

Urine Drug Monitoring in Chronic Non-Cancer Pain: A Review of Outcome Studies and Gaps in the Literature

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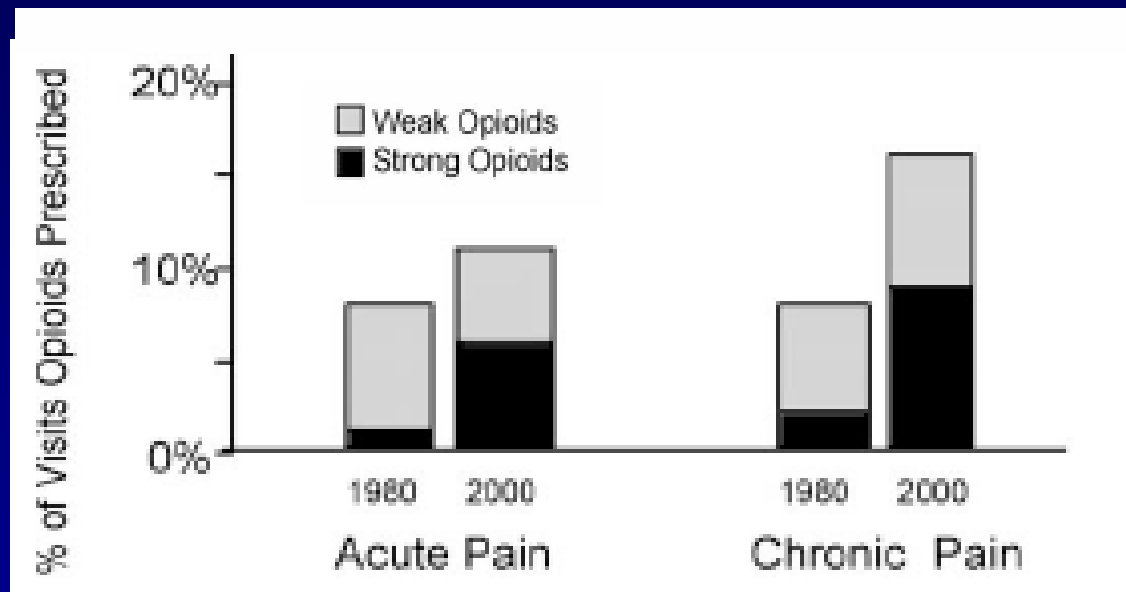


This presentation

- Why perform UDM in clinical care?
- Our systematic review
- Gaps in the literature

Opioids for chronic pain

- Increasing use for musculoskeletal pain: 1980 to 2000¹

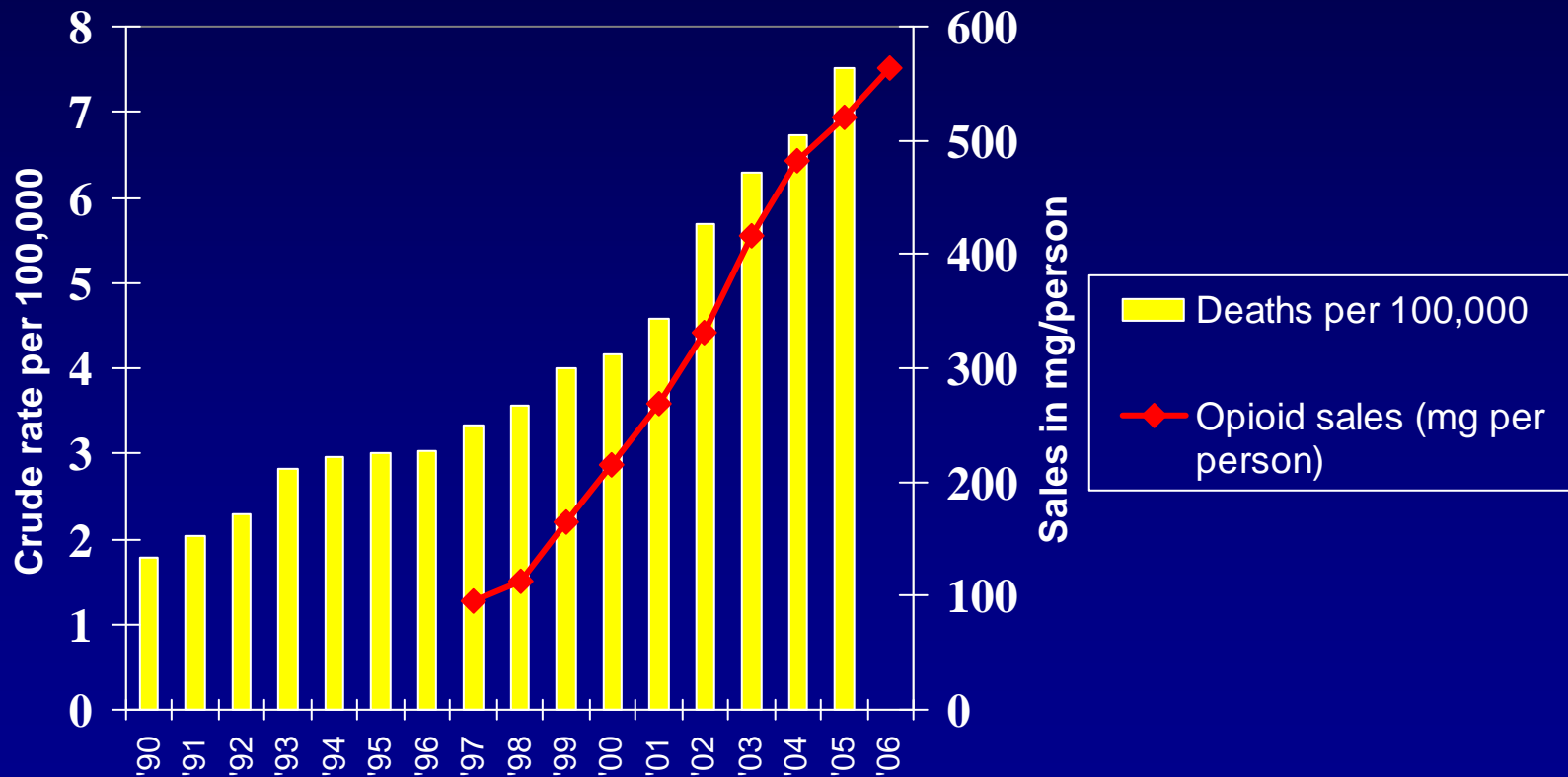


- 6% of all primary care visits in 2001²

Increasing opioid misuse and negative consequences

- ↑ incidence misuse^{1,2}
- ↑ admissions for addiction treatment³
- ↑ ED visits⁴
- ↑ overdose deaths⁵

Annual sales of Rx opioids and unintentional overdose death 1990 - 2006



Source: Paulozzi, CDC, Congressional testimony, 2007

Sources of misused opioids

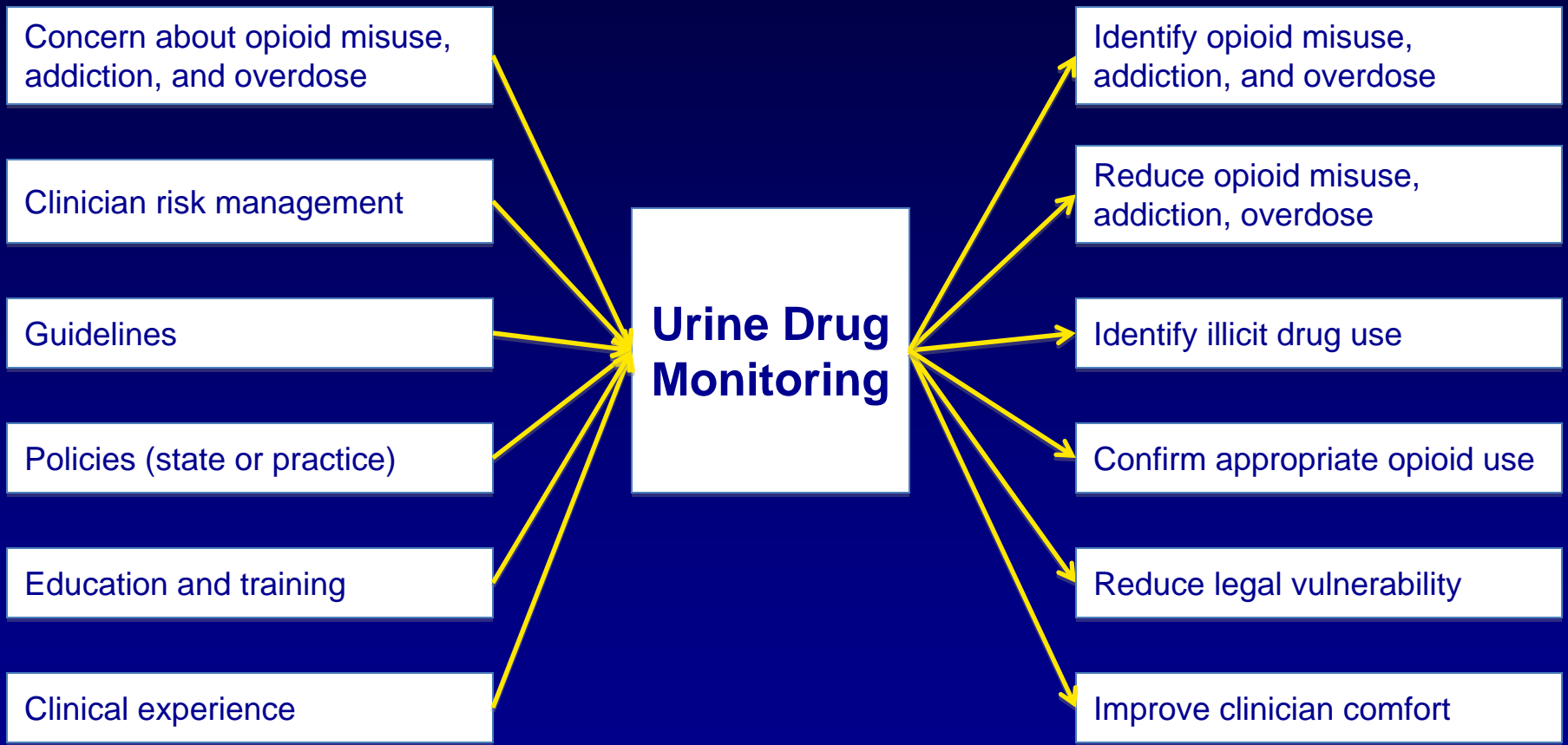
- 19% directly from a doctor
- 56% given for free by a friend or relative
 - 81% of those friends/relatives received them from a doctor
- 9% bought from a friend or relative
- 4% from a drug dealer or stranger

UDM recommended

- Federation of State Medical Boards
- American Pain Society
- American Academy of Pain Management
- American Society of Addiction Medicine
- Department of Veterans Affairs

- But what is the evidence?

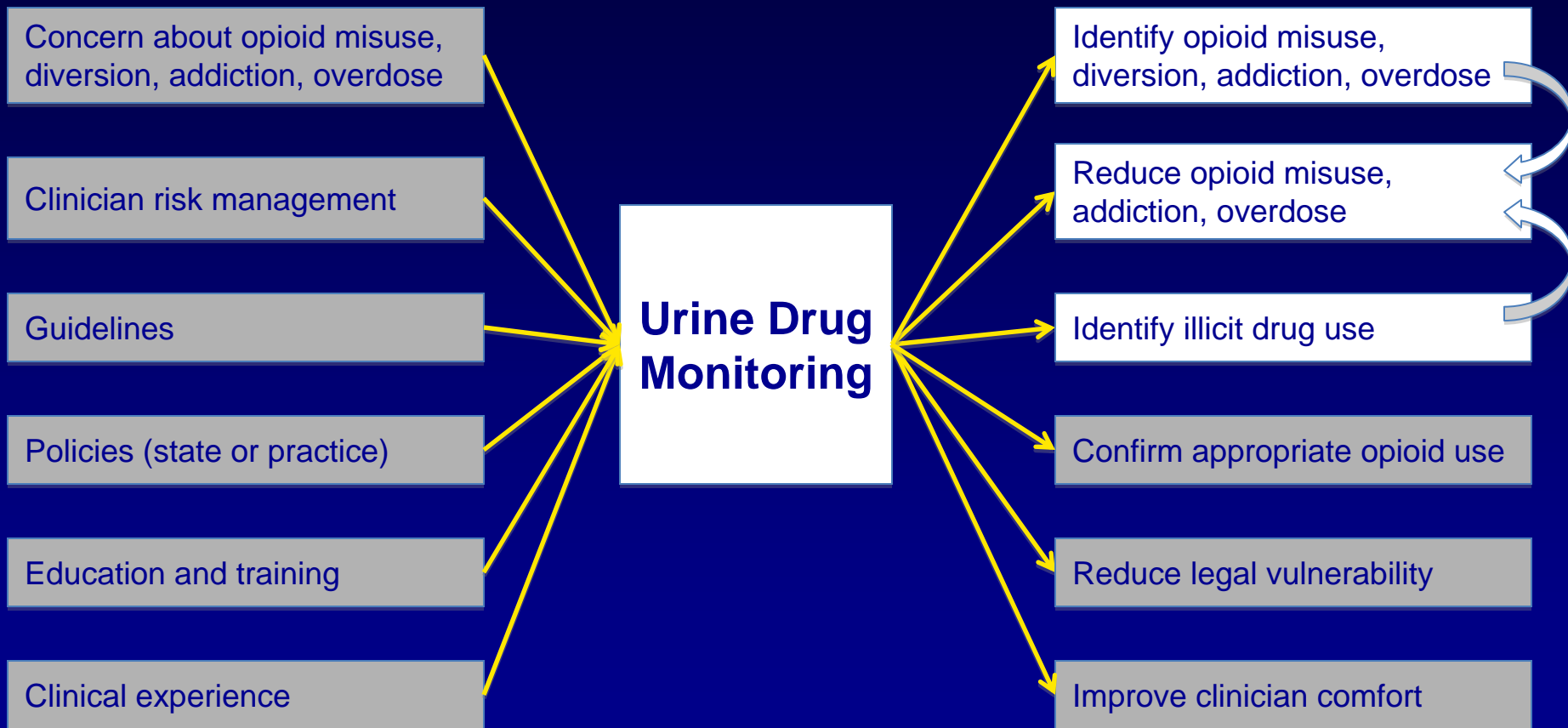
Conceptual Model: Potential reasons to use UDM in CNCP



Influences

Outcomes

Conceptual Model: Potential reasons to use UDM in CNCP



Influences

Outcomes

Research Questions

1. Is UDM effective in identifying opioid misuse, addiction, or overdose?
2. Is UDM effective in reducing opioid misuse, addiction, or overdose?
3. What is the prevalence of UDM in the primary care setting?

Search Strategy

- Primary Search: MEDLINE, PsycINFO, EMBASE, Cochrane (through 3/08)
 - English, Spanish, or French
 - Combining 4 Topic Areas (with “AND”)
 1. Opioids
 2. Chronic Pain
 3. Urine Drug Testing
 4. Substance Abuse
- Secondary Search: References from selected articles and relevant reviews, and through correspondence with experts

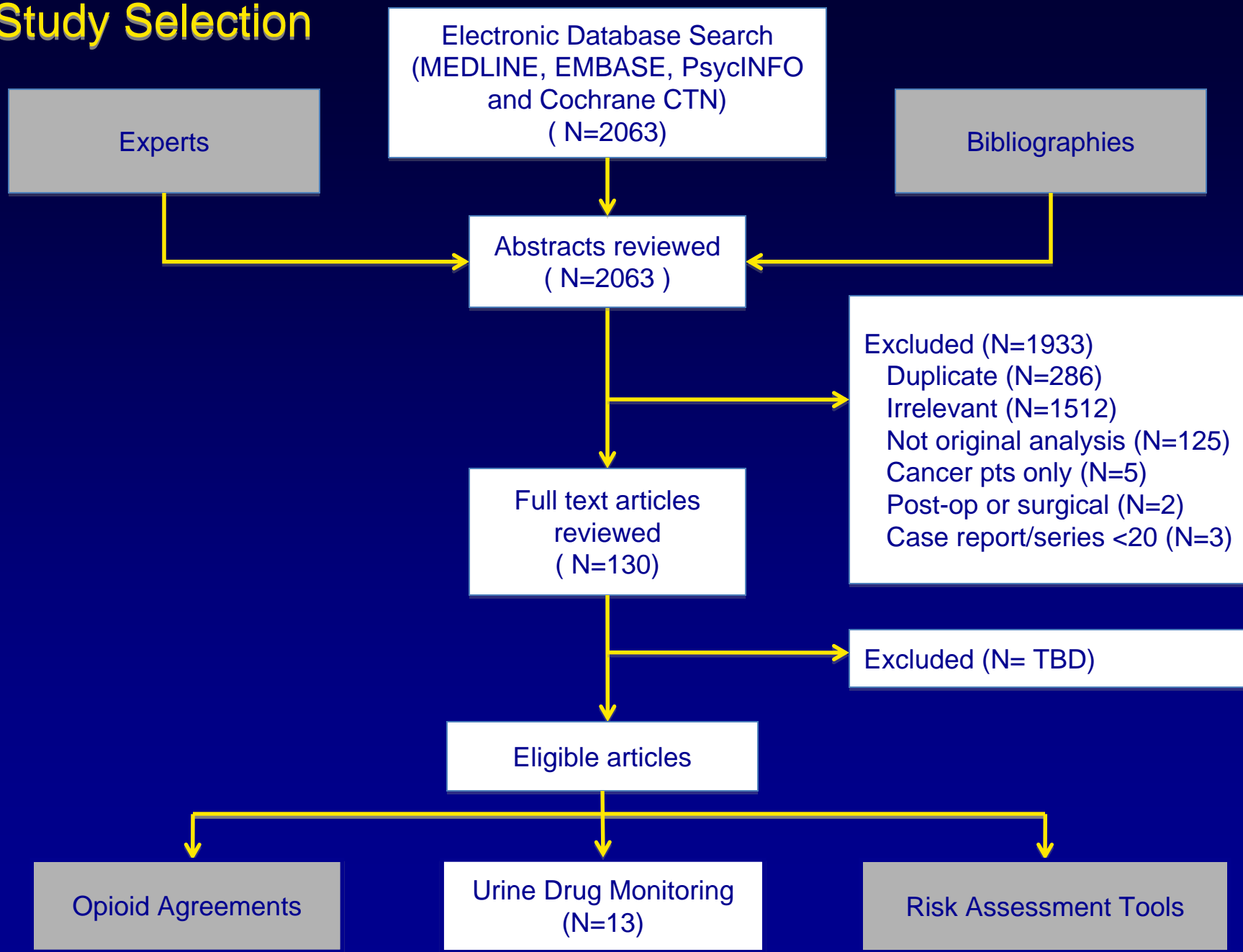
Search terms

Topic Area	MeSH term (Medline, Embase, Cochrane)	Key words (Medline, Embase) or Text words (Cochrane, PsychInfo)
1. Opioids	Narcotics	opi\$, narcotic\$, buprenorphine, butorphanol, codeine, dihydromorphine, fentanyl, heroin, hydrocodone, hydromorphone, levorphanol, meperidine, methadone, morphine, nalbuphine, oxycodone, oxymorphone, propoxyphene
	Analgesics, opioid	
2. Chronic Pain	Pain	Pain\$.mp
	Chronic Disease	Chronic pain, pain management, non-cancer pain, pain syndrome, pain treatment, pain control, non-malignant pain
3a. Opioid Agreements	Contracts	Agreement\$, contract\$
3b. Urine Drug Testing	Substance Abuse Detection	Drug test\$ Drug screen\$ Urine test\$ Urine screen\$
3c. Addiction Risk Assessment Tools	Risk Assessment	Addict\$ risk, risk and addict\$, risk and abuse, risk and misuse SOAPP, screener and opioid assessment ORT, opioid risk tool STAR, screening tool for addiction risk SISAP, screening instrument for substance abuse potential DAST, drug abuse screening test DIRE, "diagnosis, intractability" PADT, pain assessment documentation PMQ, pain medication questionnaire SASSI, substance abuse subtle screening inventory ABC, addiction behaviors checklist COMM, current opioid misuse measure PDUQ, prescription drug use questionnaire
	Mass Screening	screen\$ Opi\$ assess\$ Addict\$ screen\$
4. Substance Abuse	Substance-related disorders	Addict\$, dependen\$, abus\$, misus\$, substance us\$, drug us\$, drug habit\$
	Opioid-related disorders	Narcotic\$, opi\$ dependence
	Behavior, addictive	Addict\$ behavior Misuse behavior ABC, addiction behavior checklist COMM, current opioid misuse measure PDUQ, prescription drug use

Study Selection and Analysis

- Exclusion Criteria:
 - Not in English, French, or Spanish
 - Not relevant to study questions
 - Not original research
 - Cancer patients only
 - Surgical or post-op patients only
 - Case report or case series where $n < 20$
- Quality assessment and data extraction
- Data synthesis +/- meta-analysis

Study Selection



Outcomes assessed

- 5 on UDM for identifying opioid misuse
 - 3 monitoring for opioids
 - 2 monitoring for illicit drugs
- 1 on UDM for reducing opioid misuse
- 2 on UDM for reducing illicit drug use
- 0 assessed outcomes of addiction or overdose

- 4 on prevalence of UDM in PC

Study quality

- 0 RCT
- 2 prospective
- 2 with follow-up at least 6 months
- 1 with control group (historical)
- 3 with multivariate analysis
- N (range) 60-801
- GRADE scores: 2 moderate, 6 low, 5 very low

Is monitoring urine for opioids effective in identifying prescription opioid misuse?

Author Year	N	Design	Results		Comment
			Inappropriate NEG	Inappropriate POS	
Berndt 1993	109	Cross-sectional	--	6% codeine	New referrals
Fishbain 1999	226	Cross-sectional	7.5% any opioid	0.4% any opioid	14% refused UDT
Katz 2003	122	Retrospect. cohort	--	6.5% opioid	21% without behavioral issues had POS UDT

Is monitoring urine for illicit drugs effective in identifying prescription opioid misuse?

Author Year	Setting	N	Design	Results
Manchikanti 2003	PM	150	Cross-sectional UDT	34% POS illicit drugs in opioid abusers 14% POS illicit drugs in opioid non-abusers
Fleming 2007	PC	801	Interviews and UDT	24% POS illicit drug Not significant predictor of opioid use disorder MJ: aOR 1.4 (0.5-3.9), p=.516 Cocaine: aOR 1.65 (0.42-6.42), p=.47

Is UDM effective in reducing misuse, addiction, or overdose?

- 0 studies of the effect on addiction or overdose
- 1 study addresses effectiveness of UDM in reducing misuse
- Wiedemer 2007
 - Multi-disciplinary, structured intervention
 - Resolution in 45% of pts referred for aberrant drug-related behavior

Does UDM in chronic pain management reduce illicit drug use?

Author Year	Setting	N	Design	Results
Manchikanti 2006	PM	500	Prospective cohort	POS illicit drug test in 16% vs 22% in control group.
Wiedemer 2007	PC	335	Retrospective cohort	45% of those referred for aberrant drug- related behaviors resolved

What is the prevalence of UDM in primary care?

Author Year	N	Sample	Resp. rate	Design	% Providers
Adams 2001	74	12 FP practices	--	Chart review	8%
Bhamb 2006	248	FP and IM	74%	Written questionnaire	6.9% -- for new pts 15% -- for estab. Pts
Boulanger 2007	100	Canadian GPs and FP	23%	Telephone survey	30%
Reisfield 2007	60	FP at review course	75%	Written questionnaire	73% -- sometimes

Conclusions

- UDM is infrequently used in PC
- Little to no evidence that UDM reduces Rx opioid misuse
- Some evidence that monitoring urine for opioids is effective at identifying misuse in PM
- Equivocal evidence that testing for illicit drugs helps identify Rx opioid misuse
- Most research is low quality

Gaps in the Literature

1. Determine clinical effectiveness
2. Evaluate potential harm
3. Evaluate across clinical practice settings
4. Define best practices
5. Disseminate best practices

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Determine clinical effectiveness

- Does UDM in CNCP reduce opioid misuse, diversion, addiction, and/or overdose?
- Need:
 - Prospective, longitudinal studies
 - Standardized definitions of misuse and addiction
 - Use of validated instruments to classify opioid misuse and addiction in CNCP

Evaluate potential harm

- Misinterpretation of results may lead to accusation and/or discharge
- Impact on doctor-patient relationship unknown
- Loss to follow-up may affect other preventative care or chronic disease management
- Inadequate response to urine result may put clinician at risk

Evaluate across clinical settings

- How does variability across practice settings alter the benefits and risks of UDM?
 - How does primary care differ from pain management?
- Consider variability in:
 - Feasibility of UDM
 - Clinician proficiency in ordering and interpreting
 - Prevalence of misuse
 - Cost-effectiveness
 - Availability of assays

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Define best practices

- Many questions remain:
 - When in the course of treatment should UDM be performed?
 - In every patient or those deemed high risk?
 - What drugs should we test for?
 - Using which assays?
 - How should we respond to results?
- Need to develop quality measures

Disseminate best practices

- Evaluate ways to:
 - Educate clinicians about ordering and interpreting UDM
 - Educate clinicians about talking to patients about addiction
- Create a national opioid management support system
- Publish in general medical journals

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