

The Prescription Opioid Documentation and Surveillance (PODS) System

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OUTLINE

- PODS is a computer-assisted survey instrument
- PODS utilizes validated medical and mental health questionnaires
- PODS is used by a patient prior to face-to-face visit
- PODS information is incorporated into progress note

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Paper and Pencil Tool

"4 A's"

Analgesia

Activities of daily living

Adverse side effects

Aberrant drug-taking behaviors

4A's

Analgesia	
If zero indicates "no pain" and ten indicates "pain as bad as it can be," on a scale of 0 to 10, what is your level of pain for the following questions?	
1. What was your pain level on average during the past week? (Please circle the appropriate number)	
No Pain	0 1 2 3 4 5 6 7 8 9 10 Pain as bad as it can be
2. What was your pain level at its worst during the past week?	
No Pain	0 1 2 3 4 5 6 7 8 9 10 Pain as bad as it can be
3. What percentage of your pain has been relieved during the past week? (Write in a percentage between 0% and 100%.) _____	
4. Is the amount of pain relief you are now obtaining from your current pain reliever(s) enough to make a real difference in your life? <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. Query to clinician: Is the patient's pain relief clinically significant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure	

Activities of Daily Living			
Please indicate whether the patient's functioning with the current pain reliever(s) is Better, the Same, or Worse since the patient's last assessment with the PADT.* (Please check the box for Better, Same, or Worse for each item below.)			
	Better	Same	Worse
1. Physical functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Family relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Social relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Mood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sleep patterns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Overall functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* If the patient is receiving his or her first PADT assessment, the clinician should compare the patient's functional status with other reports from the last office visit.			

(Continued on reverse side)

4A's

Adverse Events				
1. Is patient experiencing any side effects from current pain reliever(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Ask patient about potential side effects:				
	None	Mild	Moderate	Severe
a. Nausea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Vomiting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Itching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Mental cloudiness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Sweating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Drowsiness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Patient's overall severity of side effects?				
<input type="checkbox"/> None <input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe				

Potential Aberrant Drug-Related Behavior
This section must be completed by the <u>physician</u>.
<i>Please check any of the following items that you discovered during your interactions with the patient. Please note that some of these are directly observable (eg, appears intoxicated), while others may require more active listening and/or probing. Use the "Assessment" section below to note additional details.</i>
<input type="checkbox"/> Purposeful over-sedation
<input type="checkbox"/> Negative mood change
<input type="checkbox"/> Appears intoxicated
<input type="checkbox"/> Increasingly unkempt or impaired
<input type="checkbox"/> Involvement in car or other accident
<input type="checkbox"/> Requests frequent early renewals
<input type="checkbox"/> Increased dose without authorization
<input type="checkbox"/> Reports lost or stolen prescriptions
<input type="checkbox"/> Attempts to obtain prescriptions from other doctors
<input type="checkbox"/> Changes route of administration
<input type="checkbox"/> Uses pain medication in response to situational stressor
<input type="checkbox"/> Insists on certain medications by name
<input type="checkbox"/> Contact with street drug culture
<input type="checkbox"/> Abusing alcohol or illicit drugs
<input type="checkbox"/> Hoarding (ie, stockpiling) of medication
<input type="checkbox"/> Arrested by police
<input type="checkbox"/> Victim of abuse
Other: _____



11/01/2006

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Initial Evaluation

Prior to Face-to-Face Meeting



Social Security Number

000-00-0014

Birthday

First Name

Last Name

Sex

Male

Female

Ethnicity

Hispanic or Latino

Not Hispanic or Latino

Race

American Indian or Alaska Native

Asian

Black or African American

Native American or Other Pacific Islander

White

Other

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HEALTH SCALES

The Brief Pain Inventory Pain Severity Score (a mean of pain at its worst, pain at its least, pain on average, and current pain) was 6/10.

The Brief Pain Inventory Interference Score (a mean of interference of pain with 7 ADL; general activity, mood, walking, normal work including household chores, relations with other people, sleep, enjoyment of life) was 6.6/10.

The Somatization subscale of the Patient Health Questionnaire (PHQ-15) score was 24 (Minimal 1–4, Low 5–9, Medium 10–14, High 15–30). Clinical correlation is needed to insure that the symptoms (see ROS) are not related to real pathology.

The Patient Health Questionnaire-9 score was 19 (Level of Depression Severity = 0 to 4—Minimal, 5 to 9—Mild, 10 to 14—Moderate, 15 to 19 Moderately Severe, 20 to 27—Severe).

The Hospital Anxiety and Depression Scale score for anxiety was 9 (Level of Anxiety: 0–7 Normal, 8–10 Borderline abnormal, 11–21 Abnormal).

Validated Scales

- analgesia
- activities daily living
- somatization
- depression
- anxiety

Brief Pain Inventory



Please rate your pain by clicking the one number that best describes your pain at its **WORST** in the past week.

no pain											worst pain imaginable
<input type="button" value="0"/>	<input type="button" value="1"/>	<input type="button" value="2"/>	<input type="button" value="3"/>	<input type="button" value="4"/>	<input type="button" value="5"/>	<input type="button" value="6"/>	<input type="button" value="7"/>	<input type="button" value="8"/>	<input type="button" value="9"/>	<input type="button" value="10"/>	



Please rate your pain by clicking the one number that best describes your pain at its **LEAST** in the past week.

no pain											worst pain imaginable
<input type="button" value="0"/>	<input type="button" value="1"/>	<input type="button" value="2"/>	<input type="button" value="3"/>	<input type="button" value="4"/>	<input type="button" value="5"/>	<input type="button" value="6"/>	<input type="button" value="7"/>	<input type="button" value="8"/>	<input type="button" value="9"/>	<input type="button" value="10"/>	

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Brief Pain Inventory



Click the one number that describes how, during the past week, PAIN HAS INTERFERED with your:

General Activity

0	1	2	3	4	5	6	7	8	9	10	
< Does not Interfere											Completely Interferes >

Mood

0	1	2	3	4	5	6	7	8	9	10	
< Does not Interfere											Completely Interferes >

Walking Ability

0	1	2	3	4	5	6	7	8	9	10	
< Does not Interfere											Completely Interferes >

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Brief Pain Inventory

PAIN MEASUREMENT SCALES (VAS 0-10)

Worst pain level in the past week	-----10/10
Lowest pain level in the past week	-----7/10
Average pain level	-----8/10
Current pain level	-----7/10

PAIN INTERFERENCE SCALES (VAS 0-10)

General activity	-----10/10
Mood	-----10/10
Walking ability	-----10/10
Work	-----10/10
Relations with other people	-----10/10
Sleeping	-----10/10
Enjoyment of life	-----10/10

Patient Health Questionnaire-2



Over the last 2 weeks, how often have you been bothered by any of the following problems?

Little interest or pleasure in doing things

Not at all

Several days

More than half the days

Nearly every day

Feeling down, depressed, or hopeless

Not at all

Several days

More than half the days

Nearly every day

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If PHQ-2 is equal or greater than 3; branches to PHQ-9

The Patient Health Questionnaire-2 (PHQ-2)

Patient Name _____ Date of Visit _____

Over the past 2 weeks, how often have you been bothered by any of the following problems?

	Not At all	Several Days	More Than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3

PHQ-15



During the past 4 weeks, how much have you been bothered by any of the following problems?

Headaches

Not bothered at all

Bothered a little

Bothered a lot

Chest Pain

Not bothered at all

Bothered a little

Bothered a lot

Dizziness

Not bothered at all

Bothered a little

Bothered a lot

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PHQ-15

REVIEW OF SYSTEMS

CONSTITUTIONAL

Fatigue: bothered a lot

Problems with sleep: bothered a lot

HEENT

Headaches: not bothered at all

RESPIRATORY

Shortness of breath: bothered a little

CARDIAC

Chest pains: bothered a little

Palpitations: bothered a little

GASTROINTESTINAL

Abdominal pains: not bothered at all

Constipation: bothered a lot

Nausea: bothered a little

MUSCULOSKELETAL

Low back pain: bothered a lot

Extremity pain: bothered a lot

GENITOURINARY

Menstrual Problems: N/A

Sexual problems (pain, loss of libido): bothered a lot

NEUROLOGICAL

Dizziness: bothered a little

Fainting: not bothered at all

Hospital Anxiety Depression Scale

 I feel tense or 'wound up':

<input checked="" type="radio"/> Most of the time	<input type="radio"/> A lot of the time	<input type="radio"/> From time to time, occasionally	<input type="radio"/> Not at all
---	---	---	----------------------------------

 I get a sort of frightened feeling as if something awful is about to happen:

<input type="radio"/> Very definitely and quite badly	<input type="radio"/> Yes, but not too badly	<input type="radio"/> A little, but it doesn't worry me	<input type="radio"/> Not at all
---	--	---	----------------------------------

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Addiction Severity Index

 In the past 30 days, estimate how many days you drank any alcohol.

 On how many of these days did you drink at least 5 drinks?

Days

Days

This is Page ASI1

Addiction Severity Index

ADDICTION SEVERITY INDEX (D1-D13, 17, 19, 20)

ALCOHOL

Past 30 days, has drank any alcohol-----0 Days
Years drank alcohol on a regular basis >2 days/wk-----10 Years

ALCOHOL INTOXICATION

Past 30 days, has drank at least 5 drinks-----0 Days
Years drank at least 5 drinks a day >2 times/wk-----0 Years

HEROIN

Past 30 days, has used heroin-----0 Days
Years used heroin-----0 Years

METHADONE

Past 30 days, has used methadone (Tx program or not)-----0 Days
Years used methadone >2 days/wk (Tx program or not)-----0 Years

OPIATES

Past 30 days, has used opiates or painkillers (Rx/non-Rx)---0 Days
Years used opiates or painkillers (Rx/non-Rx use)-----0 Years

BARBITURATES

Past 30 days, has used barbiturates (Rx/non-Rx use)-----0 Days
Years used barbiturates >2 days/wk (Rx/non-Rx use)-----0 Years

TRANQUILIZERS

Past 30 days, has used tranquilizers (Rx/non-Rx use)-----0 Days
Years used tranquilizers >2 days/wk (Rx/non-Rx use)-----0 Years

COCAINE

Past 30 days, has used cocaine or crack-----0 Days
Years used cocaine or crack >2 days/wk-----0 Years

AMPHETAMINES

Past 30 days, used amphetamines or uppers (Rx/non-Rx use)---0 Days
Years used amphetamines >2 days/wk (Rx/non-Rx use)-----0 Years

MARIJUANA

Past 30 days, has used marijuana (Rx/non-Rx use)-----0 Days
Years used marijuana (Rx/non-Rx use)-----0 Years

Addiction Severity Index

HALLUCINOGENS

Past 30 days, has used hallucinogens-----0 Days

Years used hallucinogens-----0 Years

INHALANTS

Past 30 days, has used inhalants-----0 Days

Years used inhalants >2 days/wk-----0 Years

MORE THAN ONE AT A TIME

Past 30 days, has used more than one substance-----0 Days

Years used more than one substance-----0 Years

ALCOHOL DTS

Had alcohol d.t.'s.-----0 Times

ALCOHOL ABUSE

Has been treated for alcohol abuse-----0 Times

DRUG ABUSE

Has been treated for drug abuse-----0 Times

Computer vs. Paper and Pencil

		0	50%	100%
Alcohol Days of use (%) in the past 30 days	0			X O
	1-5 times	X		O
	6-10 times	X O		
	≥10 times	X O		
Alcohol Days intoxicated (%) in past 30 days	0			X O
	1-5 times	X O		
	≥6 times	X O		
Lifetime History of Alcohol DTs (%)		X O		
Lifetime History of Alcohol Treatment (%)		X O		
Days of marijuana use (%) in the past 30 days	≥1 time	X O		
Cocaine use (%) in the past 30 days	≥1 time	X O		
Cocaine use Lifetime (%)		X O		
Heroin use (%) in the past 30 days	≥1 time	X O		
Heroin use Lifetime (%)		X O		
Amphetamine use (%) in the past 30 days	≥1 time	X O		
Amphetamine use Lifetime (%)		X O		
Times treated for drug abuse		X O		

Figure 2 Comparison of ASI-derived items using Computer-Assisted Survey Instrument and Paper and Pencil Assessment. Key: Computerized (X) versus paper and pencil (O) results.

Non-Validated Questions



What treatments or medications are you receiving for your pain?

Select all that apply

Antidepressant Medications

Pain Killers (Narcotics)

Anti-inflammatory Medications

Anticonvulsant Medications

Seeing a Physical Therapist

Seeing a Psychologist

Injections

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Antipsychotics/Antidepressants are currently being prescribed; he is taking quetiapine and venlafaxine. Anticonv are also being prescribed; he is taking topiramate 400 mg per day. Opioids are being utilized; oxycontin 240 mg, fentanyl 150 ug q3days and percocet 8 per day are being provided. NSAIDs are being provided.

His wife reports that he is very drowsy. He is also taking valium 5mg tid which is probably the main contributor to this side effect in combination with quetiapine and opioids.

Non-Validated Questions



Check anything that a doctor ever said that you have:

- abdominal aortic aneurysm
- atrial fibrillation (a type of irregular heart beat)
- high blood pressure or hypertension
- high blood cholesterol
- congestive or chronic heart failure
- stroke (with continued weakness from the event)
- mini-stroke or TIA (symptoms of visual loss in one eye or weakness on one side of the body that went away within a day)

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PAST MEDICAL HISTORY

The patient has a history of atrial fibrillation, hypertension, high cholesterol, diabetes mellitus, stomach or duodenal ulcer, and arthritis.

The patient does not have a history of an abdominal aneurysm, congestive failure, stroke, TIA, diabetic complications, chronic bronchitis, asthma, cancer, kidney disease, ulcerative colitis, rheumatoid arthritis, systemic lupus erythematosus, osteoporosis, multiple sclerosis, nor aids.

Non-Validated Questions



Check any treatments that you would like to try:

- acupuncture
- epidural steroid injections in the low back or neck
- physical therapy
- pain killers (narcotic medicines)
- group discussion of mind body treatments
- referral to a doctor to treat depression and/or anxiety
- referral to a doctor for treatment of an addiction of an illicit substance

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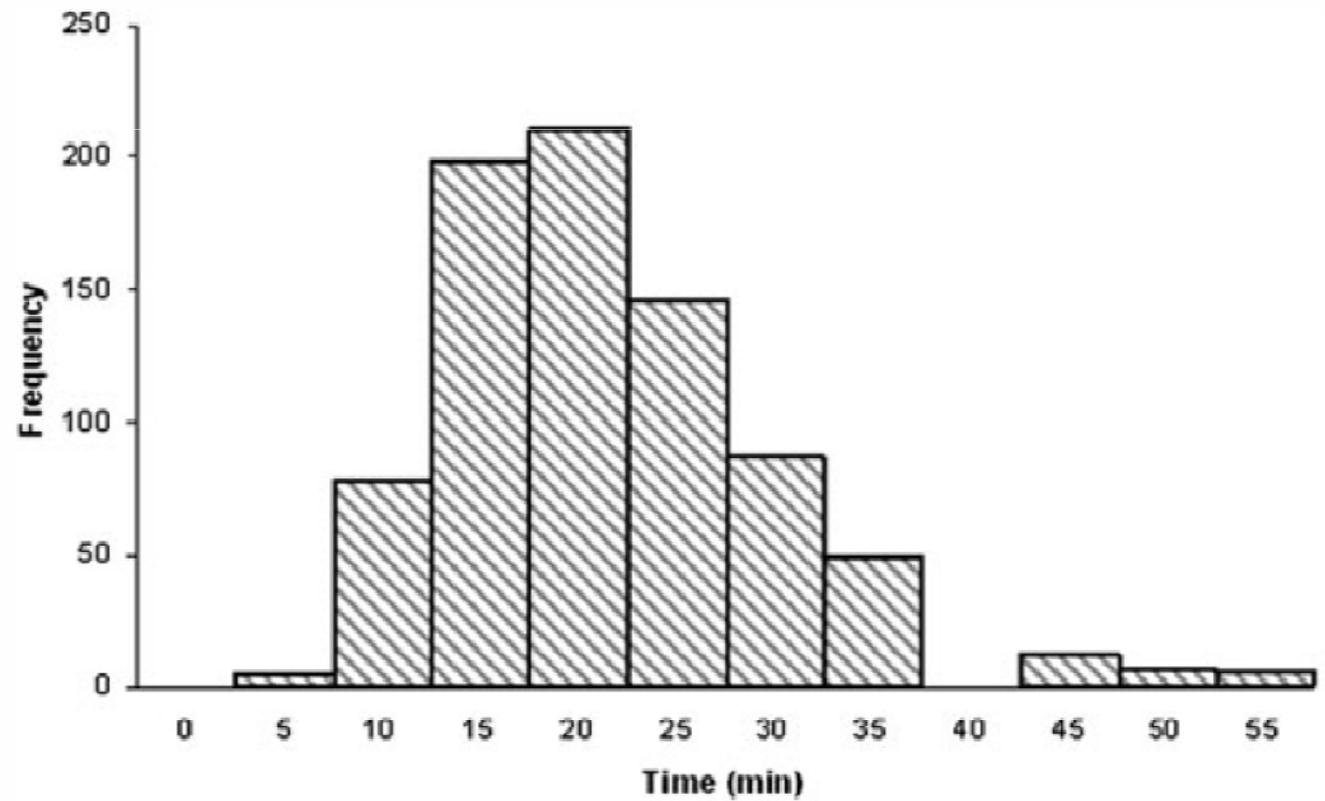


Figure 3 Distribution of time required for initial evaluation N = 800 (calculation of timing started after PODS instituted).

OPIOIDS, SUBSTANCE ABUSE AND ADDICTIONS SECTION

Original Research Article

Documenting and Improving Opioid Treatment: The Prescription Opioid Documentation and Surveillance (PODS) System

Barth L. Wilsey, MD,^{*†} Scott M. Fishman, MD,[†] Carlos Casamalhuapa, BS,^{§¶} and Asha Gupta, MD^{†**}

^{*}VA Northern California Health Care System; [†]Department of Anesthesiology and Pain Medicine, University of California, Davis, California; [§]Clinical and Translational Science Center (CTSC), UC Davis Health System, Davis, California, USA

ABSTRACT _____

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- PODS is a computer-assisted survey instrument
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Follow-Up Evaluation

Monthly Intervals



PAIN RELIEF

ANALGESIA

Worst pain in the past week:-----10/10
Lowest pain level in the past week:-----9/10
Average pain level:-----9/10
Current pain level:-----9/10
Percentage Pain Relief:-----10%
Opioids Makes a Difference in Pain Level:-----Never

SIDE EFFECTS

None=1, Mild=2, Moderate=3, Severe=4

Nausea:-----1
Vomiting:-----1
Constipation:-----1
Itching:-----1
Mental Clouding:-----1
Sweating:-----1
Fatigue:-----1
Drowsiness:-----2
Loss of Libido:-----3

INTERFERENCE WITH ACTIVITIES OF DAILY LIVING

VAS 0-10

General Activity:-----10
Mood:-----10
Walking Ability:-----10
Work Including Household Chores:-----10
Relation with Other People:-----10
Sleeping:-----10
Enjoyment of Life:-----10

PAIN RELIEF TREND

ALL PERCENTAGE PAIN RELIEF SCORES:

DATE:	SCORE:
1/24/2008	10%
11/29/2007	0%
9/19/2007	30%
7/25/2007	30%
6/27/2007	20%
5/30/2007	10%
5/2/2007	0%
4/4/2007	10%

SOAPP

SCREENER FOR OPIOID ASSESSMENT FOR PATIENTS WITH PAIN (SOAPP)

Low Risk < 7; High Risk >= 7

This score helps determine the level of monitoring that may be necessary to safely prescribe long term opioid therapy. High-risk patients may require smaller prescriptions, more frequent visits, referral to a specialist, or other intervention.

SOAPP Score:-----6

SOAPP Risk Category:-----Low

COMM EVERY VISIT

CURRENT OPIOID MISUSE MEASURE (COMM)

None = 0, Seldom = 1, Sometimes = 2, Often = 3, Very Often = 4

Trouble Thinking	0
Not Completing Tasks	1
Multiple Prescribers (i.e., M.D./ED)	0
Taken Medicines Differently from Rx	1
Thought of Self-Harm	0
Time Spent Thinking about Opioids	0
Been in Arguments	1
Trouble Controlling Anger	0
Diverted Opioids from Others	0
Worried About Handling Opioids	1
Others Worried About Handling Opioids	0
Phone Call/Visit to Pain Clinic w/o Appt	0
Angry with People	1
Self Escalation of Opioids	0
Borrowed Pain Meds from Others	0
Used Pain Medicine for Sleep/Improve Mood/Stress	1
Visited ER for Pain Meds	0

The COMM Score was 6 (Patients who score ≥ 9 on the COMM should be seen on a more frequent basis, with regular pill counts and urine toxicology screens)

ABERRANT BEHAVIORS RECORDED EVERY VISIT

Chabal C, Erjavec MK, Jacobson L et al. Prescription opiate abuse in chronic pain patients: clinical criteria, incidence, and predictors. Clin J Pain 1997;13:150-5.

ABERRANT BEHAVIORS

DATE: 1/22/2008

TYPE: Requested early refills in absence of clinical changes.

COMMENTS: Came in today stating he was told to take more oxycontin per surgeon.

**ENDORSED SUBSTANCES
FROM INITIAL VISIT
ASI QUERIED EVERY
VISIT
PAST 30 DAYS**

ADDICTION SEVERITY INDEX (D1-D13, 17, 19, 20)

ALCOHOL

Past 30 days, has drank any alcohol-----0 Days

PHQ-9 QUERIED EVERY VISIT

SERIALIZED SCORES BY DATE

AFFECT (PHQ9)

None = 0, Several Days = 1, More than Half the Days = 2,
 Nearly Every Day = 3 Over the past 2 weeks

Anhedonia:-----3
 Hopeless:-----3
 Sleep:-----3
 Fatigue:-----3
 Appetite:-----3
 Feel Bad about self:-----3
 Concentration:-----3
 Psychomotor:-----3
 Suicidality:-----3

Total PHQ9

Minimal = 1-4, Mild = 5-9, Moderate = 10-14,
 Moderately Severe = 15-19, Severe = 20-27

PHQ9 Total Score:-----27

PHQ9 Level of Depression Severity:-----Severe

ALL PHQ9 SCORES:

DATE:	SCORE:
1/24/2008	27
11/29/2007	22
9/19/2007	24
7/25/2007	6
6/27/2007	21
5/30/2007	21
5/2/2007	22
4/4/2007	11

PHQ-9 ITEM ON SUICIDALITY

AFFECT (PHQ9)

None = 0, Several Days = 1, More than Half the Days = 2,
Nearly Every Day = 3 Over the past 2 weeks

Anhedonia:-----3
Hopeless:-----3
Sleep:-----3
Fatigue:-----3
Appetite:-----3
Feel Bad about self:-----3
Concentration:-----3
Psychomotor:-----3
Suicidality:-----3

Total PHQ9

Minimal = 1-4, Mild = 5-9, Moderate = 10-14,
Moderately Severe = 15-19, Severe = 20-27

PHQ9 Total Score:-----27

PHQ9 Level of Depression Severity:-----Severe

ALL PHQ9 SCORES:

DATE:	SCORE:
1/24/2008	27
11/29/2007	22
9/19/2007	24
7/25/2007	6
6/27/2007	21
5/30/2007	21
5/2/2007	22
4/4/2007	11

ANXIETY SCALES

HOSPITAL ANXIETY AND DEPRESSION SCALE (HADS) - ANXIETY ONLY
Normal = 0-7, Borderline abnormal = 8-10, Abnormal = 11-21

Anxiety Score:-----21

PTSD CHECKLIST - CIVILIAN VERSION (PCL-C):-----Pos
(Weathers et.al.)
Date: 9/19/2007

PANIC DISORDER SELF REPORT (PDSR):-----Neg
(Newman et.al.)
Date: 11/29/2007

GENERALIZED ANXIETY DISORDER QUESTIONNAIRE-IV (GAD-Q-IV):---Pos
(Newman et.al.)
Date: 1/24/2008

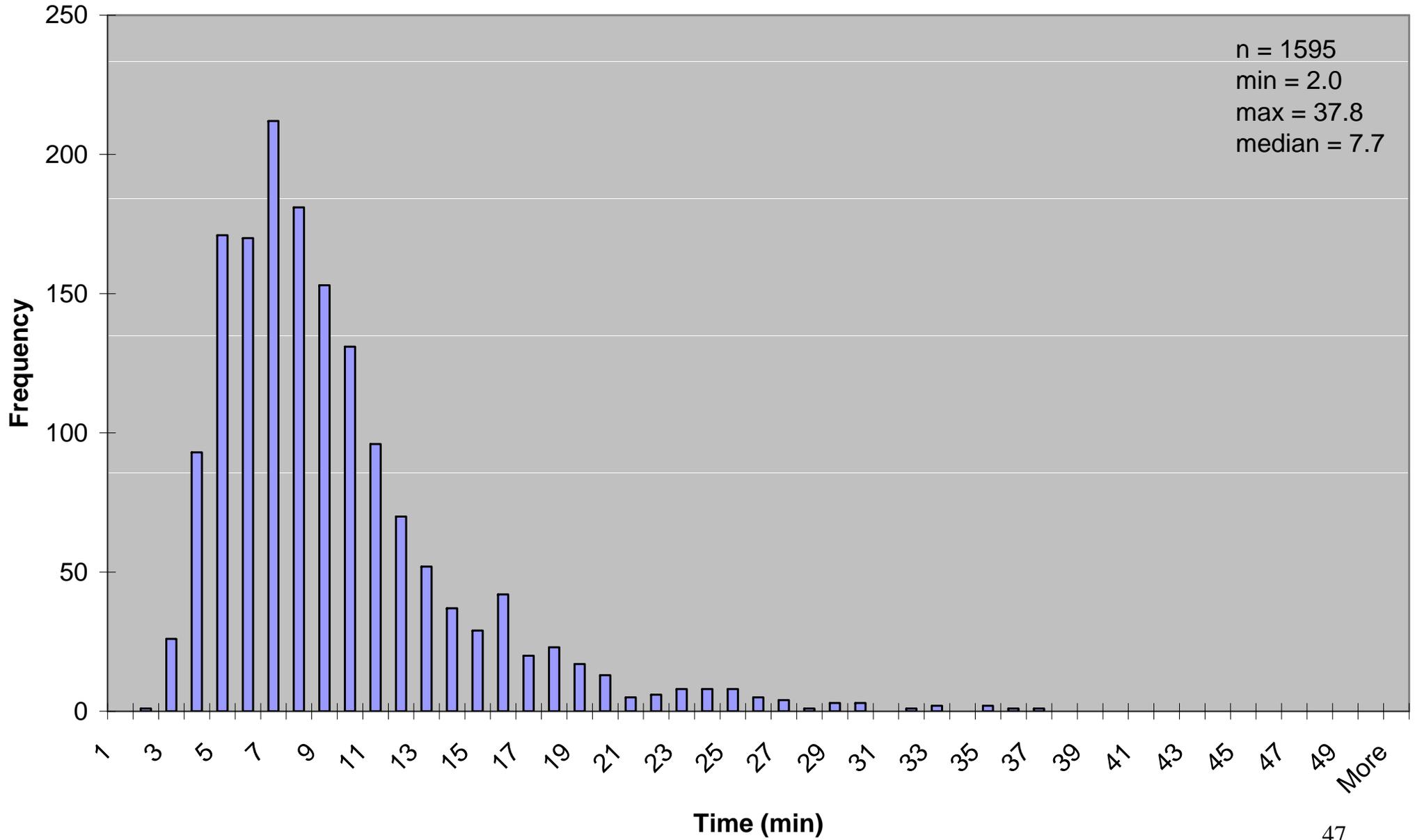
RANDOM URINE TOXICOLOGY SCREENS

30% CHANCE OF BEING SELECTED AT EACH VISIT

URINE TEST ORDERED:-----NO



All Follow Up Evaluation Completion Time Histogram



OPIOIDS, SUBSTANCE ABUSE & ADDICTIONS SECTION

Original Research Articles

Computerized Progress Notes for Chronic Pain Patients Receiving Opioids; the Prescription Opioid Documentation System (PODS)

Barth L. Wilsey, MD,^{*,†} Scott M. Fishman, MD,[†]
Carlos Casamaluapa, BS,^{†,§} and
Naileshni Singh, MD[†]

Measures. Pain levels, activities of daily living, and screening for common psychological disorders were sought at each visit. Results were tabulated

COMPUTER-ASSISTED SURVEY INSTRUMENTS

- all relevant information is requested
- physician has ready access to this information during the patient's visit
- the information is entered into the patient's medical record
- the information is readily available for other types of review

ADVANTAGES

- quantified multidimensional pain and function scores
- consistent tracking of key outcome targets at each visit
- surveillance of behaviors or symptoms
- individualized branched questionnaire data that targets issues of particular concern

INADVERTENT OVERDOSE

Bohnert AS, Ilgen MA, Galea S et al. Accidental poisoning mortality among patients in the Department of Veterans Affairs Health System. *Med Care* 2011;49:393-6.

Bohnert AS, Ilgen MA, Ignacio RV et al. Risk of death from accidental overdose associated with psychiatric and substance use disorders. *Am J Psychiatry* 2012;169:64-70.

Bohnert AS, Valenstein M, Bair MJ et al. Association between opioid prescribing patterns and opioid overdose-related deaths. *Jama* 2011;305:1315-21

- Veterans Health Administration patients had nearly twice the rate of fatal accidental poisoning compared with adults in the general US population
- Furthermore, accidental overdose is strongly associated with substance abuse disorders, depressive disorders, and anxiety disorders

FUTURE

- smartphones
 - “always on, always worn”
 - repeated sampling of key health outcomes measures, obtained in the user’s natural environment
 - more frequent measurement (sometimes termed “ecological momentary assessment”)
 - suicide ideation
 - passive assessment
 - use of cell phones’ own accelerometers and microphones to track physical movement and sound and thus make inferences about physical activity and social interaction