Implementation of Clinical Billing and Coding Curriculum

Rae Adams, MD
Program Director
Texas A&M Family Medicine Residency

Problem

- May 2016- New Director of Clinical Operations began tracking billing and coding trends
- Coding percentages were collected and compared to the national average
Initial Findings

- CMS National Family Medicine average for 99214: 44.9%
- Baseline for TAMFMR from August 2014 - July 2016 for 99214: 11.2%

Why does it matter?

- CMS compliance (avoid an audit)
- Financial implications to Texas A&M Physicians
- Imperative for residents to learn accurate coding to apply in their future practice
Potential Causes of Under Coding

- Deficit in clinical coding knowledge among Resident and faculty physicians
- Physical inability of preceptor to evaluate patient with resident at the time of service

Solution

- Faculty development by using E&M University
- Resident didactic lectures
- Implementation of a clinical billing and coding curriculum
- Monthly billing performance feedback provided to faculty and residents
Coding Curriculum

Residents directed to review required E&M coding checklist with faculty assistance during clinic

• PGY1: all non-preventative visits
• PGY2 and 3: MDM forms on first 3 visits per half day

Impact of Solution

% of 99214

- 2014-2015
- Aug-16
- Sep-16
- Oct-16
- Nov-16
- Dec-16
- Jan-17

% of 99214
Financial Impact

Assuming same patient mix and number of patient visits, if we remain at 42% 99214 visits, we expect a net increase of $334,000 in charges for fiscal year 2017.

Long-term Compliance

- Accurate coding by all physicians in the practice, while not artificially padding numbers
- Monthly coding accuracy report provided to physicians for review
- Added to our quarterly peer review process
Reaction vs. Ruin

- Septic story
- Rate of addiction between 8-12% of those prescribed narcotics. [11]

Background:

- Can we safely prescribe less opioids without any impact to patient satisfaction?
- 74% of physicians state that they feel pressured to give narcotics to maintain HCAHPS [1]
Objective:

• Evaluate the impact of monitoring and non-punitive recommendations on patient safety and satisfaction.

Endpoints

• Patient satisfaction with pain control
  – As measures by HCAHPS
• Reduction in Opiate Related Adverse Drug Events
• Reduction in Narcan Use
• Reduction in Length of Stay
• Cost Efficacy
Demographics

• Level 3 trauma center with 166 approved beds. We are a public trust hospital in an area serving over 100,000. Impacting 17 counties in southeastern Oklahoma
• Icu, Medical, Step Down, SNF, Rehab, peds, ob/gyn
• Average daily census 47

Methods:

• October 2015 formed stewardship committee
• January 2016: Removal of IV morphine and ativan from hospitalist order set
  – Physicians are still able to order, but must be written separately.
• January 2016: Tracking the amount prescribed for high potency narcotics (i.e. hydromorphone, meperidine)
  – fentanyl IV excluded as it is used only for sedation
• March 2016: CME event to review the updated CDC guidelines for Opiod use.
• July 2016: Informing physicians of how their prescribing practices compared to others
  – Quartely trend sheets placed in physician areas.
• July 2016: Daily pharmacy review of total Milligram Morphine Equivalents written with recommendations to those exceeding CDC recommendations.
  – 50MME leads to Double risk of adverse events
  – 100MME leads to Nine times greater risk of adverse events
What Does That Look Like?
(50MME Doubles Risk)

<table>
<thead>
<tr>
<th>Oral Medication</th>
<th>Intravenous Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultram 100mg PO q 4-6</td>
<td>Morphine 2.5mg IV q 4-6</td>
</tr>
<tr>
<td>Lortab 10 mg PO q 4-6</td>
<td>Morphine 5mg IV q 8</td>
</tr>
<tr>
<td>Percocet 5mg PO q 4</td>
<td>Morphine 10mg IV q 16</td>
</tr>
<tr>
<td>Percocet 10mg PO q 8</td>
<td>Dilaudid 1mg IV q 16</td>
</tr>
<tr>
<td>Morphine 10 mg PO q 4-6</td>
<td>Dilaudid 2mg IV ONCE daily</td>
</tr>
<tr>
<td>Dilaudid 0.5mg PO once</td>
<td>Fentanyl 50 mcg IV ONCE</td>
</tr>
</tbody>
</table>

Yes, several of these are less than what you routinely write. Risk vs Benefits (at double these doses it doubles your chance of having a problem) At Twice these doses it is 9X greater risk!
Oral Vs IV

- The total decrease in Milligram Morphine Equivalent IV from 2015 to 2016 was 63%.
  - Not only were we writing less, we were writing lower doses.
- Oral pain medicine dispensed increased 3.15% 2015 vs 2016.
  - The Milligram Morphine equivalence change from oral was a decrease of 16%, this means more meds were administered but at a lower dose.

Narcotics Administered (Physician Area)
What does that equal?

- 7 Norco 10 mg per patient per day in 2015
  - That includes newborns.
- 4 Norco 10 mg per day per patient in 2016
  - still includes newborns
Cost

- 87 minutes of pharmacist time per day, contacting physician exceeding recommended dose and suggesting to convert from IV to oral
- This includes our concurrent antibiotic stewardship time.

Physician Acceptance

- Physicians near universally were satisfied with the results.
- A secondary study is underway to evaluate physician prescribing patterns with awareness.
  - Spoiler: Those that prescribe the most pain meds don’t realize and tend to over rationalize their habits.
Results

- HCAHPS increased 1.36% (p=0.025)
  - Interesting note, patients actually rated their pain higher, but felt it was better controlled.
- Los reduction decreased 15.09% (p=0.0023)
- Falls decreased 17.31%
- ADE per 1000 patient days 20.69%

Percent Reductions
Payoff

• Length of Stay Reduction: $1,580,000
• Drug Cost: $12,272.99
• Avoidable Loss due to ADE: $1,140,000
• Total: $2,732,272

References

• https://wire.ama-assn.org/delivering-care/patient-satisfaction-surveys-need-better-address-pain-management-fighting-opioid
• https://www.ncbi.nlm.nih.gov/pubmed/17066115
• http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1108766?resultClick=3
• http://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm
• https://www.ncbi.nlm.nih.gov/pubmed/26913753
• Vizient Data
• HCAPHS score cards
• Catalyst report
• Stewardship committee data sets
• https://www.ncbi.nlm.nih.gov/pubmed/25785523
Effect of Non-visit Care on Resident Work Load

Vicki L. Jacobsen, M.D.
Mayo Clinic, Rochester, MN

Non-visit Care (NVC)

• Work unrelated to the patient visit
  – Patient phone calls, on-line communication
  – Test/consult results
  – Prescription refills
  – Forms
  – Notifications
Non-visit Care

- Family physicians in practice:
  - 23% of the work day
- Minimal data on how much time residents spend on NVC

Goal

- Develop an objective measure of the amount of time family medicine residents spend on NVC
METHODS

• Demographics
• Tracked NVC events on the EHR for 22 residents over 9 months
• Resident panel
• Institutional time study

Six most common NVC categories performed by residents

<table>
<thead>
<tr>
<th>Most Common NVC Categories</th>
<th>Total number of events</th>
<th>Minutes per event as measured by time study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders to Sign</td>
<td>15,824</td>
<td>1:00 (estimate)</td>
</tr>
<tr>
<td>Care Review (test results)</td>
<td>12,950</td>
<td>2:59</td>
</tr>
<tr>
<td>General Message (Patient on-line communication)</td>
<td>6,173</td>
<td>8:44</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>3,231</td>
<td>3:40</td>
</tr>
<tr>
<td>Emergency Department visit</td>
<td>2,334</td>
<td>1:39</td>
</tr>
<tr>
<td>Telephone Message</td>
<td>1,474</td>
<td>7:00</td>
</tr>
</tbody>
</table>
RESULTS

- 22/24 Family Medicine residents
- Mean Panel size - **642**
  - Range: 491 - 702
- Mean number of NVC events per resident
  - **2391**
  - Range: 1187 - 5010.

Number of Non-Visit Care events for residents, by panel size
RESULTS

• Mean of 7357.83 minutes on NVC duties in the 9 month time span, or 13.6 hours per month.
• 127.3 min of NVC time per 100 patients per month for each resident

Time Residents spent in Non-Visit Care, by panel size
DISCUSSION

• 127.3 min per 100 patients in their panel per month
• How do we keep residents within duty hour limitations?

DISCUSSION

• Strengths of study
  – Objective measurement
  – Extended time span
  – Measured all NVC performed by residents regardless of when task completed
DISCUSSION

• Limitations of study
  – Underestimation of time spent
    • Time study
    • Urgent tasks
    • Unlicensed residents
  – Did not control for # of patient visits, age & medical complexity, distance patients traveled

SUMMARY

• 127.3 min of NVC time per 100 empanelled patients per month for each resident
• Need to actively systems and curricula that promote duty hour compliance
Revolution in Resident Scheduling: A Mini-Block Model

Barbara H. Miller, MD
Program Director,
OU-Tulsa Dept. of Family & Community Medicine

with Frances Wen, PhD and Ronald Saizow, MD

Introduction

• Where we were…
  – Everything else prioritized BUT clinic
  – Living in the “training gap”
  – Chaos in the ambulatory center
  – Poor patient continuity
  – Poor resident accountability
Introduction

- Where we wanted to be…
  - “Clinic First”
    - Complementary service/education missions
  - Continuity prioritized
  - Resident wellbeing enhanced
  - Rotations strengthened/de-fragmented

Gupta, Dube, Bodenheimer. The Road to Excellence in Primary Care Resident Teaching Clinics. Acad Med 2106;91(4):458-61.

How we began the journey…

- Rapid resident cycling: “2+2”

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ mo.</td>
<td>Peds</td>
<td>Peds</td>
<td>Peds</td>
<td>Surg</td>
<td>IP</td>
<td>IP</td>
<td>IP</td>
<td>OB</td>
<td>OB</td>
<td>OB</td>
<td>NBN</td>
<td>EM</td>
</tr>
<tr>
<td>½ mo.</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
</tr>
</tbody>
</table>

AY 2016-17: PGY-1 – all
PGY-2/3 – IP only

## The AMB Mini-Block

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Continuity Clinic</td>
<td>Continuity Clinic</td>
<td>Continuity Clinic</td>
<td>Continuity Clinic</td>
<td>Theme</td>
</tr>
<tr>
<td>PM</td>
<td>Continuity Clinic</td>
<td>Academic Afternoon</td>
<td>Continuity Clinic</td>
<td>Continuity Clinic</td>
<td>Practice Mgmt</td>
</tr>
</tbody>
</table>

Themes:
- Q1-Professionalism/Communication
- Q2-Leadership Development
- Q3-Behavioral Health/Wellness
- Q4-Team Dynamics

## The Rotation Mini-Block

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Rotation</td>
<td>Rotation</td>
<td>Rotation</td>
<td>Rotation</td>
<td>Rotation</td>
</tr>
<tr>
<td>PM</td>
<td>Rotation</td>
<td>AA</td>
<td>Rotation</td>
<td>Rotation</td>
<td>Rotation</td>
</tr>
</tbody>
</table>
Objectives for the Innovation

• Eliminate phase-shifting
• Reduce clinic schedule variability
• Increase ambulatory time in clinic
• Simplify the scheduling matrix
• Potentiate stable patient-learner-faculty teams

Hypothesized Impacts…

• Improve residents’ perception of the clinical learning environment
• Improve continuity of care for patients
• Improve perception and observation of fluency in the ambulatory environment
Methods for Study/Analysis

- VA Learner’s Perception Survey (all)
- Modified Nominal Group Technique (R1)
- Continuity
  - UPC: % visits patients seen by PCP
  - PHY: % visits residents see their patients

Results: VA LPS

Learning Environment

- All June 2016 *Average Score
- All Dec 2016 *Average Score
**Significant Improvement**

- Ability to focus in clinic without interruption
- Ownership/personal responsibility for patient’s care
- Overall satisfaction with the learning environment!
- Near-significant: autonomy, spectrum of patient problems, diversity of patients, balanced clinic/IP duties, relationship with patients

**Hypothesis Testing**

- Learning Environment as primary endpoint
  - Q35 = “Overall satisfaction with learning environment”
  - Composite = average of 20 items, excl. Q35
- Compared PGY-1 vs. PGY-2/3 classes
- Student’s t-test, one-tailed
### Overall Satisfaction with LE

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>7</td>
<td>1.57</td>
<td>0.54</td>
</tr>
<tr>
<td>PGY-2/3</td>
<td>30</td>
<td>2.82</td>
<td>0.97</td>
</tr>
</tbody>
</table>

$t(35)=-3.26, \ p<.001$

### Composite Satisfaction with LE

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>7</td>
<td>1.61</td>
<td>0.49</td>
</tr>
<tr>
<td>PGY-2/3</td>
<td>30</td>
<td>2.61</td>
<td>0.58</td>
</tr>
</tbody>
</table>

$t(35)=-4.18, \ p<.0005$
## Results-MNGT

<table>
<thead>
<tr>
<th>Strengths</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Continuity of AMB Care</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Competency in AMB Care</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Focused Learning</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Smaller Learning Chunks</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Friday Sessions</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Areas for Improvement</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Inpatient Experience</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>15 Straight Working Days</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Senior Call/Post-Call</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Low Diversity of Attendings</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Limited OB Experience</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Relation with Other Programs</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Big Care Transitions/ Decreased IP Continuity</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

## Results-Continuity

<table>
<thead>
<tr>
<th>UPC</th>
<th>6/2016</th>
<th>12/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>26.82%</td>
<td>49.87%</td>
</tr>
<tr>
<td>PGY-2</td>
<td>40.00%</td>
<td>58.03%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHY</th>
<th>6/2016</th>
<th>12/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>68.30%</td>
<td>58.60%</td>
</tr>
<tr>
<td>PGY-2</td>
<td>65.70%</td>
<td>48.24%</td>
</tr>
</tbody>
</table>
Initial Conclusions

• More satisfaction in the learning environment for residents overall

<table>
<thead>
<tr>
<th>Survey item</th>
<th>Δ in value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to focus during clinic without interruption</td>
<td>1.09</td>
</tr>
<tr>
<td>Ability to balance ward/IP duties on clinic days</td>
<td>1.07</td>
</tr>
<tr>
<td>Overall satisfaction with the learning environment</td>
<td>0.93</td>
</tr>
<tr>
<td>Diversity of patients</td>
<td>0.77</td>
</tr>
<tr>
<td>Spectrum of patient problems</td>
<td>0.69</td>
</tr>
<tr>
<td>Relationship with patients</td>
<td>0.64</td>
</tr>
<tr>
<td>Degree of autonomy</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Initial Conclusions

• PGY-1 class describes improved quality of life, continuity/competency in AMB care
• Improved patient-oriented continuity of care
• Need to closely monitor in-hospital competencies, allow diversification
Next Steps…

• AY 2017-18…
  – Scale the model to all residents!
• Patient-learner-faculty preceptor teams
  – Clear line of educational/clinical responsibility
• Weave in other longitudinal pieces…
  – Thinking population health

Please…

Complete the session evaluation.

Thank you.