TeleCardiology Platform

Michael GeRue MSN, COO
Parkview Heart Institute

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Disclosures

- None
TeleCardiology

- Telehealth fits into the IHI Triple Aim:
  - Patient experience
    - Less travel time, easier access to care
  - Improve health of populations
    - More specialty care available in more locations
    - Increase timely access to specialty providers
  - Decrease cost of care
    - Improved appropriate “triage” to tertiary care
History

- Parkview Health examined the number of transfers from outlying facilities
  - Historical data analysis 80% of CV short-stay cases transferred from spoke hospitals were attributed to four CV conditions:
    - Heart failure
    - Atrial fibrillation
    - Syncope
    - Chest pain

- Solutions? More providers deployed, status quo, explore telemedicine
Our goals for a telemedicine program

• Increase patient satisfaction
• Reduce health care costs
• Partner with physicians and hospitals to deliver services for patients in their communities
• Decrease inter-hospital transfers
• Reduce the need for patients and their families to travel long distances
• Enhance continuity and convenience of routine post-hospital follow-up care
Why TeleCardiology?

Goal/Rationale:

- This service is an extension of the type of consultative Cardiology that the Parkview Heart Institute Cardiologists have offered for many years via outreach clinics and phone consultations.
- By utilizing this virtual visit platform, we are able to provide more in-depth assistance with non-critical patients who can receive care in their local facility & interact with patient.

Hours of operation: 9a-2p, 7 days/week
Why are we using TeleCardiology?

- **Service Excellence**
  - Patient Satisfaction
    - Receive care closer to home, eliminate drive for patient and family to Fort Wayne
    - Ability to obtain specialty care in their community
    - Decreased costs of care
    - Historically, these patients who transfer had LOS <2 days

- **Growth**
  - Strategic imperative
    - Reduce Unnecessary Transfers
    - Data overview
      - Strategic for this organization to keep patient in our organization
Why are we using TeleCardiology?

- **Resources**
  - Capacity
    - PRMC frequently near or above capacity
    - Community hospitals frequently have IP beds available
    - Vast majority of testing/diagnostic capabilities for non-critical conditions are available in Parkview affiliate hospitals
  - Retention of OP services & optimization of resources within our community hospitals
    - Echo & Myoview/Stress Testing
    - Lab and Other Radiology
TeleCardiology Workflow

To start this program, we focused on these 4 non-emergent patient populations that were high transfer, low LOS volumes.

- Syncope
- R/O Chest Pain
- Heart Failure Exacerbation
- Atrial Fibrillation - Questionable Ventricular Response

Parkview Health Emergency Department CDU

CHEST PAIN

Observation Unit Transfer Criteria
- Clinical suspicion that risk of MI is low (< 6%) (Goldman algorithm)
- Chest discomfort is potentially cardiac ischemia (Based on risk factors / discomfort)
- Normal EKG, or concurrence with Cardiologist / PMD
- Acceptable vital signs
- No history of known coronary artery disease, or concurrence with Cardiologist / PMD

Exclusion Criteria
- Clinical suspicion that risk of MI is over 6% (Goldman algorithm)
- EKG which shows evidence of MI or clearly acute injury/ischemia pattern
- Unstable vital signs
TeleCardiology Workflow

- Patient arrives to ED and meets admission criteria/able to participate in TeleCardiology consult
- Patient transferred to Constant Care
- EPIC order placed for TeleCardiology Consult
- Cardiologist receives order – defined time for consult set up between hospital and Cardiology team
- Hospital staff deploy cart to bedside
- Physician opens virtual visit through EPIC order
  - 2 screen workstation
    - Audio & visual platform
    - Documentation platform
      - Same note structure as when doing face-face office visit
TeleCardiology Workflow

- Patient is admitted to Hospitalist group
  - Follows POC
  - Reaches out to Cardiology if needed
  - Discharges patient
- Patient is seen by Cardiologist who develops POC
  - Testing at facility utilized
  - Follow-up appointments arranged
  - Hospitalist manages
- Cardiology is available to complement patient care virtually
System-level deployment

• Began as trial 8.2016

• Deployed to all facilities 2.1.2017
TeleCardiology Consult Report
September 2017

NOTE - ED Disposition is not final discharge location and billing. "Admit As Inpatient" could be billed as an outpatient with observation

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Outcomes

- 89% of TeleCardiology consulted patients remained at their community hospital
- 60% of patients transferred to tertiary facility required high-level CV procedure
- $1,524 – cost savings per patient encounter
- Patient satisfaction – overwhelmingly positive
Patient Satisfaction

Patient Satisfaction Survey Results

I would recommend the use of this telecardiology consultation service to a friend or family member in a similar situation.

I would be pleased if this telecardiology consultation service was used again if I need it in the future.

I was completely satisfied with the care I received.

I liked the convenience of staying close to home while receiving the telecardiology consultation.

I feel that the use of the telecardiology consultation reduced costs that I would have incurred without it.

The availability of the telecardiology consultation saved me travel time.

I was worried/anxious for a shorter time as a result of the telecardiology consultation.

My time of pain/discomfort was shortened because of the use of the telecardiology consultation.

I believe I received treatment faster because of the use of the telecardiology consultation.

I was aware that the Parkview Heart Institute (PHI) Telecardiology consultation occurred.
Physician Satisfaction

Provider Survey Results

- I would recommend the teleconsultation service to a colleague.
- I would use the teleconsultation service again.
- I feel that the teleconsultation service is an overall benefit to my practice.
- The physician to physician interaction during the teleconsultation was a positive and professional experience.
- Fewer tests were ordered because of the availability of this teleconsultation service.
- My daily workflow was more productive as a result of this teleconsultation.
- The teleconsultation resulted in a shorter time to treatment.
- I was more confident with the patient’s treatment plan after the teleconsultation.
- I feel that the patient was comfortable and satisfied with the use of the teleconsultation service.
- I feel that teleconsultation provided valuable information and resulted in improved quality of patient care.
- I was satisfied with the technology (quality of images and sounds) utilized.
- I was satisfied with the overall operating procedure/process of the PHI Telecardiology consultation service.

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5

Strongly agree  agree  neutral  Disagree  Strongly Disagree  No opinion

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Addendum

• Special Thanks:
  • Shanique Ries, Brandon Toliver, Clayton Travis, Cassandra Schwartz, Alexis Neyman - Indiana University School of Medicine
  • Roy Robertson, MD FACC FSCAI, President, Parkview Heart Institute
  • Above collaborated on a paper: Utilization of Telecardiology: Optimizing Patient Engagement
TeleCardiology Video Visit

Cardiology - Virtual Care

When a patient with non-urgent cardiac related symptoms arrives at the community hospital and an on-site Cardiologist will not be available within 4 hours, the IP Consult to Virtual Care-Cardiology order # CON103 is placed. This will allow a Video Visit to be available to the patient with a Cardiologist without having to be transferred to PRMC.

Try It Out

1. ED Provider places Order for Consult: IP Consult to Virtual Care-Cardiology #CON103
2. The Cardiology Nurse Triage team is contacted by phone to let them know about the Consult.
3. The Cardiologist Nurse will access the order from (a) Patient List (b) Hospital System List (c) Consults-Physicians (d) Cardiology - Virtual Care.
4. The Cardiology Triage Nurse will contact Cardiologist or Extender to establish time to do Video Consult.
5. The Cardiology Triage Nurse will contact the PHH House Supervisor at 260-355-3646 to communicate the time for the video consult. EKG should be done within 1 hour of video consult.
6. At the agreed upon time for the video consult the House Supervisor will take the video cart to the patient location.
7. Cardiologist and House Supervisor will open patient chart. They will go to More Activities, lower left corner of patients chart. In More Activities they will click on Virtual Care to access the navigator.
8. Both Cardiologist and House Supervisor will click the Connect to video to establish the video link.
9. The video screen will display with the opportunity for the Cardiologist, patient and House Supervisor to interact in real time.
10. The Cardiologist will enter orders as needed and complete the consult note. Any follow-up needed by cardiology will be established and documented in the note.

You Can Also...

- If you are unable to contact the House Supervisor call the hospital 260-355-3000. When the operator answers ask them to connect you with the House Supervisor.
Equipment

Stethoscope

Monitor
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Chest Pain

Observation Unit Transfer Criteria
- Clinical scenario that risk of MI is low in EKG (Goldman algorithm)
- Chest discomfort is potentially cardiac in nature (Based on risk factors / discomfort)
- Normal EKG, or concurrence with Cardiologist (PMD)
- Acceptable vital signs
- No history of known coronary artery disease, or concurrence with Cardiologist (PMD)

Exclusion Criteria
- Clinical suspicion that risk of MI is even SI (Goldman algorithm)
- EKG which shows evidence of MI, or clearly acute in nature, should be ruled out
- Unstable vital signs
- Clear Unstable Angina history (i.e. known CAD, sick prior angiography)
- Chest pain is clearly not cardiac etiology
- Private attending physician for admission

Initial ED Interventions:
- IV fluid (as per), O2, cardiac monitor, in the UMG, CRP, NO caffeine
- If not contraindicated, give Aspirin 325mg PO, (Assure Plus or Aspirin 300mg)
- Appropriate titrations (physician discretion) IN/IV fluids, NTG, or nitroprusside
- Benzodiazepine (if indicated) > Tropicain 1 intravenously CPR, Mg phophate
- ED physician consults with F Incorrect or Cardiologist, choose above at discretion

CDU Interventions:
- Continue W, IV, Intermittent Nitro, NO caffeine
- Work patient to obtain initial existing paramed order
- Perform 12-lead based on increased stress pain, review 12 lead physician order
- Protocol - Time, 1 and 2 hour EKG, Tropicain
- If all tests are negative or unstable stress test
- If stress test is planned, obtain 5 hour Tropicain, FBC
- If troponin > Tropicain 1, EKG changes, or extended admit

Disposition
- Normal: Acute V5, Normal biomarkers, Urine variable stress test, No significant EKG changes
- Admit: Unstable V5, Positive biomarkers, FBC changes, Significant Stress test abnormality, Physician round on admission

Estimated LOS: < 24 hours

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