

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



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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

# Vendor Partner at a Glance

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AMC Health (Advanced Monitored Caregiving)  
[www.amchealth.com](http://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

# Geisinger's Medical Home at a Glance

## ProvenHealth Navigator<sup>®</sup>

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
<b>Total</b>	<b>93</b>	<b>29,267</b>	<b>86,520</b>	<b>42,715</b>	<b>35,303</b>

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.

# Geisinger's PHN Model: 5 Core Components

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## 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

# 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

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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
<b>Total</b>	<b>6,102</b>	<b>14,925</b>	<b>56</b>	<b>21,027</b>

# Tele-monitoring Programs and Pilots

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## 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



# Heart Failure Program

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- 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

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## *Heart Failure*

Diuretic Titration Protocol

Daily weights

Tele-monitoring

Education

Self-management

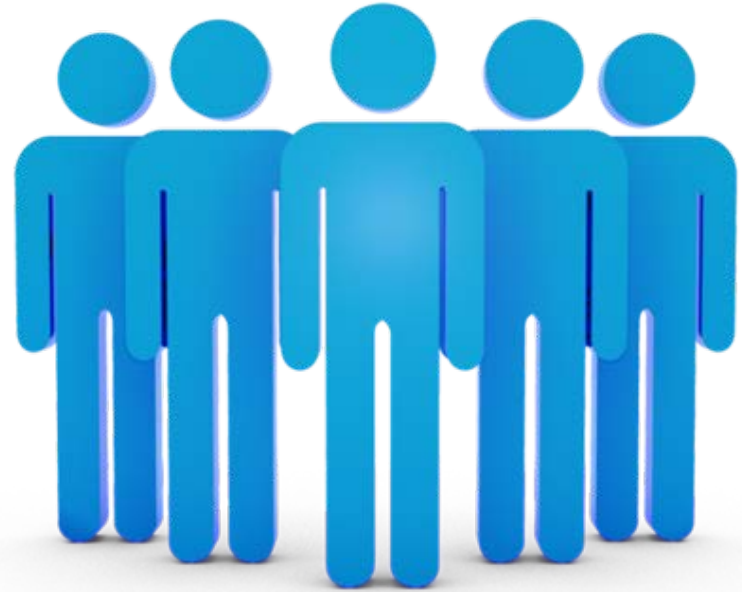
Outreach



# Keys to Enrollment in the HF Tele-monitoring Program

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- Identifying the population
  - Claims
  - Physician Referrals
  - IP Case Management
  - Census Lists
- Clinical Criteria
  - Validated DX of HF
  - EF < 40%
  - Or documented diastolic dysfunction



# Ability to Participate in Tele-monitoring

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



# Delivery and Set Up of Devices

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- 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

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- 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

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- 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

# Disenrollment Criteria

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- 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

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## 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

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- 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

# Studying the Program

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- 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

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- 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

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- 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**

# Other Tele-monitoring Outcomes

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## 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

