Geisinger Health System
Center For Health Research
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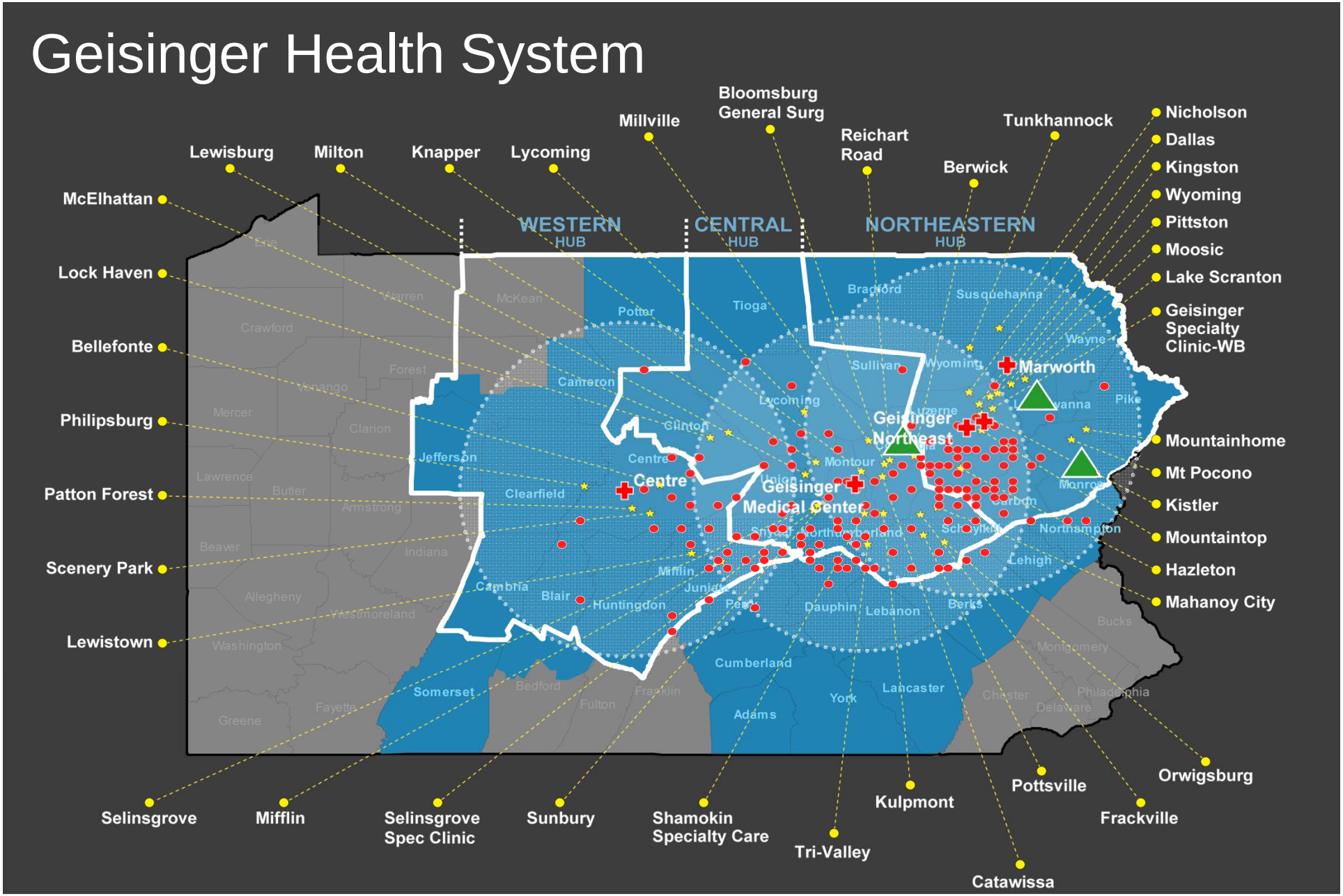
Technical Expert Panel 2010

LOW BACK PAIN GUIDELINES AND APPLICATION OF GEM CUTTER

Overview

- Back pain management experience at Geisinger
- Current back pain project
- Translation process including application of GEM Cutter

Geisinger Health System



Geisinger Inpatient Facilities

Geisinger Medical Groups

Geisinger Health System Hub and Spoke Market Area

Geisinger Health Plan Service Area

CareWorks Convenient Healthcare

Non-Geisinger Physicians With EHR

Geisinger Clinic Context

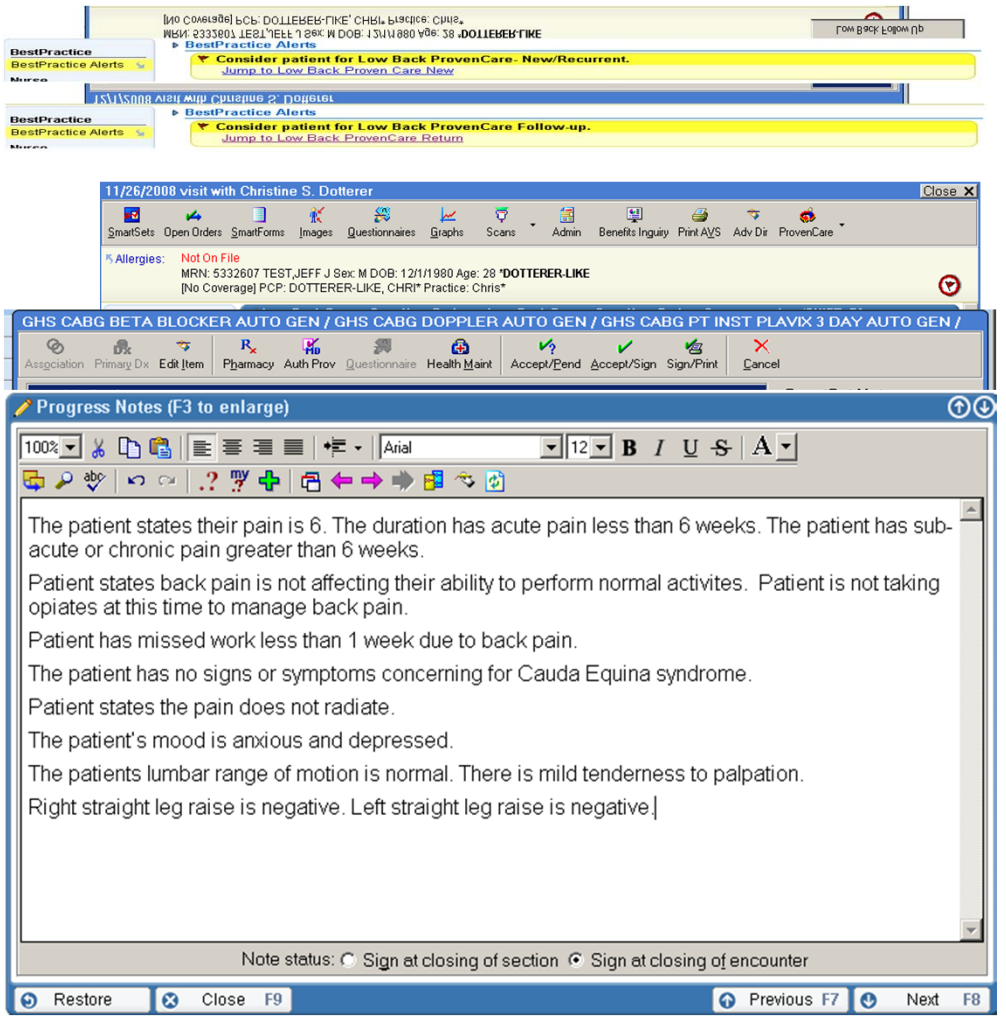
- 14,500 new low back visits (CY2007)
- 48,000 total low back visits in Primary Care (CY2007)
- More than 50% of low back referrals for surgical evaluation occurred within the first 6 weeks of pain.
  - Surgery is rarely indicated unless pts have failed 3 months of conservative therapy
  - 15% of referred actually had spinal surgery

Geisinger Clinic Context

- 5600 radiographs ordered (CY2007)
  - Vast majority obtained during acute phase with little clinical utility
- 8800 MRIs ordered per year (2007)
  - 70% obtained within the first 6 weeks
- RESPONSE: ProvenCare Low Back
  - System level protocol to improve primary care management of LBP

EPIC Tool Protocol For LBP

- An Epic button on the speed bar enabled the LBP workflow
- Navigator Flowsheets for new & returning patients
- Flowsheets integrate responses with automatic orders & SmartSet.
- The nurse/physician responses built the progress note for the visit
- Process failed to be used



Current LBP Project

- Current Project Objectives
  - Improve appropriate use of care (i.e., referrals, procedures, medications) for LBP patients
  - Improve patient satisfaction with care received during the visit
  - Improve patient outcomes related to pain and functionality

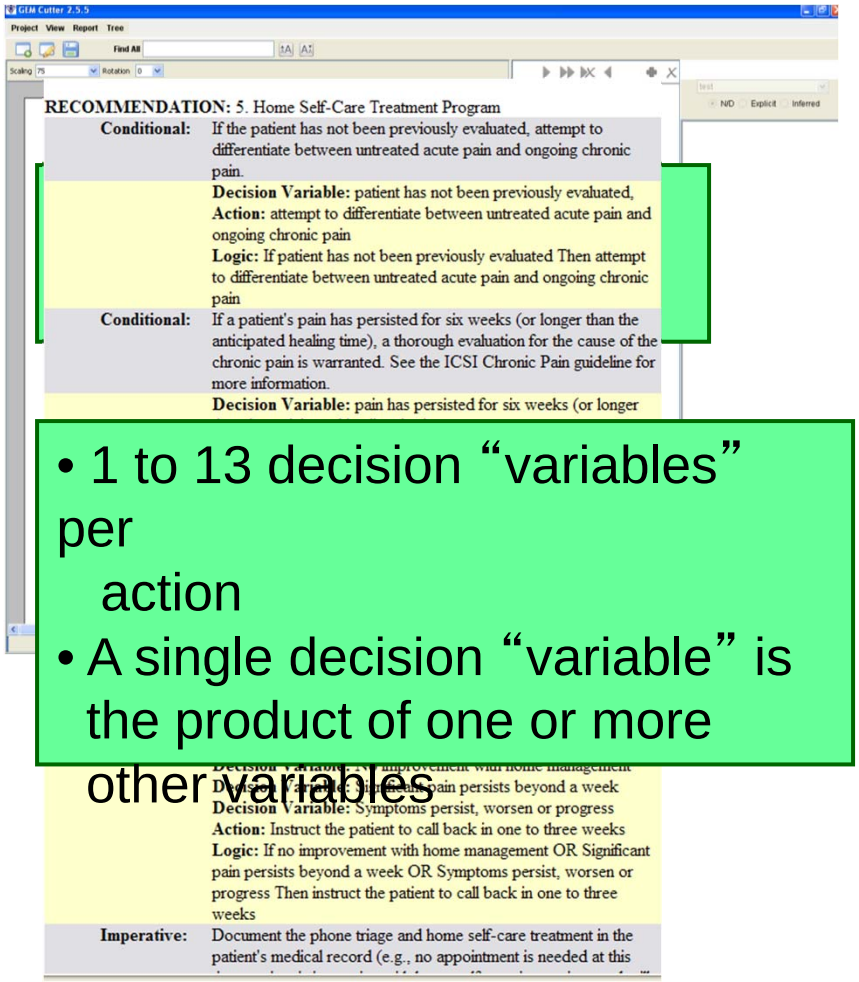
Current LBP Project

- Primary care based RCT
- Guideline Translation
  - Trigger
  - Input Data
  - Application of guideline to data
  - Output
- Usual vs new protocol care
- Range of options
  - Pre-coded chief complaint and randomization step
  - Patient reported & EHR data
  - GEM cutter applied to ICSI guidelines
  - Web-based application that interacts with the EHR

Defines the “space” for action

Translating Guidelines To Operational Rules

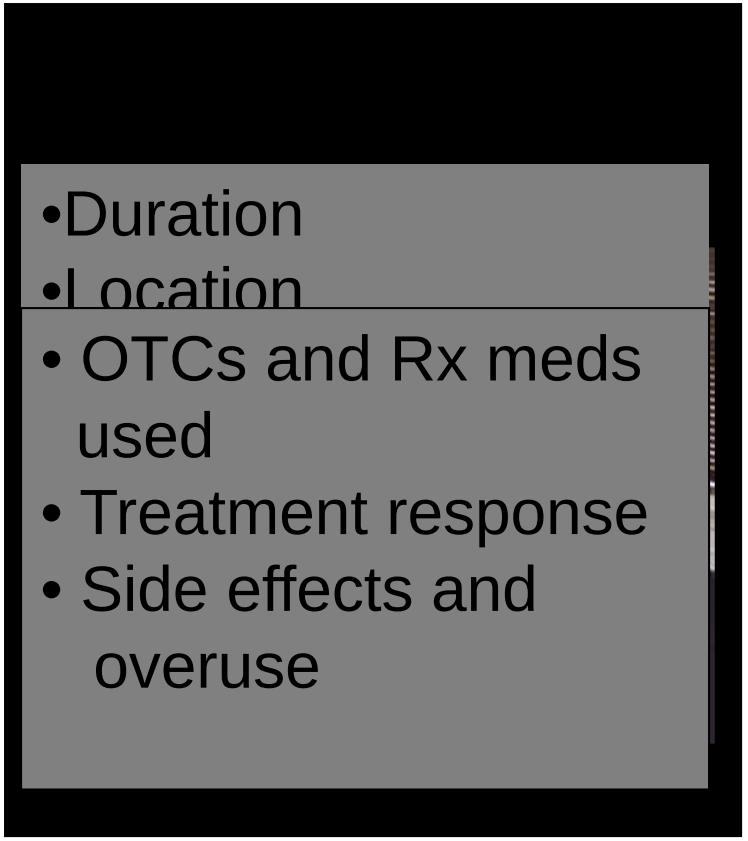
- ICSI Guidelines
  - Conditional & mandatory rules processed using GEM Cutter
- Vetting rule related decision variables & options for inputs & outputs
- Process is highly iterative
  - Rules define the "space" for action
  - The action dictates the input data needs
  - The options for action are very broad
  - The input data options are also very broad



- 1 to 13 decision "variables" per action
- A single decision "variable" is the product of one or more other variables

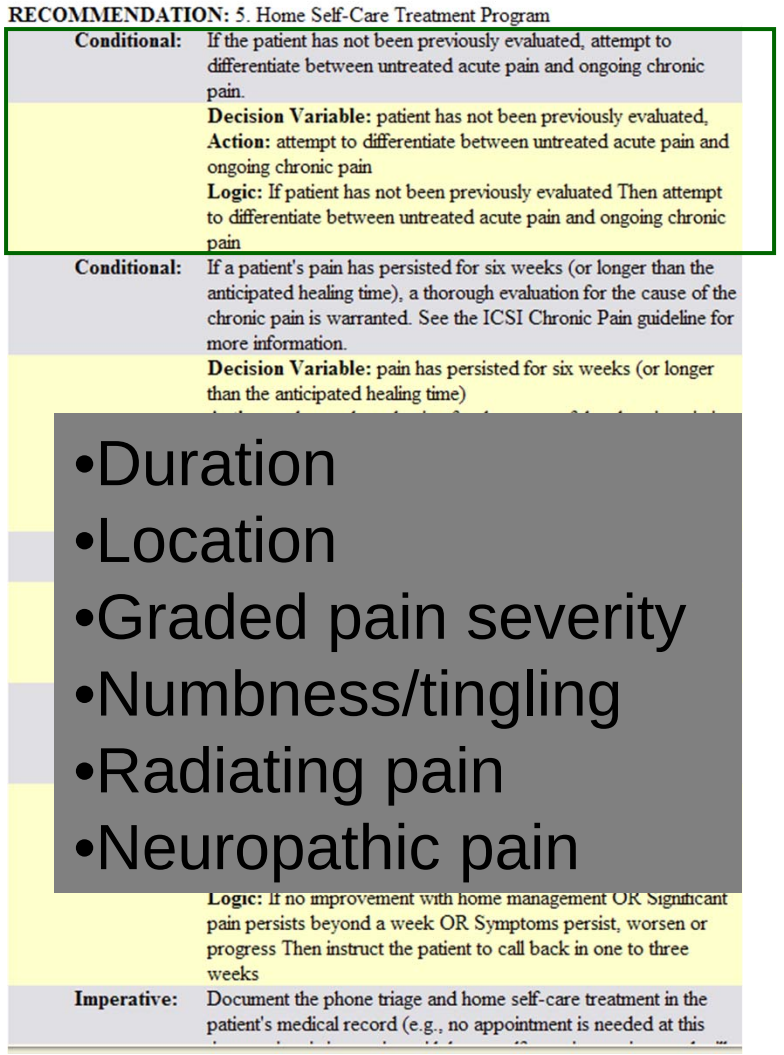
Translating Guidelines
Input Data: Largely Patient Reported

- Pain experience
- Treatments and response
- Depression and anxiety
- Fear avoidance
- Catastrophizing
- Care preferences and interest in treatments, imaging, etc
- EHR data from previous visits and orders



Translating Guidelines
Home Self-Care Treatment Program

- Four conditional and three imperative rules
  - Example: If no previous evaluation
  - Distinguish untreated acute pain and ongoing chronic pain
- 16 patient completed questions (3 minutes)
- Now What?
  - What is it that actually helps the provider and patients get the job done?



RECOMMENDATION: 5. Home Self-Care Treatment Program

Conditional:	If the patient has not been previously evaluated, attempt to differentiate between untreated acute pain and ongoing chronic pain.
	Decision Variable: patient has not been previously evaluated, **Action:** attempt to differentiate between untreated acute pain and ongoing chronic pain **Logic:** If patient has not been previously evaluated Then attempt to differentiate between untreated acute pain and ongoing chronic pain
Conditional:	If a patient's pain has persisted for six weeks (or longer than the anticipated healing time), a thorough evaluation for the cause of the chronic pain is warranted. See the ICSI Chronic Pain guideline for more information.
	Decision Variable: pain has persisted for six weeks (or longer than the anticipated healing time)
	Logic: If no improvement with home management OR Significant pain persists beyond a week OR Symptoms persist, worsen or progress Then instruct the patient to call back in one to three weeks
Imperative:	Document the phone triage and home self-care treatment in the patient's medical record (e.g., no appointment is needed at this

- Duration
- Location
- Graded pain severity
- Numbness/tingling
- Radiating pain
- Neuropathic pain

Action Options

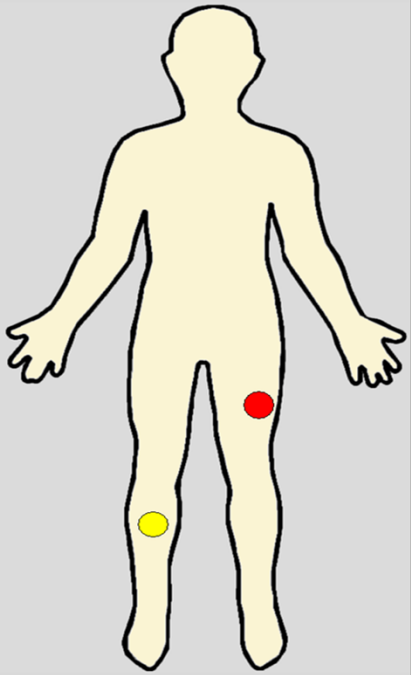
- Present recommendation
  - Not very useful and will not be used that often
- Add a display of the supporting data
  - A little better, but still not that useful
- Present the above in a format to be shared by provider and patient
  - Engages the patient and possibly the provider
- None of the above features focus on the needs of the provider
  - Improve productivity and simplify the delivery of high quality care

Action Options

- Voice the recommendations to account for patient factors (e.g., fear avoidance)
  - Helps provider get the job done; facilitates shared discussion
- Integrate order process with display
  - Improves getting the job done
- Make display interactive and automate manufacturing of progress notes
  - Make the best care the easiest care to deliver

Pt Data | Reccomended Care | Progress Note

Current Medications	Comments
Over-The-Counter Medications	
OTC meds:	*Free Text to be included in progress note*
Number of days Pt takes OTC(s):	*Free Text to be included in progress note*
Tablets or pills of OTC(s): ___/day	*Free Text to be included in progress note*
How often is the pain reduced:	*Free Text to be included in progress note*
Prescription Medications	
Rx meds for back pain: *	*Free Text to be included in progress note*
Other Rx meds:	*Free Text to be included in progress note*
Pain Experience	
Duration of Current Episode:	*Free Text to be included in progress note*
Duration in Past 6 Months:	*Free Text to be included in progress note*
Location:	*Free Text to be included in progress note*
Overall Experience:	*Free Text to be included in progress note*
Numbness or tingling:	*Free Text to be included in progress note*
Worse on some days than others:	*Free Text to be included in progress note*
Travels or radiates:	*Free Text to be included in progress note*
Chronicity Grade:	*Free Text to be included in progress note*
Work Impact	
Current status:	*Free Text to be included in progress note*
Days missed in past week:	*Free Text to be included in progress note*
Return to work:	*Free Text to be included in progress note*
Worker's compensation:	*Free Text to be included in progress note*
Any restrictions in 6 months:	*Free Text to be included in progress note*
Psychosocial Concerns	
	Free Text to be included in progress note



**only those that Pt says Yes to for back pain will appear*

Pt Data

Recommended Care

Progress Note

RECOMMENDED CARE PLAN	Order
***Nuanced text based on Pt fear avoidance score*	
Resuming activities/work/rehabilitation	
•IMAGING RECOMMENDATIONS (**Discuss in more detail if conflict with what Pt wants*)	☐
•REFERRAL RECOMMENDATIONS (*Discuss in more detail if conflict with what Pt wants)	☐
•MEDICATION RECOMMENDATIONS	☐

GEM Cutter Next Generation

- Help users fully vet the guideline implementation process
- GEM Cutter accelerates understanding of guidelines
  - However, options for the decision variables and actions are very broad
- Next Generation GEM Cutter could advance implementation by:
  - Integrating documentation for decision variables, rules, and actions
  - Linking integration to judgments about the form of action to be taken