table>
<thead>
<tr>
<th>Organization</th>
<th>WOCNCB</th>
<th>ABWM</th>
<th>NAWCO</th>
<th>ABWH</th>
<th>Totals</th>
<th>% Δ 2014</th>
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<tr>
<td>Designations</td>
<td>CWOCN</td>
<td>CWS</td>
<td>WCC</td>
<td>PCWC</td>
<td>33,498</td>
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<td></td>
<td>CWOCN-AP</td>
<td>CWSP</td>
<td>DWC</td>
<td>PCHM</td>
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<td></td>
<td>CFCN</td>
<td>CWCA</td>
<td>LLE</td>
<td>CHWS</td>
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<td>WTA-C</td>
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<td>OMS</td>
<td>CSWS</td>
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<tr>
<td>TOTAL</td>
<td>7600</td>
<td>3,868</td>
<td>21,674</td>
<td>356</td>
<td>33,498</td>
<td>25%</td>
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<td>175</td>
<td>~623</td>
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<tr>
<td>MD/DO</td>
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<td>166</td>
<td>3</td>
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<tr>
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<tr>
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<td>9</td>
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<td>U</td>
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<td>U</td>
<td>8</td>
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<tr>
<td>PTA</td>
<td>27</td>
<td>U</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Other</td>
<td>108</td>
<td>U</td>
<td>119</td>
<td>3</td>
<td></td>
<td></td>
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</table>

**Source:** Personal communication/internet sources with certifying organizations, as of 11/1/16

**KEY:**
- Eligible
- Unknown
Integration with WOCN Teams

WOCN Inpatient Team
- Evidence based practices
- Professional, staff & patient education
- Unit-based champions
- Prevalence & Incidence surveys
- Adverse event monitoring
- EHR Documentation
- Product value analysis
- Quality & Safety measures

Outcome
- Reduction in HAPU
- Advanced wound modalities
- Regulatory stewardship
- Reduced LOS, Readmission
- Prudent product formulary
- Coding reconciliation

Benchmark: 1 WOCN:200 beds

Trends:
- Top of license practice
- Increased FTEs needed to cover rising wound tide
- Data manager
- + APN/MD to capture revenue
- WOC-APN Navigator role

Corbett, 2012; AHRQ, 2015; CMS, 2014
Inpatient Wound Team: Impact on Value

- Bathing
- Mouth Care
- Mobility
- Hand Hygiene
- Catheter Care
- Turning
- Toileting
- Bowel Function
- Dressings
- Ostomy

- VAP
- CLBSI
- HAPU
- CAUTI
- VTE
- HCAHPS
- Surgical Site Infection
- Sepsis
- Re-Admission
- Vollman, 2013
Multi-disciplinary Teams in Wound Care Delivery


Outcomes
↑ healing rates
↓ amputation rate
↓ LOS
↓ # home visits
↓ HAPU
↓ overall cost of care

Nursing *
Podiatrists *
Social Sciences*
Surgeons *
Rehabilitation *
Physicians *
Nutrition
Administrative*
Patient/Family

* Includes All Specialties
Hospital Flow Challenges

- Right Care
- Right Setting
- Right Time
Team Structure and Efficiency

**Technical**
- Tools
  - Clinical pathways
  - TeamSTEPPS
  - Simulation
  - Checklists
- Lay-out / Organization of Space
- Core Process Standardization
  - Habits of mind
  - Huddles
  - Playbooks
  - Lean Methodology
  - Navigators

**Social**
- Organizational Structure
  - Promote multidisciplinary culture
  - Group emotional intelligence
  - Trust – Identity – Efficacy
  - Participation – Cooperation – Collaboration
  - Higher performance – Satisfaction - Retention
- Human Resource Management
  - Hire to Team, not “loaned”
  - Training together
  - Mutual respect
- Operations Management
  - Budget

AHRQ, 2016; Marsilio et al, 2016; Gausvik et al, 2015; Epstein 2014
What is the Best Wound Team Structure for an Integrated System?
Inpatient Wound Care Delivery: Dynamics

- Volume
- Social Determinants of Health
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- Team Structure & Efficiency
- WOCN Integration
- Patient Complexity
A Brief History

- **1980s**
  - Nurse Driven
  - Inpatient

- **1990s**
  - Physical Therapy Driven
  - Outpatient WCC Generation I

- **2000s**
  - MD Multi-disciplinary
  - Outpatient WCC Generation II

- **Current & Future**
  - Focused wound care sub-specialty and integration across settings
  - Clinical Integration Generation III
HealthCare Landscape

1980s
- Health Maintenance Organizations (HMO)
  - Flat fee

1990s
- Fee for Service (FOS)
  - In-network: negotiated rates
  - Out-of-network: availability but more expensive

2000s
- Bundled Payments
  - BPCI/CJJR: A flat rate for all treatment needed with episode

Future
- Clinical Integration
  - Bundled payment for all conditions with a risk-share
Fee-for-Service vs Bundled Payments

**Traditional Fee-for-Service**
Payment for each service regardless of quantity or quality

- Pre-Admission Services
- Part A Inpatient Services (Hospital)
- Part B Inpatient Services (MDs)
- Post Acute Costs (Part A and Part B)
- Readmissions

**Bundled Payments**
Payment for comprehensive, coordinated intervention
2014 Medicare Spend by Setting of Care: 
*Hospital Identified Wound Patients*

- $46.6 billion annual Medicare spend
- Annual average Medicare spend per: $88,724

*Defined as patient who had at least one inpatient stay that included a wound ICD-9 code (N=525,365)*

Data from Moran and Dr Hanna Gordon, Healogics
## Required Capabilities by Payment Model

<table>
<thead>
<tr>
<th>Payment model</th>
<th>Plan capabilities</th>
<th>Provider capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IT infrastructure/information services</td>
<td>Business operations/administrative (RCM, claims mgmt, &amp; processing)</td>
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<tr>
<td>FFS</td>
<td></td>
<td></td>
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<tr>
<td>Shared savings</td>
<td></td>
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<tr>
<td>Bundles</td>
<td></td>
<td></td>
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<tr>
<td>Shared risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global capitation</td>
<td></td>
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</table>

Source: Deloitte synthesis of literature and subject matter expert interviews. See appendix for definitions of each capability.

Note: Tables are intended to be a representation, not exhaustive.
Wounds Touch All Settings of Care

- Hospital Acquired Pressure Ulcer Avoidance
- Bedside procedures (DRG management)
- Inpatient procedures (vascular, general)
- Wounded Patient Discharges
- Avoidable admits and readmits
- Patient referral / network
- Hospital Emergency Room
- Hospital Operating Room
- Wound Care
- Health Plan
- Community Doctors
- Home Health
- Wound Center

Integrated with WOCN
- ↓ Length of Stay
- ↓ Direct Cost
- ↓ HAPU/Litigation
- ↓ Readmission

% net new to hospital system lifetime value of a new patient

Continuity Clinical Outcomes
- ↓ Readmission
- ↓ Leakage

HAPU/Litigation ↓ Readmission
↓ Leakage
## Wounds are a Surrogate Marker for Illness

<table>
<thead>
<tr>
<th>Metric</th>
<th>Wound</th>
<th>No Wound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average LOS</td>
<td>6.46</td>
<td>4.70</td>
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<tr>
<td>Readmission Rate</td>
<td>17.4 %</td>
<td>13.7 %</td>
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<tr>
<td>Average Direct Cost</td>
<td>$7,731</td>
<td>$5,753</td>
</tr>
</tbody>
</table>

FY 14 AND FY 15 – emergent or urgent admissions
EXCLUDED: psych patients, mom/babies, rehab patients
Creating An Integrated Wound Care Community

Phase 1
WCC Home Base
MD

Phase 2
WCC + IP
MD collaboration
with PA/NP/WOCN

Phase 3
WCC + IP + SNF/LTACH
MD collaboration with
MD/PA/NP

Time + Technology
Differences in Sites of Service

- **Inpatient**
  - LOS
  - 30 day unplanned readmissions
  - Cost
    - OR Utilization

- **LTACH**
  - Cost
    - Dressings/Devices
    - Advanced Modalities
    - OR Utilization
  - LOS

- **SNF**
  - Cost of care
  - Regulatory Pressure
  - Quality Pressure
  - LOS?
    - Dressings

- **Wound Care Center**
  - Currently FFS

- **Home Health**
  - Cost
    - Frequency of nurse visits
    - Dressings
Case Study: Midwest Hospital

Average Length of Stay

- Wound Diagnosis Code: FY 2015: 6.34, FY 2016: 5.64 (11% decrease)
- No Wound Diagnosis Code: FY 2015: 4.59, FY 2016: 4.49 (2% decrease)
- Overall: FY 2015: 4.76, FY 2016: 4.65 (2% decrease)

Fiscal Years = July through June

Encounters

- FY 2015:
  - Wound Diagnosis Code: 1426
  - No Wound Diagnosis Code: 12944
- FY 2016:
  - Wound Diagnosis Code: 1902
  - No Wound Diagnosis Code: 11772
Impact of # Days to Consult

Average LOS

Consult 0-2 Days: 5.64 (FY 2015) vs. 6.34 (FY 2016), -11%
Consult 3-8 Days: 7.96 (FY 2015) vs. 8.47 (FY 2016), -6%
Consult 9+ Days: 18.92 (FY 2015) vs. 19.28 (FY 2016), -2%

% of Encounters

Consult 0-2 Days: 73% (FY 2015) vs. 76% (FY 2016)
Consult 3-8 Days: 20% (FY 2015) vs. 21% (FY 2016)
Consult 9+ Days: 6% (FY 2015) vs. 4% (FY 2016)

Fiscal Years = July through June
Summary

Inpatient wound care delivery involves time urgency, complexity, acuity, active coordination and many accountabilities that are not required in an outpatient setting.

Lisa Q. Corbett, DNP, APRN, CWOCN
Hartford HealthCare Wound Programs
Hartford, CT and Yale University School of Nursing
Lisa.corbett@hhchealth.org

Arti B. Masturzo, MD, UHM/ABPM
Executive vice president - clinical innovation
Healogics, Inc
Arti.Masturzo@Healogics.com
Medical Director Comprehensive Wound Programs
Tri-Health Medical system
Arti_Masturzo@trihealth.com
Wounds Touch All Settings of Care

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- Bedside procedures (DRG management)
- Hospital
  - Emergency Room
  - Operating Room
- Wounded Patient Discharges
- Inpatient procedures (vascular, general)
- Avoidable admits and readmits
- Patient referral / network
- % net new to hospital system
- lifetime value of a new patient

Comprehensive Wound Program

Health Plan
- Hospital
- Operating Room
- Hospital Acquired Pressure Ulcer Avoidance
- Bedside procedures (DRG management)
- Hospital
- Wounded Patient Discharges
- Inpatient procedures (vascular, general)
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Community Doctors
- Home Health
- Wound Care Center®