Improving Rheumatoid Arthritis Care: Moving from Measurement to Management

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Geisinger Health System
No disclosures
Evidence Based Medicine

Formula for Success – People, Process, and IT

People
Rheumatology Team

Process
AIM FARTHER
Attribution, Integration, Measurement, Finances, And Reporting of Therapies

IT
PACER™
(PAint Centric Electronic Redesign)

Best in Class Rheumatoid Arthritis Care

Geisinger
Outline

Journey of Measurement
Journey of Management
Measurement to Management - Ingredients for Success
Quotable Quotes
Journey of Measurement
Two sobering facts for me when putting this talk together

1. I started collecting patient reported data when many of you were in kindergarten

2. When Mozart was my age, he had been dead for 24 years
Journey of Measurement

- **1987**
  - Rheumatology Dx and Rx database

- **1988**
  - “Pink Questionnaire” to capture uniform dataset and validated disease related measures
Journey of Measurement

- 1987
  - Rheumatology Dx and Rx database
- 1988
  - “Pink Questionnaire” to capture uniform dataset and validated disease related measures
- 1990
  - MEDLOG outcomes database
  - >100,000 encounters
- 2001
  - EPIC implementation for Rheumatology
Journey of Measurement

Study – EMR Pre-Review

- Assembling a “mini-mental dashboard” in EMR
  - What do you want to “know” before going in the room?
  - 50 real cases of Rheumatoid Arthritis
  - Clipboards and timers
  - **Result: 17+ minutes**

So, ...

- we aren’t collecting the information that matters
- the information we have we are not looking at
- **Other than that Mrs. Lincoln, how was the play?**
PACER Software

PACER captures data from the patient touchscreen questionnaire, the nurse, the provider, and EPIC, and reassembles it into a series of actionable views and new functions.
PACER
Ideal Clinic Flow

Front Desk Check-in
Waiting Room Questionnaire

TQ Tracker Workstation/iPad
TQ Completion
PACER
Ideal Clinic Flow

- Front Desk Check-in
- Waiting Room Questionnaire
- Nurse Check-in PACER

TQ Tracker
Workstation/iPad
TQ Completion

Event Details
Social Hx Update
QM Care Gaps
PACER
Ideal Clinic Flow

Front Desk Check-in

Waiting Room
Questionnaire

Nurse Check-in
PACER

Rooming
PACER

TQ Tracker
Workstation/iPad
TQ Completion

Event Details
Social Hx Update
QM Care Gaps

Start visit at 30 mph
PACER Ideal Clinic Flow

- Front Desk Check-in
- Waiting Room Questionnaire
- Nurse Check-in PACER
- Rooming PACER

PACER Ideal Provider Use

- Pre-Review
  - TQ Tracker
  - Workstation/iPad
  - TQ Completion
- In the Room
  - Event Details
  - Social Hx Update
  - QM Care Gaps
- After the Room
  - Start visit at 30 mph
Pre-Review
PACER™: Quality Measure Scorecard

Quality Measure Bundle

<table>
<thead>
<tr>
<th>RA Bundles</th>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA on DMARD</td>
<td>ON DMARD</td>
<td></td>
</tr>
<tr>
<td>Active RA on DMARD (CDAI &gt; 10)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>RA at Low Disease Activity</td>
<td>CDAI &lt; 10</td>
<td></td>
</tr>
<tr>
<td>Serial CDAI (&gt;50% of visits)</td>
<td>CDAI COMPLETED</td>
<td></td>
</tr>
<tr>
<td>RA with MPA/Q</td>
<td>MPA/Q COMPLETED</td>
<td></td>
</tr>
<tr>
<td>Biologic De-escalation</td>
<td>PATIENT ON BILOGIC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revised Arthritis Value Measures - Nurse</th>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB Testing if on Biologic</td>
<td>TB Testing COMPLETED</td>
<td></td>
</tr>
<tr>
<td>Influenza Vaccine (Flu Shot)</td>
<td>INFLUENZA Done</td>
<td></td>
</tr>
<tr>
<td>Pneumococcal Vaccine</td>
<td>PNEUMOCOCAL Done</td>
<td></td>
</tr>
</tbody>
</table>
# PACER™: Quality Measure Scorecard

## Quality Measure Bundle

<table>
<thead>
<tr>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA on DMBAD</td>
<td>ON DMBAD</td>
</tr>
<tr>
<td>Active RA on DMBAD (CDAS &gt; 15)</td>
<td>N/A</td>
</tr>
<tr>
<td>RA at Low Disease Activity</td>
<td>CDAS &lt; 35</td>
</tr>
<tr>
<td>Severe CDAS (&gt;50% of visits)</td>
<td>CDAS COMPLETED</td>
</tr>
<tr>
<td>RA with MEPAQ</td>
<td>MEPAQ COMPLETED</td>
</tr>
<tr>
<td>Biologic De-escalation</td>
<td>ON BIOLOGIC</td>
</tr>
</tbody>
</table>

## Decision Making

<table>
<thead>
<tr>
<th>Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB Testing fl on Biologic</td>
<td>TB Testing COMPLETED</td>
</tr>
<tr>
<td>Flu Vaccine (Flumir)</td>
<td>HINUS DONE</td>
</tr>
<tr>
<td>Pneumococcal Vaccine</td>
<td>PNEUMOVAC DONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provider</th>
<th>Decision</th>
<th>Date</th>
<th>Engine</th>
<th>Comments</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior Decision</th>
<th>Current Decision</th>
</tr>
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<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Decision</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
PACER™: Questionnaire

Function

Pain

ROS

Events Since Last Visit

Social History
PACER™: Trends over time

Time

Measures

Treatment Effectiveness
PACER™: Detailed Homonculus Exam
PACER™: After Visit Summary

Rheumatology Visit Summary
For: [Name] (MRNO: [Number])

During my visit to the Geisinger Rheumatology Clinic on 06/01/2016, I saw Newman, Eric D, MD.
This note summarizes my rheumatic problems and how I am doing.

What do I have?
My medical record indicates that I have the following rheumatic conditions:
Rheumatoid Arthritis - A chronic immune disease causing inflamed joints, and possibly affecting other body systems

How am I doing?
Here are the measures we have chosen to follow with you:

MDHAQ - a measure of my ability to do my daily activities. The score ranges from a low of 0 to a high of 10. A value of 0 means that I am able to do my activities without any difficulty. A value of 10 means that I have a lot of difficulty doing any activities.
Pain - a measure of the amount of pain I am having. The score ranges from a low of 0 to a high of 10. A value of 0 means that I am having no pain. A value of 10 means that I am having very severe pain.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Today's Value (Date)</th>
<th>Previous Value (Date)</th>
<th>Interpretation</th>
<th>Goal</th>
<th>Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDHAQ</td>
<td>0.3 (6/1/2016)</td>
<td>0.7 (9/30/2015)</td>
<td>improving</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Pain</td>
<td>3 (06/01/2016)</td>
<td>1 (09/30/2015)</td>
<td>worsening</td>
<td>3</td>
<td>Yes</td>
</tr>
</tbody>
</table>

What Should I Do?
1. Continue methotrexate 6 pills weekly, folate acid daily
2. Nurse scheduled telephone visit and labs in 4 months (can wait until scheduled lab with Dr. Then in October for Dr. Newman's labs)
3. Return Dr. Newman/labs in 8 months
4. Call or message if any more flares - might need to increase methotrexate
After the Room
PACER™ 2017

• The only software program in the field of rheumatology that has improved care on a population level (2,500 patients with Rheumatoid arthritis). The more PACER is used, the better disease is controlled.*

• Created one of the largest Rheumatology outcome databases at a single center (>100,000 measures of disease activity)

• Using PACER, our Rheumatology Department is leading the country across a broad array of RA quality measures.

• Using a novel “biologic de-escalation” measure we built into PACER, we were able to show a reduction in biologic use (> $1 million savings)**


Journey of Management
AIM FARTHER is a value-based care model we developed for Rheumatoid Arthritis management.

PACER™ was used as the data acquisition and care delivery tool for our AIM FARTHER Rheumatoid Arthritis population care model.
AIM FARTHER Objective Summary

- Improve quality of care
  - through a strategic treatment approach, measurement, and reporting
- Improve efficiency and effectiveness of care
  - using technology and people in a highly efficient and effective manner
- Reduce cost of care
  - reducing DMARDs/biologic variability
- Successfully integrate PCMH and Specialists
  - using communication tools and co-attribution
AIM FARTHER Components

1. Chronic Disease Registry
2. Specialty Role and Attribution
3. PCMH-Specialty Integration Agreement
4. Strategic Approach
5. Measurement (quality measures, bundle)
6. Reporting (task management, performance)
AIM FARTHER Components

1) Chronic Disease Registry

- Identify the RA population (encounter dx)
- Create an RA registry in the EHR (problem list)
- Maintain an accurate RA problem list registry using reconciliation reports
  - Reconcile duplicate inflammatory arthritis codes
  - Reconcile encounter/problem list coding disparities
  - How to approach ICD-10 (oy vey)
### AIM FARTHER Components

#### 2) Role and Attribution - Rheumatologist

<table>
<thead>
<tr>
<th>Role</th>
<th>Rheumatoid Arthritis (RA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Specialist</td>
<td>All patients with immunologically active RA (DMARD/prednisone or inflammatory signs/symptoms)</td>
</tr>
<tr>
<td>Consultant</td>
<td><em>ad hoc</em> - RA patients off all DMARDs and no inflammatory symptoms or signs</td>
</tr>
<tr>
<td>Advisor</td>
<td>All RA patients - new therapies and strategies</td>
</tr>
<tr>
<td>Registry Steward</td>
<td>Creating and maintaining accurate problem-list based Rheumatoid Arthritis diagnosis</td>
</tr>
</tbody>
</table>
AIM FARTHER Components

2) Roles and Attribution - Rheumatology Team

- Providers (strategic decision making, quality measures)
- Front Desk (patient data collection)
- Nurses (patient data collection, quality measures)
- Entire Team (patient activation)
AIM FARTHER Components

3) PCMH*-Specialty Integration Agreement

- Cooperation
- Communication
- Roles and Attribution

(*Patient-Centered Medical Home)
## AIM FARTHER Components

### 4) Strategic Approach: Management of RA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Current Approach</th>
<th>Strategic Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Visits</td>
<td>Individualistic</td>
<td>Based on Disease Activity</td>
</tr>
<tr>
<td>Provider Type</td>
<td>Physician</td>
<td>Physician, Nurse</td>
</tr>
<tr>
<td>Mode of Care Delivery</td>
<td>Clinic visits</td>
<td>Clinic Visits, Phone Calls, Televisits</td>
</tr>
<tr>
<td>Medication Use</td>
<td>Individualistic</td>
<td>Add, Escalation, De-escalation based on Treat to Target Protocol (“bookends”)</td>
</tr>
<tr>
<td>Care Gaps</td>
<td>Addressed unreliably, individually</td>
<td>Addressed reliably, by design</td>
</tr>
<tr>
<td>Disease Activity Measurement</td>
<td>Assessed subjectively</td>
<td>Assessed objectively, response driven by Treat to Target</td>
</tr>
</tbody>
</table>
## AIM FARTHER Components

### 5) Measurement – RA Quality Measure Bundle

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measure Attribution</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCMH Measure</td>
<td></td>
<td>Rheumatology Referral</td>
</tr>
<tr>
<td>PCMH-Specialty Co-measure</td>
<td></td>
<td>RA on DMARD</td>
</tr>
<tr>
<td>Specialty measure</td>
<td></td>
<td>Active RA on DMARD</td>
</tr>
<tr>
<td>Specialty measure</td>
<td></td>
<td>RA with CDAI*</td>
</tr>
<tr>
<td>Specialty measure</td>
<td></td>
<td>RA at low disease activity</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty measure</td>
<td></td>
<td>Tuberculosis testing if on Biologic</td>
</tr>
<tr>
<td>PCMH-Specialty Co-measure</td>
<td></td>
<td>Influenza Vaccine</td>
</tr>
<tr>
<td>PCMH-Specialty Co-measure</td>
<td></td>
<td>Pneumococcal Vaccine</td>
</tr>
<tr>
<td><strong>Co-Morbidity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCMH-Specialty Co-measure</td>
<td></td>
<td>LDL Checked</td>
</tr>
<tr>
<td>PCMH measure</td>
<td></td>
<td>LDL at goal</td>
</tr>
</tbody>
</table>

*CDAI = Clinical Disease Activity Index
AIM FARTHER Components
Reporting - (1) Task Management

Task Management Scorecard
Patient level care gaps that can be closed at point of service (PACER) & between visits

<table>
<thead>
<tr>
<th>Disease Activity Measures</th>
<th>Drug Safety Measures</th>
<th>Comorbidty Measures</th>
<th>Value Based Care Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA on DMARD</td>
<td>PPD if on Biologic</td>
<td>LDL Checked</td>
<td>Biologic De-escalation</td>
</tr>
<tr>
<td>Active RA on DMARD</td>
<td>Flu Vaccine (Yearly)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RA at Low Disease Activity</td>
<td>Pneumococcal Vaccine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDIA Completed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Unique Biologic De-escalation Measure**
Signals a de-escalation opportunity via shared decision making
AIM FARTHER Components

Reporting – (2) Performance

Provider Leaderboard

- Transparent quality measure leaderboard of all Rheumatology providers
- Shared transparently at monthly Rheum Best Practice Meeting

Trends over Time

- Patient Scorecards are rolled up to a Bundle Measure Performance Report (provider level, department level, division level)
- Trended weekly and shared transparently at monthly Rheum Best Practice Meeting
Results – Quality (2,378 RA patients)

Figure 2. AIM FARTHER quality measure improvement at 22 months

- RA on DMARD
- Active RA on DMARD
- RA at Low Disease Activity
- Testing on biologic
- Influenza Vaccine
- Pneumococcal Vaccine
- LDI Checked
- All or None Bundle

* p<0.001
** p<0.038
+ p<0.058
Results – Cost

Biologic De-escalation Analysis CY 2013*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number of patient charts for review</strong></td>
<td><strong>940</strong></td>
</tr>
<tr>
<td>Number of Patients De-escalated</td>
<td><strong>87 (9.3%)</strong></td>
</tr>
<tr>
<td>Number (%) of Successful De-escalations</td>
<td><strong>74 (85.1%)</strong></td>
</tr>
<tr>
<td>Total Savings</td>
<td><strong>$719,702</strong></td>
</tr>
<tr>
<td>1 year Extrapolation for Successful De-escalations</td>
<td><strong>$1,256,886</strong></td>
</tr>
</tbody>
</table>

(*Session "Rheumatoid Arthritis - Clinical Aspects II: Remission and De-escalation of Therapy", Presentation #941 on 11/16/14, 4:45pm)
Measurement to Management
Ingredients for Success
Ingredients for success

• Create a real team
• Learn how to problem solve
• Start measuring what you do
• Explore alternative revenue streams
Create a Real Team
Create a Real Team

Typical Healthcare Teams

– Hierarchical, feudal
  • No empowerment, equality
  • Staff and Support Staff
  • Animal Farm
– Separate reporting lines
  • physicians
  • non-physicians
– No forum for quality and process improvement
Geisinger Rheumatology Team

Doc Director

Ops Manager

Nurses

Secretaries

Rheumatologists

Doc Division Director

Senior Ops Manager

West

Central

NE
Geisinger Rheumatology Team Forums

- **Huddles (daily)**
  - The good, bad, and ugly
- **Floor Meeting (monthly)**
  - Monthly, local, face to face
  - Process improvement and business
- **Best Practice (monthly)**
  - System wide, video conferencing
  - Quality improvement projects
  - Discuss, plan, operationalize, report
Learn How to Problem Solve
Learn How to Problem Solve

• Usual Problem solving process
  – Problem recognition
    • Something goes wrong and someone yells a lot
    • Someone has bad data and misinterprets
  – Problem solving
    • A group of smart people get in a room
    • They decide the solution and systematize it
Learn How to Problem Solve

The problem with this process is

- It does not distinguish between an isolated event (just deal with it) and a systematic issue (Houston we have a problem)
- There is no respect for systems
- A wide-spread solution is implemented without understanding the problem
Learn How to Problem Solve

The end result is

- ICD-10
- Pre-Auth
- HIPAA
- Meaningful Use
Learn How to Problem Solve the Right Way

- Define the problem
- Analyze the problem
- Develop some solutions
- Test a solution
- Measure the results of testing
- Reassess, retest, re-measure

**Don’t Skip Steps**
Start Measuring What You Do
You don’t understand what you don’t measure

Assuming your business is
  – To take excellent care of your patients
  – To provide excellent service to your referring docs
  – To have a life

How can you run your business if you
  – Don’t measure the quality you deliver?
  – Don’t measure the service you provide?
  – Get home at 9pm because there is “so much work to do”?

Pearl
  – Measure, measure measure
  – You will be surprised at what you find, and you will be able to quantify your success as you succeed
Explore Alternative Revenue Streams
Explore Alternative Revenue Streams

1st Law of Holes

Rheumatologists are not going to survive by trying to do more of the same (more visits, more infusions, more injections)
Explore Alternative Finances

- Seek out/create opportunities for alternative revenue streams
  - Lead a program
  - Build a database
  - Partner with primary care
  - Broaden your role
  - Prove your value

- **Lead with Quality and Finance will follow**
quotable quotes ...
“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”

*Albert Einstein*
It is not necessary to change. Survival is not mandatory.

*W. Edwards Deming*
“Don’t propose a solution until you fully understand the problem”

anonymous
also every engineer in the world
“You can’t fatten a cow by weighing it”

Janet Comrey
“I’d rather have a bottle in front of me than a frontal lobotomy.”

*Starsky and Hutch*
"If toast always lands butter-side down, and cats always land on their feet, what happens if you strap toast on the back of a cat and drop it?"

Steven Wright
Q and A