C3: Cognitive Load, Interrupted Flow, and Burnout: Small Steps toward Improvement
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Objectives

● Understand several ways the EHR may adversely affect Primary Care of difficult patients
● Explore a care improvement effort via template revision

No Disclosures
Knowing the place….

- Placebo, Context, and Adherence
- Flow
- Threats to Care Environments
- Burnout
- Cognitive Load
- Difficult Patients/Tough Days in Primary Care
- Chronic Pain Care & Quality Improvement
- Smoothing F/U template, roles, and process
- Teamwork that works
Flashback:  
**Persuasion and Healing**, 1961  
Jerome Frank [1909-2005]  
https://www.youtube.com/watch?v=fHAY8JINu3Y

**Conditions for healing**

1. Confidence in healer’s competence and desire to help.
2. Care provided in a place of healing.
3. Care based on rationale which explains illness and healing.
4. Care helps patient overcome alienation.

**Placebo**

- Induction of hope, built on confidence and trust in caregiver.
- Impacts dopamine (Parkinson’s research)
- Impacts endogenous opioids, as does effective Rx, for depression
- Overcomes alienation.
- Personal or organizational. (Hawthorne effect)
- Related to adherence effect. (Simpson et al; BMJ, 2006)
Empathy-Context

- Cognitive + affective; impacts on healing & immune function. (Rakel et al; FamMed, 2009.)
- Neural Coupling, Brain-Brain, via narrative. (Selbet et al; PNAS, 2014; Hasson et al; TrendsCogSci, 2012)
- Appreciating the drama of the patient’s life, illness, and healing.
- Making sense of the drama depends on context.
- Context includes barriers to adherence.
- Understanding context facilitates patient’s hope and trust, and tailors care to the person.

Adherence

- Behavioral measure, and more...
- Powerful but still uncharted.
- Adherence, to placebo or helpful drug, is associated with diverse positive health outcomes versus nonadherence, or adherence to a nonhelpful drug.
Adherence meta-analysis [Simpson, BMJ, 2006]

Results: Data were available from 21 studies (46,847 participants), including eight studies with placebo arms (19,633 participants). Compared with poor adherence, good adherence was associated with lower mortality (odds ratio 0.56, 95% confidence interval 0.50 to 0.63). Good adherence to placebo was associated with lower mortality (0.56, 0.43 to 0.74), as was good adherence to beneficial drug therapy (0.55, 0.49 to 0.62). Good adherence to harmful drug therapy was associated with increased mortality (2.90, 1.04 to 8.11).

Conclusion: Good adherence to drug therapy is associated with positive health outcomes. Moreover, the observed association between good adherence to placebo and mortality supports the existence of the “healthy adherer” effect, whereby adherence to drug therapy may be a surrogate marker for overall healthy behaviour.

Adherence Review [Wilson, JGenIntMed, 2010]

Evidence is accumulating that the context in which interventions are provided has concrete, clinically significant, and physiologically mediated effects on health outcomes. In clinical care this context probably includes not just a patient’s expectations related to a specific medication, but also a broad set of interrelated factors such as:

- the quality of the communication they have with providers,
- the level of trust they have in both providers and the care system, and more generally,
- patient self-efficacy,
- patient activation,
- social support.

Attention to these factors will optimize the impact of effective treatments. Similarly, failure to attend to these factors may reduce or eliminate the impact of effective treatments, either through poor adherence, through the mechanisms discussed above, or through a combination of the two.
FLOW

(Relevant) definitions of flow

- PATIENT FLOW
- INFORMATION FLOW
- TASK FLOW
- EXPERIENCE OF FLOW
- INTERPERSONAL FLOW
**Patient Flow**

*from Cuevas and Antz, SixSigma.com, 2015*

![Patient Flow Diagram](image)

**Information Flow**

"Reasons (not) to Spend a Few Billions More on EHRs: How Human Factors Research Can Help."

DeClerck & Aime, 2014 Yearbook of Medical Informatics

List of Top 2014 Articles on Human Factors & EHRs


- Conclusions: More sophisticated EHR systems cut into time for patient care; Less sophisticated may require work-arounds combining paper information flow plus EHR. Babbott et al

- And..."low tech media such as paper notes and whiteboards have powerful advantages that cannot be easily replicated electronically." Flanagan et al, JAMIA, 2014
TASK FLOW = Break-in-task before (top) and after (bottom) CPOE Implementation

Zheng K, Haftel HM, Hirschl RB. Quantifying the impact of health IT implementations on clinical workflow: a new methodological perspective. JAMIA 2010 17: 454-461

Experience of Flow
FLOW: Csikszentmihalyi

- There are clear goals every step of the way.
- There is immediate feedback to one’s actions.
- There is a balance between challenges and skills.
- Action and awareness are merged.
- Distractions are excluded from consciousness.
- There is no worry of failure.
- Self-consciousness disappears.
- The sense of time becomes distorted.
- The activity becomes an end in itself.

Measuring Flow

- Flow State Scale (FSS; Jackson) for a specific enjoyable activity. Payne et al, 2011
- FSS for Occupational Tasks: developed for OT with online tasks inducing flow, boredom or anxiety. Yoshida et al, 2013.
Flow: ESM / Physiology

- Experience Sampling Methods (ESM) via beepers, watches, digital assistants. Qualitative or abbreviated measures: challenge & skill levels  
  enjoyment & absorption levels.  
  Bringsen et al, 2011  
  Rodriguez-Sanchez et al, 2011

- Physiological Research (Computer game tasks)
     Peifer, 2015
  2. HRV and Flow Short Scale: Inverted U with sympathetic activation; linear positive with parasympathetic.  
     Peifer et al, 2014
  3. HRV and Salivary Cortisol: ‘Skills=Demands’ correlates with pleasure/involvement as well as activation indicators.  
     Keller et al, 2011
  4. Prefrontal Cortex activity (fNIRS: oxy-HGB) and Task Flow versus Boredom: Flow with increased bilateral prefrontal cortex activity.  
     Yoshida et al, 2014

Flow Experience & Health Care

- Much discussion, little research; minimal in PubMed.
- Makikingen, 2010: Longitudinal study of employment agency staff: low levels of exhaustion associated w/more flow & resources.
- Colombo & Zito (2014): Nursing job resources predict work enjoyment of job; more job demands w/more absorption & less enjoyment, intrinsic motivation.
- Rodriguez-Sanchez (2011): Those with significant burnout have less flow (absorption and enjoyment).
Interpersonal Flow in Primary Care
from Christine Sinsky, WPA, 2014

- Mindful Attention
- Facilitation of Relationship
- Empathic Linkage
- Concerns Understood
- Context Explored
- Grasp of Barriers/Facilitators to Healing
- Collaboration
- Adherence

THREATS TO CARE ENVIRONMENTS
Are we distracted by EHR use?

- Current EHR use interferes with face-to-face discussions with patients, required physicians to spend too much time performing clerical work and degrades the accuracy of medical records by encouraging template-generated notes”
- Several things positive but…. “69% of preceptors ‘...felt patient...communication negatively impacted by the EHR’”


Sandoval M, Palumbo MV. What is The Effect of the Electronic Health Record on the Outpatient Office Visit and Student Education? Poster presented at AHRQ PBRN Conference, Bethesda, MD June 2013
What do we miss?

- Using NAMCS data, (N=3,467), Clinicians had only 75% of base rate of depression Rx for patients with 3 or more chronic conditions when using EHRs
  - “EMRs appear to have an unintended negative association with depression care provided during visits made by primary care patients with multiple chronic conditions.”


BURNOUT
Quotes from Dr. Christine Sinsky...
“From Triple to Quadruple Aim...
Care of the Patient Requires Care of the Provider.”
AnnFamMed, 2014

- “The joy of practicing medicine is gone.”
- “I hate being a doctor...I can’t wait to get out.”
- “I can’t tell you how defeated I feel...The feeling of being punished for delivering good care is nerve-racking.”
- “I am no longer a physician but the data manager, data entry clerk and steno girl...I became a doctor to take care of patients. I have become the typist.”

Some more voices
- Ad recruiting physicians: “…only one line was in bold: ‘No EMR.’” Wachter, NYT, 3/21/15
- “…user-centered design is part of aviation’s DNA, yet has been woefully lacking in health care software design” Wachter, 2015
- “End EMR Tyranny!” Article title, Hickner, JFP, 2013
- EMRs = “lower quality of care & higher costs...attention-dividing...government barely bothered to study...before nationalizing....” Singer WSJ, 2/16/15
- EMRs “immature, costly...a challenge to practice sustainability.” AMA president elect, quoted in HealthLeadersMedia. 9/17/14
Maslach Burnout Inventory

- State, not Trait
- Acute versus Chronic
- Diverse connections
- Three factors:
  1. Emotional Exhaustion
  2. Depersonalization
  3. Lack of Personal Accomplishment

Resident-Physician stress

- Difficult patients – vexed residents
- “I know what’s right – do I have to listen to them?”
- Do I have time to listen?
- Will I have time for anything else after I finish charting?
- Such patients report appreciation for physician caring and patience!  
  (Altgoose; DFM, 2013)
Trends Among Physicians

- Cross-sectional data suggests increased levels of burnout (2013-15), notably in primary care. *Peckham, Medscape, 1/26/2015*
- No recent comprehensive updates on suicide, though data summary, 2013. *Gold et al, GenHospPsy*
- Suicide rates among physicians generally higher than matched general population.
- Significant concern among those in medical education (eg med students; residents)
- Burnout and SI associated in med students.

Percentage of burned-out physicians by specialty

(Medscape, 2015)
"Beleaguered by electronic record mandates, some doctors burning out"
From Chicago Tribune, 3/13/16

The AMA has gathered dozens of written and videotaped testimonials from doctors around the country, sharing horror stories and frustrations through its website as part of its "Break the Red Tape" campaign against "meaningful use."

"I feel that I am typing my way into burnout," wrote Dr. Laura Knudson, a family physician from Bloomington, Ind. "Instead of spending my days listening to patients and solving their problems, I feel that I spend most of my time struggling to make unique stories and needs fit into an arcane system of clicks and drop-down menus."

Dr. Katherine J. Atkinson, a family physician from Amherst, Mass., said she had to hire an information technology consultant for 19 months to help train her staff. "It's been so exhausting," she said on the video. "It's interfered with patient care. It's left us financially bereft."
Emerging Concerns

- Enormous Electronic and Economic changes
- Relationship and Personal levels of adverse impact (eg, Charting, billing, & entering orders in EPIC at home; Bureaucratic Tasks and Computerization #1 & #3 causes of burnout: Medscape 2014)
- No work week hour limits for physicians in practice (Hours/week = #2 cause of burnout)
- Perfectionism giving rise to self-denigration
- Role complexity and overload disrupting job satisfaction: “20% of what I was doing gave me 80% of my satisfaction.” MD leaving teaching practice

- Overload/Alienation/Dissatisfaction
- Self-criticism, Guilt
- Distance from a nonmedical world
- Lack of support & self-care
- De-normalization of extreme reactions to extreme situations
- Physicians with higher volume of difficult encounters report greater burnout and less job satisfaction. An et al; ArchIntMed, 2009.
Cognitive Load Theory
(Young et al; BMJ Qual Saf, 2016; Young et al; Teach Lrn Med, 2016)

- INTRINSIC: The nature of the task
- GERMANE: Relevant to task execution
- EXTRANEOUS: Intrusive/disruptive
- TOTAL LOAD = I + G + E
- Sensory - Working - Long-Term = Memory
- Load capacity most limited by Working Memory
- Skill levels; illness templates; ‘mental models’
### Primary Strategies Addressing Overload

- **Titrate intrinsic load**: time allocation; break into components; prioritizing tasks
- **Reduce extraneous load**: less clutter; fewer interruptions; filter out nonrelevant alerts; affective residue
- **Optimize germane load**: self-monitoring; effective communication (eg SBAR; skills of consultation with faculty/staffer/specialist)

<table>
<thead>
<tr>
<th>Type of Cognitive Load</th>
<th>Driver as Identified by CLT</th>
<th>Examples of Associated Handoff Factors</th>
</tr>
</thead>
</table>
| **Intrinsic**          | Number of information elements | - Number of patients  
|                        | Time                         | - Number of comorbidities per patient  
|                        | Interactivity of the information elements | - Number of follow-up tasks  
|                        | Knowledge level of the learner | - Uncertainties or contingencies: diagnostic, therapeutic, or informational  
|                        | Modality of information      | - Maturity of the evidence base for the disease  
|                        | Distractions                 | - Maturity of learner’s relevant illness scripts  
|                        | Physiology                   | - Sender does not identify anticipated events  
|                        | Strategies to enhance learning | - Clinical information fragmented – in different places  
|                        |                             | - Handoff process not clear  
|                        |                             | - Information not distributed between visual and auditory channels  
|                        |                             | - Background noise  
|                        |                             | - Interruptions  
|                        |                             | - Gradients—authority, experience, specialty  
|                        |                             | - Preoccupied with internal concern (e.g., how perceived by others)  
|                        |                             | - Fatigue  
|                        |                             | - Working memory capacity  
| **Extraneous**         |                             | - Self-explanation  
|                        |                             | - Concentration  
|                        |                             | - Metacognition: anticipatory planning, monitoring, adapting, generalizing  
|                        |                             | - Interactive questioning  
| **Germane**            |                             | - Familiarity with the handoff procedure  
|                        |                             | - Knowledge level of learner  
|                        |                             | - Knowledge and skill level of learners  
|                        |                             | - Need for efficiency and accuracy in handoff  
|                        |                             | - Need for seamless integration of care  

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**Note**: The table above outlines various drivers and factors associated with each type of cognitive load, along with strategies to address and optimize these loads. This approach helps in managing the cognitive demands of information processing and decision-making during handoffs, thereby improving communication and patient care.
Cognitive Load measures

- Qualitative Task Analysis (eg, EMR Clinic Notes)  Koopman et al; JABFM, 2015
- Self-Report Ratings (eg, NASA-TLX)
- Eye Movement
- Signal Detection rate and Reaction time
- EMR Search and Screen time
  (Moacdieh et al; ProcHumFactErgonomSoc, 2014)

**NASA Task Load Index**

Hart and Staveland's NASA Task Load Index (TLX) method assesses work load on five 7-point scales. Increments of high, medium and low estimations for each point result in 21 gradations on the scales.
CLT and the Derailing of care

- In EMR: an exact duplicate note ('copy/paste') re: lifestyle counseling was not associated with improvement in glucose, in contrast to original notes. (Turchin et al; ArchIntMed, 2011)
- Availability bias & EMR tasks-checkboxes? (Mamede et al; JAMA, 2010) (GIGO: Sepsis SN .97; SP .40; Prev .10)
- Some evidence that with more complex patients, negative impacts of EMR on depression care. (Harman et al; JGenIntMed, 2012)

Further implications/applications

- Patient handoffs and CLT: “...techniques useful to early learners [mnemonics, templates] are not helpful to experts and may result in worse performance.”
- “Activating emotions such as enjoyment ...associated w/deep processing, enhanced learning, and performance.”
- Future research should look at “skills such as self-monitoring...slowing down when you should, or active listening”
- So...mindfulness as a germane load reducing overall load???'
Need for “Synchronous Analogue communication” (i.e. talking!)

- Understanding is “…hampered by …a presumption that the … function of a handoff is one-way information transmission.”
- There is a loss of “…co-constructions of the understanding of the patient.”
- Continuity of care depends on accurate, succinct information.


The Pen Is Mightier Than the Keyboard Advantages of Longhand Over Laptop Note Taking

Keyboard recording “…results in shallower processing.” The “…tendency to transcribe … verbatim rather than processing information and reframing it …is detrimental to learning.”

DIFFICULT PATIENTS AND TOUGH DAYS IN PRIMARY CARE

Complexity of OP Diabetes Visits

- Medical Expenditure Panel Data, 2008-10
- Patient-reported
- 4510 Diabetic patients
- 80% of subspecialist DM visits addressed a single diagnosis.
- Nearly 90% of visits addressing 4 diagnoses were with primary care physicians.
- “...More intense visits for complex patients need to be supported. Encouraging primary care physicians to spend more time with their complex patients....”

Process of Care: Copying and Pasting

- “The VA is a great place to work because with the computers you can just copy and paste your notes, and you don’t need to write a new note every day.”
- The copy-and-paste function “resulted in the propagation of misinformation or even in frank errors”.1
- Copy/paste may decrease quality of care
  - Lifestyle counseling for DM – copy/paste perhaps worse than no note at all!

Adapted from talk by Jennifer Frank, MD, Fox Valley Family Medicine
Primary Care Panel Workload
Arndt et al; JABFM, 2014

- 185 PCP’s surveyed
- Workload & Challenge via NASA-TLX
- Non face-to-face overall workload (eg, phone calls, E-visits, letters, orders, refills), was greater than face-to-face workload.
- 0 to 100 scale of challenging (31 characteristics)

CHRONIC PAIN CARE & QUALITY IMPROVEMENT
The Faculty Perspective

- Variations in how faculty and outside staffers approach such care
- Guilt, burnout and frustration with such care
- Limits of piecemeal caring, teaching and staffing
- “Just in time snippets” not adequate as teaching
- Crisis orientation

Resident Perspectives

- Extreme variations in care among residents
- Residents feel caught in middle
  Staffer - faculty - patient - nursing & resident
- Point of care and just-in-time teaching
- Variations among staffers
- Gaps in team communication
  physician-physician & physician-nurse
Nursing Perspectives

- Nursing frustration with patient demands
- Extreme variations in care among residents
- Poor collaboration; no place for concerns
- Nursing and residents feel caught in middle
- Gaps in team communication
  physician-physician and physician-nurse

1. Beginning Steps

- Team approach
- Identify best outpatient practices/protocols
- Identify chronic pain patients in practice
- Baseline audit of a sample of charts
2. Developing Tools & Processes

Standards for Adequate and Comprehensive Care

Chart Review guidelines and processes (formative)

EMR environment tools:
- Templates
- Smart phrases
  - Rooming
  - Clinicians
- FYI

Chronic Controlled Substance Review and Advisory Group (CCSRAG)

WORKFLOW

CLINICIAN ACTION:

Patients with:
- Chronic non-cancer, non-terminal pain longer than 3 months duration
- Prescription Opioid meds in quantity of greater than 30 morphine equivalents
- Staff/PCP driven Inclusion in CCSRAG Protocol

Pain Management Visit

FREQUENCY
- q 6 months if stable
- q 3-5 months during

Establish opioid agreement and review annually

Order random pain panel and urine drug screen annually

Give patient education copy of protocol and copy of agreement

Write notes:
- • Document:
  - • Pain
  - • Source of pain
  - • 18B.28 Chronic Pain
  - • V62.08 Pain Management Agreement
  - • V62.08 Pain Management Agreement Broken
  - • V62.08 Pain Management Agreement Discussed
  - • Add: narcotic record in comments

Add / update FYI (dot phrase)

Add / update patient education

Review MA entered
  • In pain summary
Adapting processes & resources

• Require records in advance for new pain patients
• Policies for phone validation of old records
• Obtain medication agreement
• 28 day refill cycles
• Review PDMP to confirm detailed medication history
• Specification of UDS with capability to detect synthetic opioids reliably
• Diverse ways of incorporating UDS results into practice
• More paths to AODA and Psychological assessment
• Less punitive and more clinical diagnostic approach

Process Tools

• Implement regular ongoing case reviews
  • Not punitive or medico-legal
  • Consultative/supportive/educational
  • Review triggered by nursing/resident/faculty/family
• Systematic case review feedback to primary caregivers
• More deliberate and regular random UDS/PDMP reviews
• Repeat audits
• Patient education resources
• History-taking tools and skills: Comprehensive Psychological & AODA inquiry and referrals prn.
Outcomes:

- Positive response to team’s case management recommendations
- Increased referrals for team reviews
- Reviews TAKE TIME in the beginning
- Immediate improvements in FYI, TX plan, UDS, agreements

Chart Audits:
Pre- & Post-Implementation
### Follow up of Chart Reviews

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No further opioids</td>
<td>1. Agreed</td>
</tr>
<tr>
<td>2. UDS, refer to psych for eval</td>
<td>2. Pain agreement established, psych eval</td>
</tr>
<tr>
<td>3. Frequent visits, UDS, AODA assessment; decrease long acting opioid</td>
<td>3. UDS done, decreased dose, admits to ETOH use and is seeing psychiatry</td>
</tr>
<tr>
<td>4. Pain agreement, UDS, brief intervention re: THC; update FYI, 28 day supply</td>
<td>4. FYI and agreement updated; UDS obtained; q 3 months visits</td>
</tr>
</tbody>
</table>

### Follow up of Reviews

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FYI, UDS, pain agreement</td>
<td>1. Patient elected to dc controlled substance</td>
</tr>
<tr>
<td>2. UDS, q 6 month visits, add diagnosis</td>
<td>2. UDS appropriate, q 6 month visits scheduled, diagnosis</td>
</tr>
<tr>
<td>3. UDS, consider AODA eval</td>
<td>3. Still needs repeat UDS; has completed out patient AODA program. PCP encouraged AA, NA meetings</td>
</tr>
</tbody>
</table>
SMOOTHING THE F/U TEMPLATE:
ROLES AND PROCESS

Improving EHR in Collaborative MH Care

- Reitz: Developing additional modules; templates for joint appointments; better registries.
- Steinfeld & Keyes: Smartphrases; after-visit summaries; secure email within the EHR; incorporating MH rating scales.
- Chunchu cohort study of resident physicians indicated much improved documentation of behavior change elements in an EHR, and positive patient feedback.
Chronic Pain f/u note

- Nursing and Physician note templates
- Transition of clinic to new management and academic affiliation shortly after implementation
- Resumption of Pain QI
- First year resident with concerns and proposed solution.
- Initiation of review and change process (PDSA)

Chronic pain F/U (Nursing)
Chronic Pain F/U (Provider)

Subjective:
Monica Text is a 28 year old female here for follow-up of chronic, non-cancer pain due to "..." and takes daily opioid medications. Chronic opioid contract [S1] IS NOT: 1234567 on file and was reviewed today. There [HAS/HAS NOT: 1234567] been a change in the prescription(s) since the chronic pain contract was established.

Side effects of medications were reviewed and include: (SIDE EFFECTS OF NARCOTICS 1234567)

Refills of the chronic opioid [ARE/ARE NOT: 1234567] requested today.

Pain Assessment: (Use 10 point scale: 1 = minimal pain, 10 = severe pain)
1) Over the last 3 months, your worst pain has been as high as "...".
2) Over the last 3 months, your least pain has been as low as "...".
3) Over the last 3 months, your average pain has been about "...".
4) Your current pain is "...".
5) Is your current level of pain acceptable? [YES/NO: 1234567]
6) Over the last 3 months, how much relief have the pain medications provided (0%–100%); "...%.
7) If you have been on chronic pain medications for more than 6 months, do you feel your pain is as well controlled as it was 6 months ago? [YES/NO: 1234567]
Since your last visit, how much has your pain interfered with your:

General activity: (SEVERITY ADJECTIVES: 36371)
Normal work activity: (SEVERITY ADJECTIVES: 36371)
Social activities and relationships: (SEVERITY ADJECTIVES: 36371)

Sleep:
Quality of sleep is (GOOD FAIR POOR: 36376) and (IS IS NOT: 13129) affected negatively by your pain.
Daytime fatigue is (SEVERITY: 35596).

Mood:
Mood is (Mood: 36370) and (IS IS NOT: 13129) affected negatively by your pain.
Over the past 2 weeks, have you had little interest or pleasure in doing things? (YES/NO: 35772)
Over the past 2 weeks, have you felt down, depressed, or hopeless? (YES/NO: 35772)

Non-pharmacological approaches for pain control since last visit (including adherence):

Pain medicine consultations: (NONE/TEXT: 35984: "None")
Physical therapy: (NONE/TEXT: 35984: "None")
Integrative/complementary therapies: (NONE/TEXT: 35984: "None")

Objective:
BP: 130/80 mmhg

General appearance: (GENERAL APPEARANCE: 35469)
Evidence of adverse medication effects (sedation, confusion, etc)? (YES/NO: 35772)
Most recent urine drug screen (date) ??? (NEGATIVE/POSITIVE FOR 33: "Positive for ")

Assessment:
1) Chronic non-cancer pain due to ** Stable pain control and functional status on current medication regimen. On review of medical record, patient has not been requesting early refills, reporting lost or stolen prescriptions, using opioids for indications other than pain relief, using illicit substances, and is not engaged in high risk alcohol use.

Plan:
1) Will continue current medication regimen. Encouraged regular activity. She will continue her consultant and or ancillary care as noted above. She will return for follow-up Pain Management/Controlled Substance Use visit every 3-6 months.
Concerns....

- Process issues: inconsistent use of both templates; provider uncertainty about other data
- Duplication of query content: side effects; current pain; acceptable pain; satisfaction; limitations of activity; pain control; non-pharm pain rx
- Different response options
- Unique content in both:
  - Nursing: adherence; last dose; breakthrough; pain location today
  - Physician: mood; sleep; daytime fatigue

Extraneous load

- Adapting to presence/absence of Nursing content
- Decision to transpose Nursing data into Physician note
- Decision to duplicate queries and combine data
- Additional load of query repetition
- Potential increase in patient workload/upset with duplicate queries
Change Process (thus far)

- Identification of MD concerns
- Committee overview
- Resident review of template
- Resident collaboration with EMR consultant and faculty
- Resident template revisions draft
- Additional alignment of Problem List content & recent note Assessment & Plan
- Review of old and new templates by residents and faculty using NASA-TLX

PROPOSED COMBINED NURSING/PROVIDER NOTE: Completed by nursing
Chief Complaint: Chronic Pain Follow-up

Pain contract on file as of: date

Side effects of medications were reviewed and include:
Drowsiness or sleepiness: Yes or No
Nausea: Yes or No
Vomiting: Yes or No
Constipation: Yes or No
Lack of Appetite: Yes or No

Pain Assessment: (Use 10 point scale: 1 = minimal pain, 10 = severe pain)
1) Over the last 3 months, your worst pain has been as high as ***/10.
2) Over the last 3 months, your least pain has been as low as ***/10.
3) Over the last 3 months, your average pain has been about ***/10.
4) Your current pain is ***/10.
5) Is your current level of pain acceptable? {YES/NO:35772}
6) What overall pain level would you find acceptable? ***/10
7) Over the last 3 months, how much relief have the pain medications provided (0%-100%): ***%
8) If you have been on chronic pain medications for more than 6 months, do you feel your pain is as well controlled as it was 6 months ago? {YES/NO:35772}
9) Did you call your doctor’s office or clinic between visits because of pain: Yes or No

How are you taking your medication? ***

When was your last dose of pain medication?: ***

Refills of the chronic opioid (ARE/AREN1:22894) requested today.

The above information was completed by a medical assistant or RN, (insert name).
PHYSICIAN COMPONENT

Subjective:  @NAME@ is a @AGE@ @SEX@ here for follow-up of chronic, non-cancer pain due to *** and takes daily opioid medication. Chronic opioid contract (IS/ IS NOT:13129) on file and was reviewed today. There (HAS/HAS NOT:13172) been a change in the prescription(s) since the chronic pain contract was established.

Since your last visit, how has your pain interfered with you:
General activity: ***
Normal work activity: ***
Social activities and relationships: ***

Sleep:
Quality of sleep is (GOOD FAIR POOR:36376) and (IS/ IS NOT:13129) affected negatively by your pain.
Daytime fatigue is (SEVERITY:35566).

Mood:
Mood is (Mood:36370) and (IS/ IS NOT:13129) affected negatively by your pain.
Over the past 2 weeks, have you had little interest or pleasure in doing things? (YES/NO:35772)
Over the past 2 weeks, have you felt down, depressed, or hopeless? (YES/NO:35772)

Non-pharmacological approaches for pain control since last visit (including adherence):
Pain medicine consultations: (NONE/TEXT:35964: "None")
Home exercise: (NONE/TEXT:35964: "None")
Physical therapy: (NONE/TEXT:35964: "None")
Integrative/complementary therapies: (NONE/TEXT:35964: "None")

Objective:
@VS@
General appearance: (GENERAL APPEARANCE:35499)
Cardiac:
Pulm:
Site of Pain:
Evidence of adverse medication effects (sedation, confusion, etc)? (YES/NO:35772)

Most recent urine drug screen: date, results. Ideally, would get this to auto-populate from patient's labs.

Assessment/Plan: Chronic non-cancer pain due to ***. On review of medical record, patient has not been requesting early refills, reporting lost or stolen prescriptions, using opioid medications other than pain relief, using illicit substances, and is not engaged in high risk alcohol use.

Adapting the EMR....

- Much effort
- Teams must coach and be coached
- Need staff consultants to continue evolving the EMR that has been implemented
- Alerts, checkboxes, and other ‘scaffolds’ may limit higher levels of clinician functioning.
TEAMWORK THAT WORKS

LEADERSHIP

- HOST or HERO ?? Wheatley
- PCMH Roadblocks = Physician Centrism
- Enhancing or Limiting Intelligence
- FIRO stages: Inclusion-Control-Affection
- Dialog is mightier than the Keystroke
- Roles trump Competencies
- Leader as Participant-Observer
- Motivational Interviewing 24-7
- Appreciative Inquiry
How we communicate matters (This just in!)

- Recent evidence that more electronic (in-box) communication versus face-to-face leads to:
- More clinician and staff dissatisfaction with work and probability of leaving practice
- WORSE clinical outcomes! (LDL’s in patients with CAD, more ER visits)

Mundt MP, Gilchrist VJ, Fleming JE, Zakletskaia LI, Tuan W-J, Beasley JW. Effects of Primary Care Team Social Networks on Quality of Care and Costs for Patients with Cardiovascular Disease. In Press, Annals of Family Medicine