Geisinger's Use of Technology in Case Management and the Medical Home: A Heart Failure Study

JOANN SCIANDRA, RN, BSN, CCM

DOREEN SALEK, BS, RN, CCS/CPC

DANIEL MAENG, PHD

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Geisinger at a Glance

Provider Facilities

- Geisinger Medical Center
- Geisinger Shamokin Community Hospital
- Geisinger Wyoming Valley
- Geisinger Wilkes Barre
- Geisinger Community Medical Center
- Geisinger Lewistown Hospital
- Geisinger Bloomsburg Hospital
- Mountain View Care Center
- Bloomsburg Healthcare Center
- Marworth

Managed Care Companies

Multispecialty Physician Groups

- ~950 Physician FTE's
- ~600 AP's
- Outpatient Surgery Center
- ~70 Primary Care and Specialty Clinics
- Resident and Fellow Programs
- Nursing Programs

Physician Group

~478,000 covered lives

- 128,000 Medicaid
- 81,000 Medicare
- 260,000 Commercial
- 9,000 CHIP

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Vendor Partner at a Glance

AMC Health (Advanced Monitored Caregiving)
www.amchealth.com

- Tele-monitoring vendor for GHP since 2008
- Founded in 2002 after company's founder had experienced taking care of an aging parent in ill health
- Programs currently running with AMC Health:
  - Heart Failure program – published outcomes 2014
  - Post D/C IVR: published outcomes 2011
  - Kiosk
- Value Proposition
  - Device Agnostic
  - Committed partner to GHP and GHS

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Geisinger's Medical Home at a Glance

ProvenHealth Navigator®

Implemented 90+ Medical Homes (2006-2013);50%+ Outside Geisinger

Sites	# of Sites	Medicare Advantage Members	Commercial Members	Fee-for-Service Members	Geisinger Health Plan Family (Medical Assistance Members)
Geisinger (owned, in PA)	42	23,328	61,206	42,715	26,708
Non-Geisinger (in PA)	40	5,939	18,762	0	8,595
West Virginia	3	0	4,835	0	0
Maine	6	0	1,717	0	0
Total	**93**	**29,267**	**86,520**	**42,715**	**35,303**

PA = Pennsylvania. Geisinger Advanced Medical Homes began in 2006 with 3 Pilot sites.
The three pilot sites started with: 5,000 Medicare Advantage , 4,100 Commercial, and 2,100 Medicare lives.

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Geisinger's PHN Model: 5 Core Components

Patient-centered Primary Care

- Patient and family engagement & education
- Enhanced access and scope of services
- ***PCP led team-delivered care***
- Chronic disease and preventive care optimized with HIT

Integrated Population Management

- Population segmentation and risk stratification
- Preventive care
- ***GHP employed in-office case management***
- Disease management

Medical Neighborhood

- Micro-delivery referral systems
- ***360°care systems*** – SNF, ED, hospitals, HH, etc.

Quality Outcomes

- Patient satisfaction
- HEDIS and bundled chronic disease metrics
- Preventive services metrics

Value-based Reimbursement

- Fee-for-service with P4P payments for quality outcomes
- Physician and practice transformation stipends
- ***Value-based incentive payments***
- Payments distributed on Quality Performance

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Integrated Population Management

Components	Core Activities
Population Segmentation	Predictive modeling Risk stratification
Health Promotion	Preventive care & Screenings
Disease Management	Self-management education Medication management
Case Management	Care coordination Exacerbation management TOC Tele-monitoring
Pharmacy Management	Brand vs. generic Medication adherence

Geisinger Tele-monitoring Programs

GHP utilizing Tele-monitoring since 2008 through AMC Health telemedicine services

Year	Heart Failure	Hospital Discharge	Nephro-Hypertenstion	Grand Total
2009	1,373	3,975	0	5,348
2010	1,291	1,960	0	3,251
2011	1,163	1,452	27	2,615
2012	1,197	2,947	18	4,144
2013	1,078	4,591	11	5,669
Total	**6,102**	**14,925**	**56**	**21,027**

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Tele-monitoring Programs and Pilots

Current Programs:

- Heart Failure – Bluetooth scales and/or IVR
- Post Hospitalization (D/C) – IVR post discharge
- HTN: Bluetooth Blood Pressure cuffs in concert with Nephrology Department
- Wellness Kiosks

Future programs/pilots with tele-monitoring:

- Diabetes
- COPD
- Video monitoring utilizing Smart Phones and Kiosks
  - Patient homes
  - Nursing Homes

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Heart Failure Program

- Historically began in 1998 in our initial Disease Management program
- Very manual program tracking weights and changes in status
- Transformed with the genesis of our complex case management and medical home model
- In 2008, implemented the new program with the use of:
  - Bluetooth Enabled Scales
  - Interactive Voice Response (IVR)
  - Initial Pilot of 50

Heart Failure
Chronic Care Management

Heart Failure

Diuretic Titration Protocol

Daily weights

Tele-monitoring

Education

Self-management

Outreach

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Keys to Enrollment in the HF Tele-monitoring Program

- Identifying the population
  - Claims
  - Physician Referrals
  - IP Case Management
  - Census Lists

- Clinical Criteria
  - Validated DX of HF
  - EF < 40%
  - Or documented diastolic dysfunction

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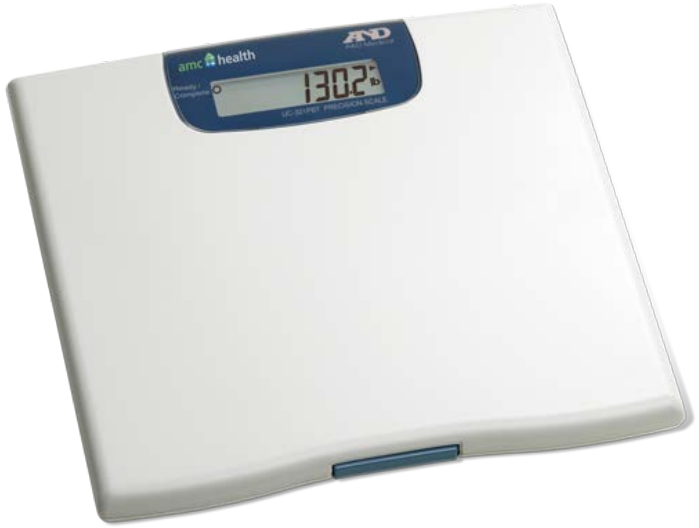
Ability to Participate in Tele-monitoring

- Ability to step on scale and steady themselves for accurate weight taken safely
- Good Cognitive Function
- Good hearing to participate in IVR



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Delivery and Set Up of Devices

- Case Manager discusses program and indicates willingness of patient via enrollment form
- Enrollment triggers AMC Health to mail devices
- AMC provides telephonic set up support and instructions to the patient
- Vendor provides troubleshooting when there are transmission failures or other technical issues
- Replacement of devices as needed

Alert Management

- Patient specific parameters for weight gain are set within the AMC Health application
- Heart Failure IVR questions Branching Logic
- Weights or IVR answers that fall into the alerting logic are sent to the Case Manager
  - Alerts go to an EHR pool
  - Link to the AMC Health website embedded in the alert message
  - Single Sign On (SSO) to the AMC Health website

Case Managing the Heart Failure Patient

- Patient Education
- S/S of exacerbation and worsening condition
- Working with the Care Team to optimize the Care Plan and coordinate care
- Near Real-Time notification of patient biometrics and information to make necessary changes to meds, care plan, appointment schedule

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Disenrollment Criteria

- Stability of patient in self-management of weights and care plan
- Voluntary disenrollment by patient
- No longer has insurance that allows our Case Managers to follow
- Patient expires

Case Management

Case Management Satisfaction / Tele-monitoring Survey:

- 85% of CM's felt that the program helped them save a readmission or admission
- 96% of CM's felt the program helped them manage the HF patient more efficiently
- 81% felt the system helped them

Lessons Learned

- Tele-monitoring processes must be implemented efficiently to workflows
- Not all patients require, or are a fit, for tele-monitoring – right care, right place, right time
- Clinician adoption strategies – “We’re all in marketing”….
- It’s quality, not quantity

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Studying the Program

- Claims Data 1/1/2007 through 10/31/2012
- GHP Medicare Advantage plan members who had maintained membership through the 70 months utilizing a gatekeeper product
- Not all members in the study maintained enrollment in the HF program for the 70 months (average enrollment 24 months)
- Identified 1,708 members for the study

Descriptors of the Study Population

- Elderly: Average Age 79
- High Prevalence of Co-morbid conditions
- Hypertension and CAD most common co-morbids
- Average PMPM cost of ~$1,600

Outcomes of the Study

- 23% lower odds of an admission while enrolled in the HF Tele-monitoring Program
- Odds of 30-Day Readmission was 44% lower
- Odds of 90-Day Readmission was 38% lower
- 11% cost savings associated with the study period

For every $1 spent, there was a $3.30 ROI PMPM

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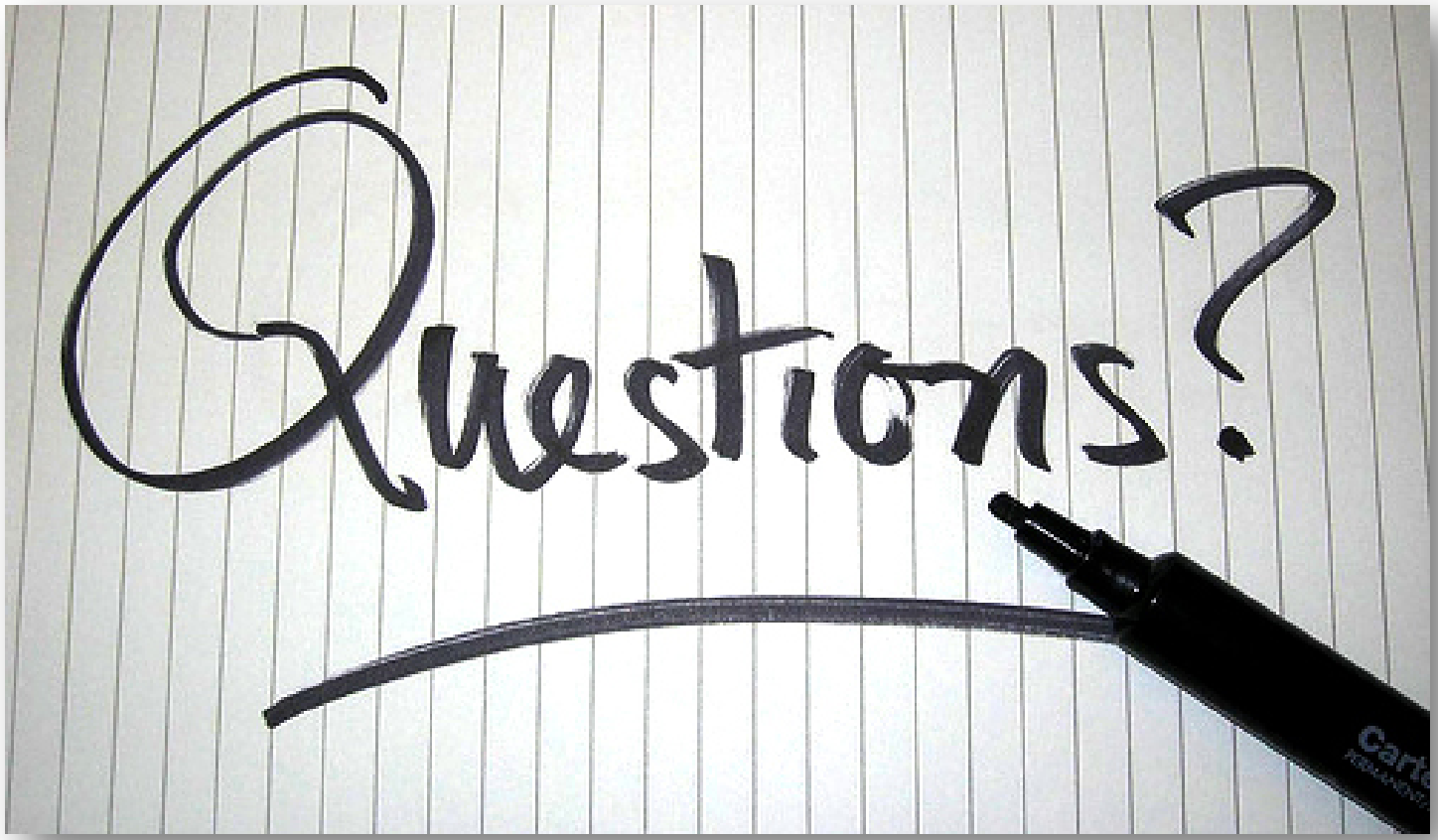
Other Tele-monitoring Outcomes

Post Hospitalization D/C program:

- Results:
  - Members 44% *less likely* to be readmitted when CM services coupled with IVR post discharge
  - 20% reduction in readmission rates vs comparison group with CM but no IVR
  - Published article: Medical Care, Volume 50, Issue 1: Post Discharge Monitoring Utilizing Interactive Voice Response System Reduces 30 Day Readmission Rates in a Case Managed Medicare Population



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