



Opioid Patient Decision Support with ATHENA

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A Service Delivery Problem

- Primary care providers uncomfortable with opioid prescribing and pain management
 - Lack of training
 - Lack of time
 - Difficult patients
- But prescribe a lot of opioid medication
 - 10% of all US prescriptions are for opioids
 - In VA ~15% of patients in primary care are on opioids at any given time
 - 50% of patients report chronic pain and about 30% of these are prescribed opioid therapy for their pain

Concerns

- Increasing problems
 - Rates of overdose
 - Rates of prescription medication abuse
 - For example: According to the NSDUH, in 2002, 2.5 million Americans reported using prescription opioids for non-medical purposes for the first time. In 1990, this number was 537,000. Notably, 55% were female and 56% were over 18.
- Lack of evidence of efficacy
 - No randomized trials with outcome data past 4 months (Martell, 2006)
- Patient demand
 - In a household survey, substance use problems (OR 3.57) or depression/anxiety (OR 4.43) in 1998 were predictors of last month opioid therapy in 2001 (Sullivan, 2006)



Clinical Practice Guidelines

- Exist
 - Are primarily consensus based
 - Delineate good care practices
- Are underused
 - Practices not consistently followed
- What system-level changes can we make to encourage opioid prescribing practices that maximize safety and effectiveness?



ATHENA-Opioid DSS

- Objective: Provide primary care providers patient specific guideline-based information relevant to opioid prescribing at the time of clinical decision making (outpatient visit).
- Based on 2003 VA/DOD clinical practice guideline for opioid therapy for chronic non-cancer pain



ATHENA-Opioid Therapy DSS

- Features include:
 - Patient specific recommendations
 - Warnings about patients at high risk for misuse
 - Specific drug dosing recommendations
 - Highlighted opioid therapy-relevant patient information
 - Checklist of good clinical practices
 - Standardized pain assessment with write-back to medical record
 - Tools
 - Patient education materials
 - Drug conversion calculator
 - Referrals for mental health & behavioral treatments, exercise programs and self-help
 - Guidelines for use of non-opioid pain medications
 - Suggested responses to aberrant medication use behaviors

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Disclaimer: Complete clinical information may not be available to the Athena Opioid Therapy application herein displayed. Please use the information you have about the patient together with your clinical judgment to decide on the best therapy for this patient's chronic pain.

Tools as drop down menus

Summary Assessment **Orders: Urinary Drug Screens/Meds/Consults** Education & Agreements Documentation

Recommendations for Chronic Pain Back to Recommendations

Cautions

- COPD
- Current or past drug-induced mental disorder
- Depression
- Age >=65 years

Patient data

Drug	Daily Dose	Start	End
hydrocodone/a...	20.0		

Checklist

- Conducted Pain Assessment
- Ordered a Urine Drug Screen
- Educated Patient to Call Ahead for Refills (7-10 days Before Running Out)
- Had Patient Sign Pain Management Agreement
- Documented Pain Assessment, UDS, Patient Education, Pain Management Agreement

Opioid Therapy Options

OPTION: Increase dosage of short-acting opioid (hydrocodone/acetaminophen)

OPTION: Switch from hydrocodone/acetaminophen to morphine SA

- Relative contraindications for hydrocodone/acetaminophen: Obstructive Pulmonary Disease, Drug Induced Mental Disorder, Depression
- Compelling indications for morphine SA: short acting rx for >2 months
- Relative contraindications for morphine SA: Obstructive Pulmonary Disease, COPD, Current or past drug-induced mental disorder, Depression
- Opioids are respiratory depressants and should not be used in the presence of hypercapnia and hypoxia on arterial blood gas determination.
- Formulation: morphine SA 15mg
Suggested schedule:
First week: 1 x 15 mg tab bid (30 mg/day)
Second week: 1 x 15 mg tab tid (45 mg/day)
Third week: 2 x 15 mg tab bid (60 mg/day)
Comments: Followup with patient by phone at end of 2-3 weeks. Titrate to level necessary for adequate pain relief.
- Tell patient not to dissolve, chew, or crush tablets.

OPTION: Maintain current therapy.

OPTION: Discontinue opioid therapy. Evaluate for opiate dependence. Click for taper schedule.

Tell patient not to dissolve, chew, or crush tablets.

Misuse Warning

- Opioids and hypoxia
- Opioids and respiratory depression

Clinical Alerts

Slow initiation

Patient specific guideline-based recommendations for opioid therapy, alerts if patient is high risk for misuse and more!

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Feedback for researchers

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Summary Assessment **Orders: Urinary Drug Screens/Meds/Consults** Education & Agreements Documentation

Recommendations for Chronic Pain Management Back to Recommendations

Cautions

- COPD
- Current or past drug-induced mental disorder
- Depression
- Age >=65 years

Opioids \ Allergies

Drug
hydrocodone/a...

Treatment Checklist

- Conducted Pain Assessment
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Comments: Followup with patient by phone at end of 2-3 weeks. Titrate to level necessary for adequate pain relief.
- Tell patient not to dissolve, chew, or crush tablets.

OPTION: Maintain current therapy.

OPTION: Discontinue opioid therapy. Evaluate for opiate dependence. Click for taper schedule.

Tell patient not to dissolve, chew, or crush tablets.

Miscellaneous Warnings

Close monitoring of opioid therapy in this patient is necessary (click to see reasons).

- Opioids are respiratory depressants and should not be used in the presence of hypercapnia and hypoxia on arterial blood gas determination.
- Opioids may worsen depression and should be used when benefits outweigh risks.

Clinical Alerts

Slow initiation or titration schedules are recommended for elderly patients.

Detailed drug recommendation, displays when arrow is clicked

Detailed information about patient alerts

Automatic display when CPRS is opened for all patients with a visit scheduled within a 5 day window.

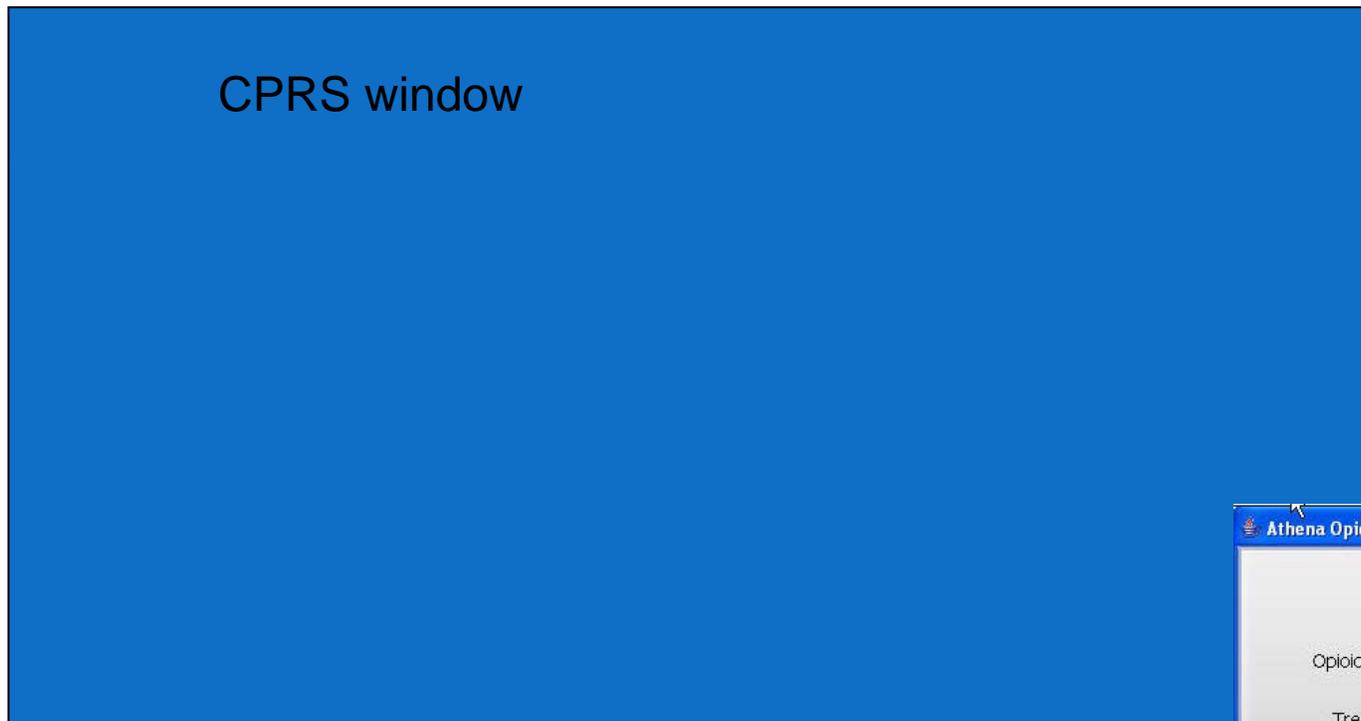
If patient is on opioids, the main page pops up in front of electronic medical record

CPRS

The screenshot displays the ATHENA Opioid Therapy for Chronic Non-Cancer Pain application. The interface includes a search bar for patient name, SSN, and date of birth, and a navigation menu with tabs for Summary, Assessment, Orders: Urinary Drug Screens/Meds/Consults, Education & Agreements, and Documentation. The main content area is titled "Recommendations for Chronic Pain Management" and features a "Cautions" section with a pink background listing COPD, current or past drug-induced mental disorder, Depression, and Age >=65 years. Below this is a table for "Opioids" with columns for Drug, Daily Dose, Start, and End. The table lists hydrocodone/a... 20.0. A "Treatment Checklist" section contains several unchecked items, including "Conducted Pain Assessment" and "Ordered a Urine Drug Screen". On the right side, there are expandable sections for "Opioid Therapy Options" (with options to increase dosage or switch to morphine SA), "Abuse Warnings" (stating close monitoring is necessary), and "Clinical Alerts" (recommending slow initiation or titration for elderly patients).

Drug	Daily Dose	Start	End
hydrocodone/a...	20.0		

If patient is not on opioids, a stamp is automatically displayed.
If you click on the stamp, the main page with all recommendations appears.



Pain assessment tool, is written back to electronic medical record as a note

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Patient name, SSN and date of birth: _____ [Feedback for researchers](#)

Disclaimer: Complete clinical information may not be available to the Athena Opioid Therapy application herein displayed. Please use all information you have about the patient together with your clinical judgment to decide on the best therapy for this patient's chronic pain.

Summary | **Assessment** | **Orders: Urinary Drug Screens/Mods/Consults** | **Education & Agreements** | **Documentation**

Pain Assessment | **Recommendations** | [Back to Recommendations](#)

Pain Assessment

Update Today's Assessment

Average Pain Last Week * 0 | **Overall Functioning * (10=best,0=worst)** 10 | **Pain Type? *** Intermittent | [Update/Write back to Vista](#)

The following questions should be answered before a patient starts opioid therapy. Check all boxes that apply. This data will be written back to CPRS and stored in Notes.

1. Pain Location

<input type="checkbox"/> Abdomen	<input type="checkbox"/> Hand	<input type="checkbox"/> Leg
<input type="checkbox"/> Arm	<input type="checkbox"/> Head	<input type="checkbox"/> Low Back
<input type="checkbox"/> Buttocks	<input type="checkbox"/> Hip	<input type="checkbox"/> Shoulder
<input type="checkbox"/> Elbow	<input type="checkbox"/> Joints	<input type="checkbox"/> Upper Back
<input type="checkbox"/> Foot	<input type="checkbox"/> Knee	<input type="checkbox"/> Other Location

Summary/Other:

2. Pain Date Of Onset

_____ Estimate

3. Pain quality (character)

<input type="checkbox"/> Aching	<input type="checkbox"/> Numbness	<input type="checkbox"/> Soreness
<input type="checkbox"/> Burning	<input type="checkbox"/> Pinching	<input type="checkbox"/> Squeezing
<input type="checkbox"/> Cramping	<input type="checkbox"/> Pressure	<input type="checkbox"/> Stabbing
<input type="checkbox"/> Cutting	<input type="checkbox"/> Prickling	<input type="checkbox"/> Tender
<input type="checkbox"/> Dull	<input type="checkbox"/> Pulling	<input type="checkbox"/> Throbbing
<input type="checkbox"/> Electric	<input type="checkbox"/> Sharp	<input type="checkbox"/> Tightness
<input type="checkbox"/> Heaviness	<input type="checkbox"/> Shooting	<input type="checkbox"/> Patient Unable to Describe

4. Successful treatments?

<input type="checkbox"/> Acupuncture	<input type="checkbox"/> Biofeedback	<input type="checkbox"/> Hot and/or Cold
<input type="checkbox"/> Ambulation	<input type="checkbox"/> Chiropractic Treatment	<input type="checkbox"/> Hypnosis
<input type="checkbox"/> Bed Rest	<input type="checkbox"/> Exercise	<input type="checkbox"/> Massage
<input type="checkbox"/> Medication	<input type="checkbox"/> Relaxation	

(Enter medications, separated by commas...)

TENS Unit

Conversion calculator tool

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Feedback for researchers

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Summary Assessment **Orders: Urinary Drug Screens/Meds/Consults** Education & Agreements Documentation

Opioid Conversion Calculator Back to Recommendations

Please select the presently used opioid, the new opioid to switch to, enter the present dose and cross tolerance reduction percentage, then press calculate to obtain the equivalent dose for the new opioid.

Converting From: To:

Present Daily Dose (mg/day OR mcg/h Fentanyl only):

Reduction for incomplete cross tolerance (%):

Equivalent Daily Dose:

2.40 mg of Methadone
(for 30 mg of Hydrocodone at 20 % reduction)

WARNING: When switching to methadone, the VA guideline recommends a dose no greater than 5 mg q 8 hrs (15 mg/day), and suggest consulting a specialist. Disregard the calculated equivalent dose if this limit is exceeded.

Aberrant Behavior Guide tool

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Feedback for researchers

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Summary Assessment Orders: Urinary Drug Screens/Meds/Consults Education & Agreements Documentation

Aberrant Behaviour Guide Back to Recommendations

Aberrant Behaviour Guide [Back to Summary](#)

Aggressive complaining about needing more of the drug
Recommended Action: Consider whether current dose is a reasonable opioid dose. Is this likely an effective dose?
[Back to Top](#)

Positive drug screen test for illicit substances
Recommended Action: Consider discontinuing therapy. Talk with patient.
[Back to Top](#)

Signs of Alcohol Abuse, especially binges
Recommended Action: Consider discontinuing therapy.
[Back to Top](#)

Positive drug screen test for marijuana
Recommended Action: Talk with patient. Re-test in 6-8 weeks. If positive de-escalate dose. Marijuana is an illegal substance within the Federal HealthCare system.
[Back to Top](#)

Negative drug screen for prescribed medication
Recommended Action: If Oxycodone or Fentanyl is the prescribed medication request a more sensitive test be conducted.
If Morphine or Codeine are the prescribed medication consider discontinuing therapy.
[Back to Top](#)

Openly acquiring similar drugs from other medical sources
Recommended Action: Discuss with patient. Stop prescribing opioids if patient is acquiring opioids from multiple sources. Review the Pain Management Agreement.
[Back to Top](#)

Unsanctioned dose escalation or other noncompliance with therapy on one or two occasions
Recommended Action: There are patients that escalate dose due to increased pain. Review patient's rationale. Dose

Side effects management tool

ATHENA Opioid Therapy for Chronic Non-Cancer Pain

Patient name and date of birth

Feedback for researchers

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Summary Assessment Orders: Urinary Drug Screens/Meds/Consults Education & Agreements Documentation

Adverse Effects Guide [Back to Recommendations](#)

Opioid Therapy Adverse Side Effects Management [Back to Summary](#)

(Side Effects Ordered by Frequency)

Side Effect	Tolerance	Drug Treatment	Caveats/Complication
Constipation	Rarely Develops	Prophylactic treatment with a stool softener (e.g. DSS 250mg at bed time) and a mild peristaltic stimulant (e.g. SENNA, up to 2 tablets QID)	If no bowel movement in 48 hours, doses of both prophylactics should be increased. Consider adding an osmotic agent (e.g. milk of magnesia or sorbitol up to 60 cc qid.). If no bowel movement after 72 hours, perform a rectal exam and investigate the cause of constipation. Usually a Fleets enema and then a titration of DSS, Senna, Sorbitol or MOM and a STRONG reminder that they will HAVE to take the meds routinely to treat the constipation is all that is necessary.
Nightmares	Little is known about tolerance	None Available	Switch opioids if nightmares are bothersome enough to the patient
Nausea/Vomiting	Typically develops within 2-3 weeks	If symptoms do not decrease within a few days, consider switching to another opioid.	Don't forget about other potential causes of nausea, besides opioid treatment
Sedation	Usually decreases over time on stable doses	1) Try eliminating other non-essential CNS depressants 2) If analgesia satisfactory, consider reducing dose by 10-15%. 3) Consider stimulant	Make sure sedation is due to opioid and not another drug.

Legal requirements to be met when prescribing opioids

ATHENA Opioid Therapy for Chronic Non-Cancer Pain
Feedback for researchers

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Summary
Assessment
Orders: Urinary Drug Screens/Meds/Consults
Education & Agreements
Documentation

Documentation Back to Recommendations

Legal Requirements [Back to Summary](#)

Minimum Documentation to Record in Patient Record based on the VA CPG and the Medical Board of California

The physician should keep accurate and complete records including the medical history and physical examination, other evaluations and consultations, treatment plan objectives, informed consent, treatments, medications, rationale for changes in the treatment plan or medications, agreements with the patient, and periodic reviews of the treatment plan.

	Initial Pain Assessment Minimum Documentation	Pain Re-Assessment (at least annually) Minimum Documentation
Assessment	Document that you conducted a Physical Examination Document that you conducted a Pain Assessment	Document that you conducted a Pain Re-Assessment
Treatment	Document that you completed a Treatment Plan Document Consulting Referrals Document extra and special care you are providing for patients who are at risk for non-compliance, abuse, and addiction	Document that you completed a Treatment Plan Document Consulting Referrals Document extra and special care you are providing for patients who are at risk for non-compliance, abuse, and addiction
Education	Document that you and your patient discussed Informed Consent and that your patient signed the Pain Management Agreement .	Document that you and your patient re-discussed Informed Consent and that your patient signed the Pain Management Agreement if this was needed in therapy.

See more detail below.

1. Document that you conducted a Physical Examination

A medical history and physical examination must be accomplished. This includes an assessment of the pain, physical and psychological function; a substance abuse history; history of prior pain treatment; an assessment of underlying or

Behavioral therapy referrals within and outside VA

The screenshot shows a web application window titled "ATHENA Opioid Therapy for Chronic Non-Cancer Pain". At the top, there is a patient information field labeled "Patient name, SSN and date of birth" and a "Feedback for researchers" button. A disclaimer states: "Disclaimer: Complete clinical information may not be available to the Athena Opioid Therapy application herein displayed. Please use all information you have about the patient together with your clinical judgment to decide on the best therapy for this patient's chronic pain." Below this is a navigation bar with buttons for "Summary", "Assessment", "Orders: Urinary Drug Screens/Meds/Consults", "Education & Agreements", and "Documentation". The "Behavioral Therapy" section is active, showing a "Back to Recommendations" button. The main content area is titled "Behavioral Therapy" and contains the following text: "There are many internal and external resources for the patient experiencing chronic pain. The sources below include low/no cost exercise classes, support groups, and VA resources for referrals." The resources listed are:

- VA PAIN CLINIC**
Judith B. Chapman, Ph.D.
(650) 493-5000 x64130
Judith.Chapman@med.va.gov
Affiliated with the VA Pain clinic – does all behavior therapy for pain clinic
- PRIMARY CARE BEHAVIORAL MEDICINE TEAM**
Contact info
Robert Hall, Ph.D. ext: 64132
Evelyn Shinoda, RD ext: 65618 or 63096
- ADDICTION TREATMENT SERVICES**
Menlo Park VA
Provides addiction treatment services and consultation regarding concerns about misuse of alcohol, illicit drugs or prescription medications. Special groups are offered for patients on potentially addictive medications (e.g. opioids, anxiolytics). The addiction consult team is also happy to provide assistance with planning opioid therapy for patients with histories of substance use disorder or concerns about addiction. Refer by electronic consult in CPRS to Addiction Treatment Services (ATS) or contact the clerk at x22734 or Pat Dilkian (nurse) at x27384. Patients may self refer by calling the clerk.
AA groups are held at VAPA – 12pm on Tuesdays and Fridays in the Chaplin's office.
- CONSULTATION TEAM**
- MENTAL HEALTH CLINIC AT MENLO PARK**

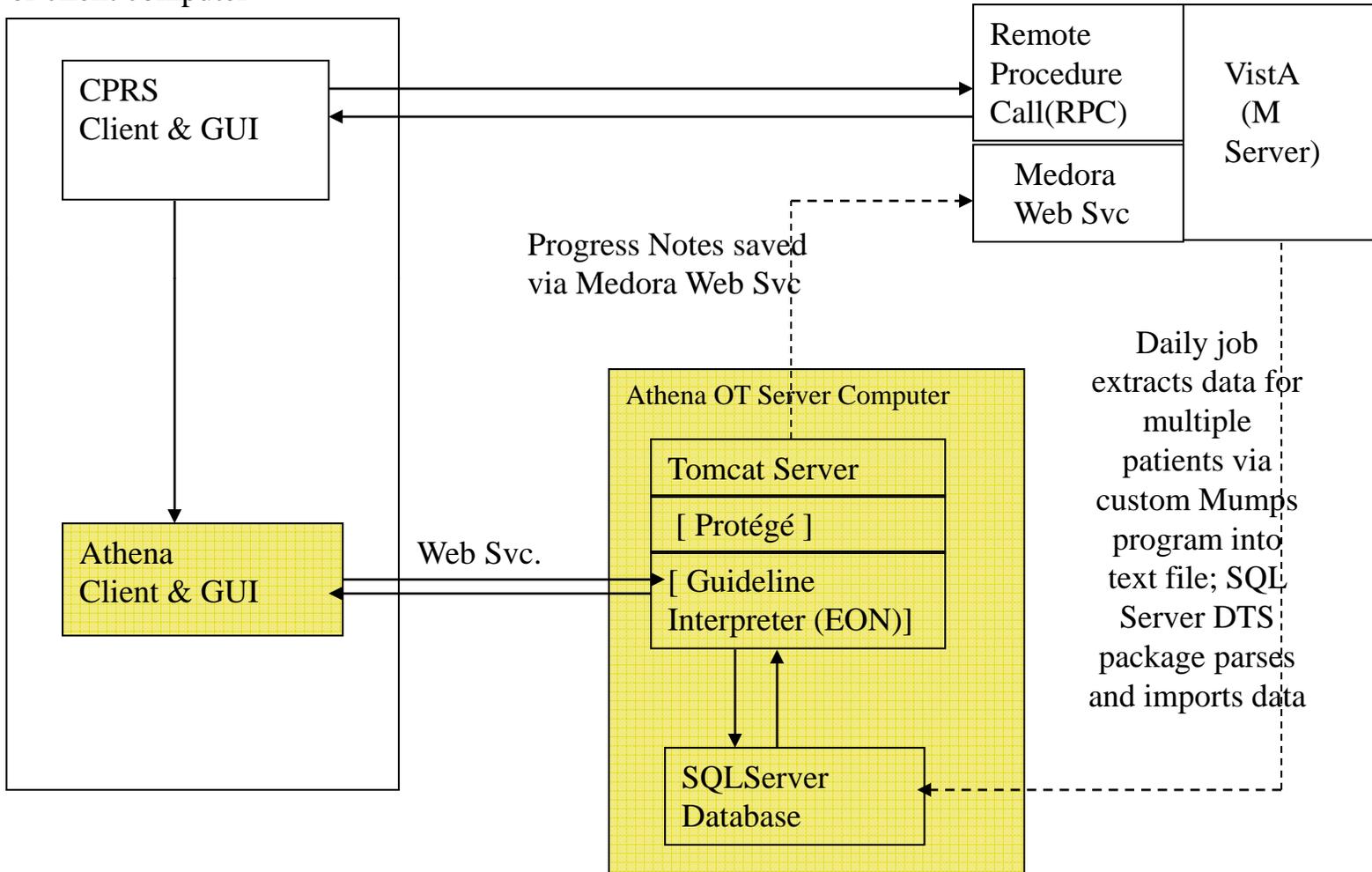


System Testing

- Rules Development
- Accuracy tests on sample patient cases
- Lab-based usability testing
- In-clinic pilot testing
 - Clinician feedback
 - Observation
- All provided feedback for system redesign and were conducted repeatedly as system underwent major modifications

Athena Opioid Therapy (OT) Architecture

Typical provider desktop
or client computer





ATHENA Opioid-Therapy (OT): Operations

Patient Data Extraction

- Patients in selected clinics with appointments in a 5-day window
- Every night a M(MUMPS) program extracts data into a text file which is then FTP'ed to the Athena OT server.
- SQL Server package imports this data into the predefined tables.

Convertor Program

- Transforms data into format ready for use by guideline interpreter (EON).

Precompute Program

- Invokes EON to calculate therapy recommendations from patient data, which are then stored as individual "precompute" files.



ATHENA-OT: Operations

OT Client (process/program running on provider desktop)

- **Listener:** starts in background when provider logs in to Windows Network
- **GUI:** displays recommendations to providers. This is hidden unless the listener decides to display it on the desktop screen.

CPRS: provider Log-in

- Listener captures Windows message and obtains provider ID.

CPRS: patient selection by provider

- Listener captures Windows message and obtains patient ID. Listener checks if patient and provider are in the database and if so,....

GUI

- Displays recommendations, relevant clinical data and checklist for opioid therapy, also enabling access to various tools, such as opioid conversion calculator, pain assessments (can be saved to Vista as an unsigned note), etc.

System Rated Highly Usable

Table 1: System Usability Scale:

	Round 1		Round 2	
	mean	sd	Mean	sd
1. I think that I would like to use this system frequently	2.75	0.50	3.25	0.96
2. I found the system unnecessarily complex	2.50	1.11	3.00	0.00
3. I thought the system was easy to use	3.00	0.76	3.25	0.50
4. I think that I would need the support of a technical person to be able to use this system	3.50	1.51	4.00	0.00
5. I found the various functions in this system were well integrated	2.50	0.82	3.00	0.82
6. I thought there was too much inconsistency in this system	3.25	0.98	3.75	0.50
7. I would imagine that most people would learn to use this system very quickly	3.25	0.69	3.00	0.00
8. I found the system very cumbersome to use	2.75	1.11	3.75	0.50
9. I felt very confident using the system.	3.00	0.53	3.25	0.50
10. I needed to learn a lot of things before I could get going with this system	3.25	1.27	3.75	0.50
Overall Score:	74.38		84	p=0.0167

Items scored 0-4. Total scores in the upper seventies to high eighties are defined as better products. This product would be in the top quartile of software products tested with the SUS. Mapping of scores to adjective descriptions: 73 = good, 85 = excellent.



Potential but not fully realized utility

- Main page viewed for approximately 30% of patients
 - Automatic pop-up for those on opioids plus
 - Click from stamp for patients not on opioids
- Additional screens rarely viewed
- Detailed recommendations rarely viewed
- Observations indicate that system fit well into most clinicians standard practice but was typically only glanced at briefly.

Issues

- Many guideline recommendations are vague and difficult to operationalize
 - Opioid prescribing is still an art, not a science
 - Meant we had to:
 - Leave out some guideline criteria that could not be reliably defined from records
 - Provide vague recommendations to providers
- Most guideline recommendations lay out elements of good clinical practice, but do not indicate the appropriate course of action
 - Tell you to get a good history, document, develop clear treatment plans, educate patient etc.
 - We addressed by providing checklist and tools
 - Do not tell you specifically when to initiate, titrate up or down, switch medications or discontinue
 - We addressed by providing detailed OPTIONS

Issues

- Predictors of prescription opioid misuse are neither sensitive nor specific
 - Try to encourage dialogue and monitoring
 - Underuse may be just as common as overuse in at risk populations
- Good practice and use of our DSS may increase rather than decrease the amount of time required for pain management by the PCP
 - Brings up other problems that PCPs are also not comfortable treating (e.g. substance use disorders, mental health problems)
- Opioid prescribing decisions may require communication among the patient, primary care providers, mental health professionals, rehabilitation specialists, other specialists, nurses, and family members
 - How do you insure or facilitate this communication?



Current Status

- OI&T recently banned installation of any new Class III software.
- We received a Greenfield Innovation Award to help bring existing ATHENA systems (Opioid Therapy and Hypertension) through the Class I software approval process. We are creating contracts to get this work completed.
- Study team is analyzing medical record data from providers participating in the in-clinic trial before versus during system implementation
 - develop outcome measures and determine effect sizes for change in clinician behavior for a future clinical trial



Questions?

Identifying High Risk Patients

- Existing screeners include:
- SOAPP, ORT, assess for risk of opioid misuse
- COMM and PDUQ assess for current opioid misuse behaviors
- These screeners emphasize personal and family substance use history, addiction behavior, trauma history, age, and psychological disorders (i.e. OCD, ADHD, schizophrenia, bipolar and depression)
- Screeners are only moderately predictive, may bring up uncomfortable content or stigmatize patients, and do not assess for information with additional clinical utility



New Studies on Predictors of Opioid Misuse

Study 1: POPS

- Led by Ian Carroll and Sean Mackey at Stanford
- Assessed patients before entering surgery
 - Followed patients daily until they reported no opioid use and no pain
- Looked at predictors of delayed opioid discontinuation



Results

- On-going pain predicted only a bit more than 50% of variability in time to opioid cessation
- Personal or family history of substance or alcohol use disorders did not predict time to opioid cessation.
- After controlling for pain, Self-Assessed Vulnerability to Opioid Addiction (1 item) was a significant and better predictor of time to opioid cessation than the SOAPP

- Even mild depression significantly increased time to opioid cessation after controlling for pain.

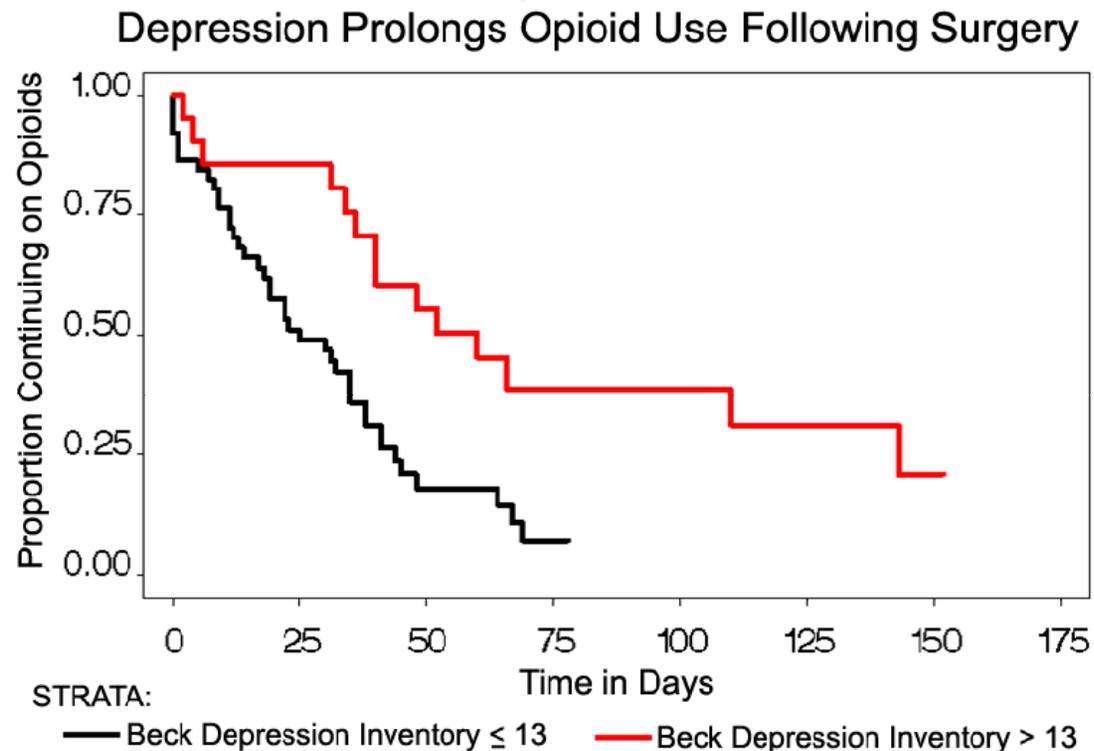


Figure C2: Elevated levels of depression measured preoperatively by the Beck Depression Inventory (BDI) predict markedly more persistent prescription opioid use following surgery. 21% of patients with depression (BDI>13) continue taking opioids 150 days following surgery compared to 7% of patients without depression (BDI≤13). (Log Rank p<.003)



Study 2: CRAVE

- Led by Jodie Trafton and Eleanor Lewis
- Interviewed a convenience sample of 200 VA patients who had received opioid prescriptions in the last year about their experiences with the medication, including risks, behaviors and signs of misuse.
- Sample was enriched for persons with medication misuse risk.

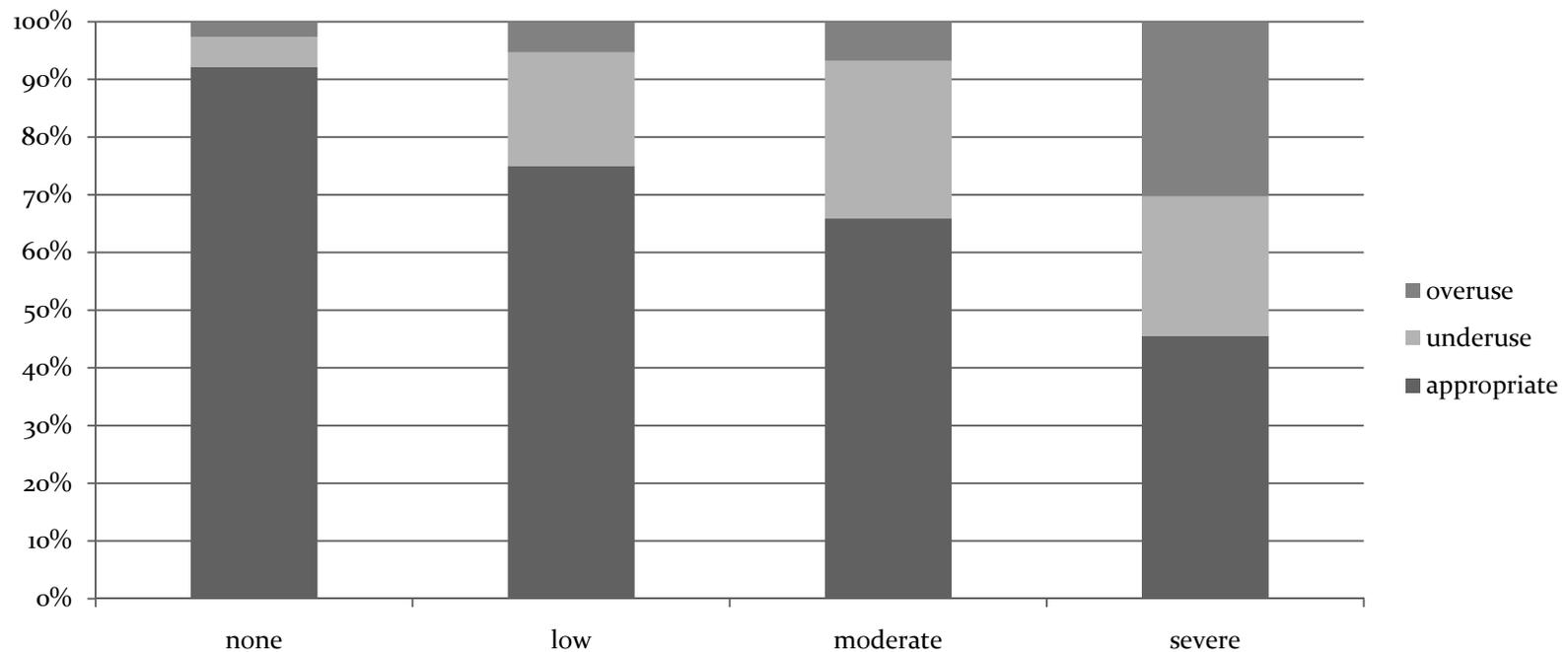


Medication Non-adherence

- Under-use (i.e. non-use of Rxed opioids despite ongoing pain) was common.
- Under-using patients often did not discontinue prescriptions for opioids, even though they did not take the medications.
- Patients who spontaneously reported disliking taking medications during the interview were highly likely to under use their opioids.

Somatization and Misuse

- Somatization, conversion of anxiety into physical symptoms, was measured using the PHQ-15. Somatization was associated with over and under use of opioid medications



(Cuccaire, Oser, Lewis, Trafton, in prep)

- 
- Examined similar concepts (i.e. Depression and opioid side-effects) that were also associated with opioid non-adherence
 - Somatization mediated the relationship between:
 - depression and opioid prescription non-adherence
 - side-effects and opioid prescription non-adherence
 - Suggests that:
 - Depression leads to non-adherence primarily by increasing physical symptoms
 - Side-effects lead to non-adherence when coupled with health anxiety



Conclusions

- Asking simple questions and conducting pain-relevant mental health assessments may help us identify patients at higher risk of opioid misuse for closer follow-up.
 - Ask patients if they want medication-based pain management before prescribing. Ask them if they are taking their medication before continuing Rx.
 - Ask patients if they think they are at high risk of developing opioid addiction problems before Rx.
 - Screen for somatization and depression problems
- Provides more clinically relevant information. Avoids potentially stigmatizing or uncomfortable questions included in current opioid misuse screens.

Acknowledgements

- ATHENA-Opioid Therapy was designed and tested by Susana Martins, Dan Wang, Martha Michel, Naquell Johnson, Denise Daniels, Mary Goldstein, and Samson Tu
- POPS was designed and conducted by Ian Carroll, Sean Mackey, Keith Humphreys, Jarred Younger, Peter Barelka, Walter Cannon, Charlie Wang et al.
- CRAVE was conducted and analyzed by Eleanor Lewis, Ann Combs, Susana Martins, Mike Cuccaire, and Megan Oser



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