

Psychosocial Interventions For Opioid Use Disorders: A Scoping Review

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Disclosure

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- I have no actual or potential conflicts of interest to declare in relation to this presentation

Background

- *“The most that any chemical agent can do for an addict is to relieve his compulsive drive for illicit narcotic...Methadone and other medications can be produced in large quantity, but the compassion and skillful counseling needed for rehabilitation of addicts are not replicated in the climate of bureaucracy” (Dole & Nyswander, 1976, p. 2119).*
- More than 40 years after Dole and Nyswander’s assessment of their seminal work documenting the effectiveness of methadone maintenance and their endorsement of “skillful counseling” and other non-pharmacologic interventions as essential components of OAT, the role of psychosocial interventions in the treatment of opioid use disorders (OUD) is equivocal.

Background

- A 2011 Cochrane review of 35 RCTs ($N = 4319$ patients) found that in comparison to OAT with standard medical management alone, adding structured psychosocial treatment interventions to OAT did not improve patient adherence, retention, or abstinence from opioid use during or after treatment (Amato et al., 2011).
- Trials published subsequent to Amato et al.'s review have yielded mixed results.
- This evidence problematizes Dole and Nyswander's views on the role of psychosocial interventions in OAT. Nonetheless, clinical practice guidelines for OUD around the world state that structured psychosocial interventions should be regarded as essential components of treatment for OUD.

Rationale (1)

- Extant evidence focuses on whether *adding* psychosocial interventions to pharmacotherapy enhances patient outcomes compared to pharmacotherapy alone.
 - How often have *different research questions* (e.g., efficacy of stand-alone psychosocial treatments, or stand-alone psychosocial interventions versus pharmacotherapies) have been addressed?
- Trial evidence is central for informing clinical practice, but generalizability to routine treatment services and heterogeneous patient populations may be compromised due to strict inclusion and exclusion criteria into RCTs (e.g., heroin users only).
 - Is evidence from other study designs (e.g., quasi-experiments; prospective cohorts; qualitative methods) informative? Cochrane-style reviews exclude those evidence sources.

Rationale (2)

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- Many psychosocial interventions are provided in OUD treatment.
 - How much *heterogeneity*? What are the most commonly studied approaches?
- Extant evidence prioritizes retention in treatment and substance use as primary outcomes.
 - Has evidence been produced on *other outcomes* viewed as important for rehabilitative treatment goals (lifestyle changes, quality of life, income and other social determinants of health)?

Objectives

1.

Identify all empirical studies and reviews that have investigated psychosocial interventions used in the treatment of OUD, *with or without* pharmacotherapies.

2.

Describe the range of evidence sources available in the scientific literature in relation to *study populations, types of treatments, research questions, outcome measures*.

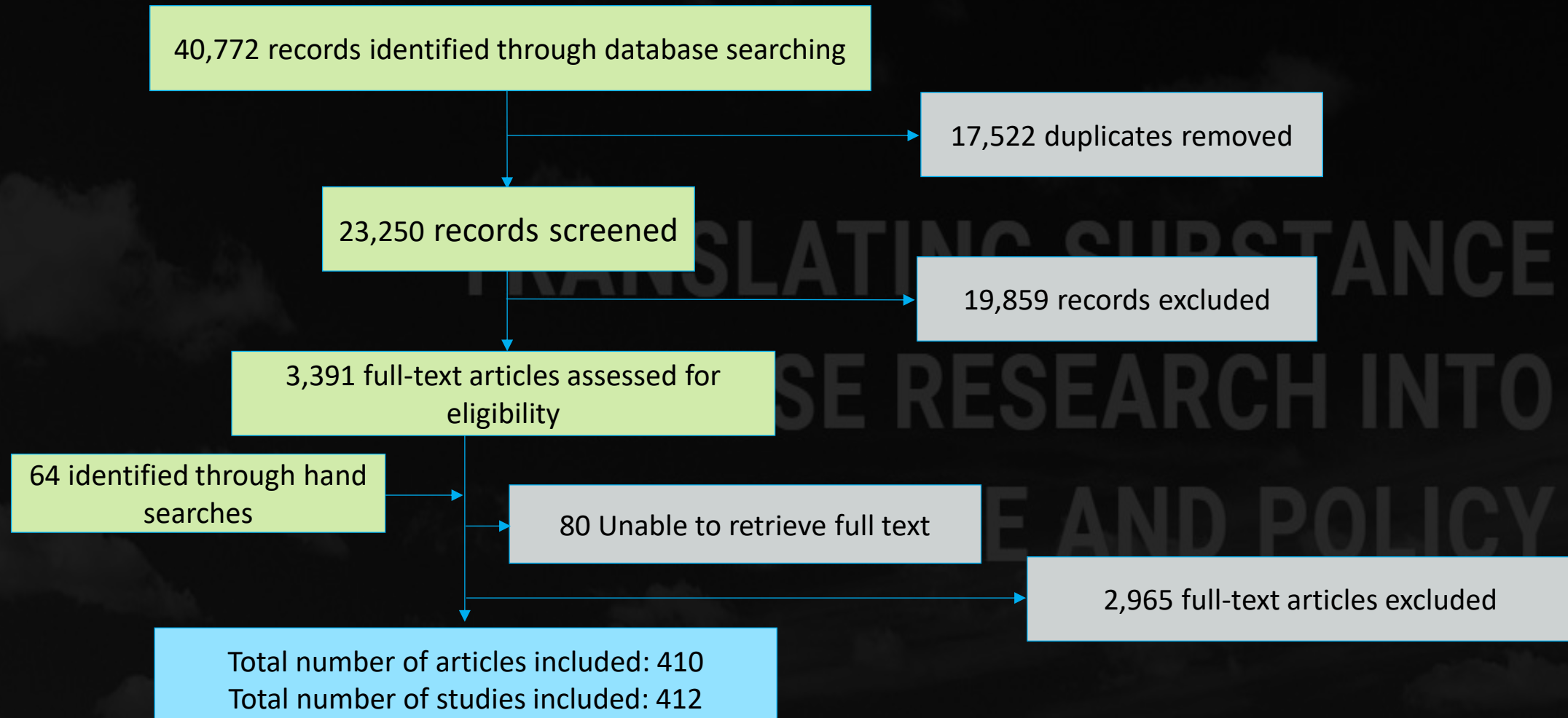
Methods

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- ✓ Search strategy developed iteratively with the assistance of a professional research librarian.
- ✓ Multiple test searches were conducted using an *a priori* list of keywords and subject headings to develop and refine database-specific controlled vocabularies.
- ✓ These were used to search five databases for eligible studies, including Ovid MEDLINE, EMBASE, CINAHL, Cochrane Library, and PsycINFO. English-language articles published up to July 2017 were eligible for inclusion in the review
- ✓ Included articles coded as applicable on 122 variables grouped into 6 domains: publication characteristics, evidence sources, research designs used in comparative studies or evaluated in articles reviewing comparative studies, study populations, treatment modalities, type of intervention(s) offered to patients, and outcomes assessed.



Overview of search and screening





Inclusion and exclusion criteria

Articles included if they	Articles excluded if they
Reported results of research on human samples or populations seeking treatment for OUD , and	Investigated or reviewed treatment of co-morbid medical conditions unrelated to OUD (e.g., diabetes, obesity, cancer, pain, etc.), and/or
Reviewed or reported empirical (quantitative and/or qualitative) results of primary studies investigating structured non-pharmacologic interventions** in the treatment of OUD, with or without the use of pharmacologic treatments (e.g., methadone and/or buprenorphine), and/or	Investigated or reviewed research on the impact of pharmacologic or psychosocial interventions on neonates with OUD (research on treatment of the mother prior to the delivery was potentially eligible for inclusion), and/or
Investigated psychosocial treatment or prevention of comorbid conditions that influence outcomes of OUD treatment (e.g., non-pharmacologic interventions to address mental disorders or physical conditions directly related to OUD, such as HIV, Hepatitis), and/or	Investigated or reviewed research on the use of opioids in pain management only, and/or
Investigated or reviewed empirical (quantitative and/or qualitative) results of research on housing, employment, or other interventions targeting social determinants of health in the context of OUD treatment, and/or	Investigated or reviewed research on biomedical aspects or correlates of OUD treatment (e.g., brain imaging), including pharmacokinetic studies (drug interactions, dosage testing), or reported only on physiologic, biomedical variables, and/or
Reported quantitative and/or qualitative results of research investigating treatment of symptoms of OUD in any way, including with pharmacotherapies (e.g., clonidine to treat hypertension in withdrawal, etc.), and	Reported clinical practice guidelines or local (grey literature) program evaluations, and/or
Were English-language articles published by July 2017	Investigated or reviewed OUD outside the context of treatment, and/or
	Investigated or reviewed research on measurement/assessment tool validation, and/or
	Provided commentary, responses, editorials, letters to the editor, or were dissertations, and/or
	Reported conference abstracts, conference proceedings, and/or
	Reported study protocols only, and/or
	Were not published in the English language, and/or
Investigated or reviewed research on OUD in non-human species	

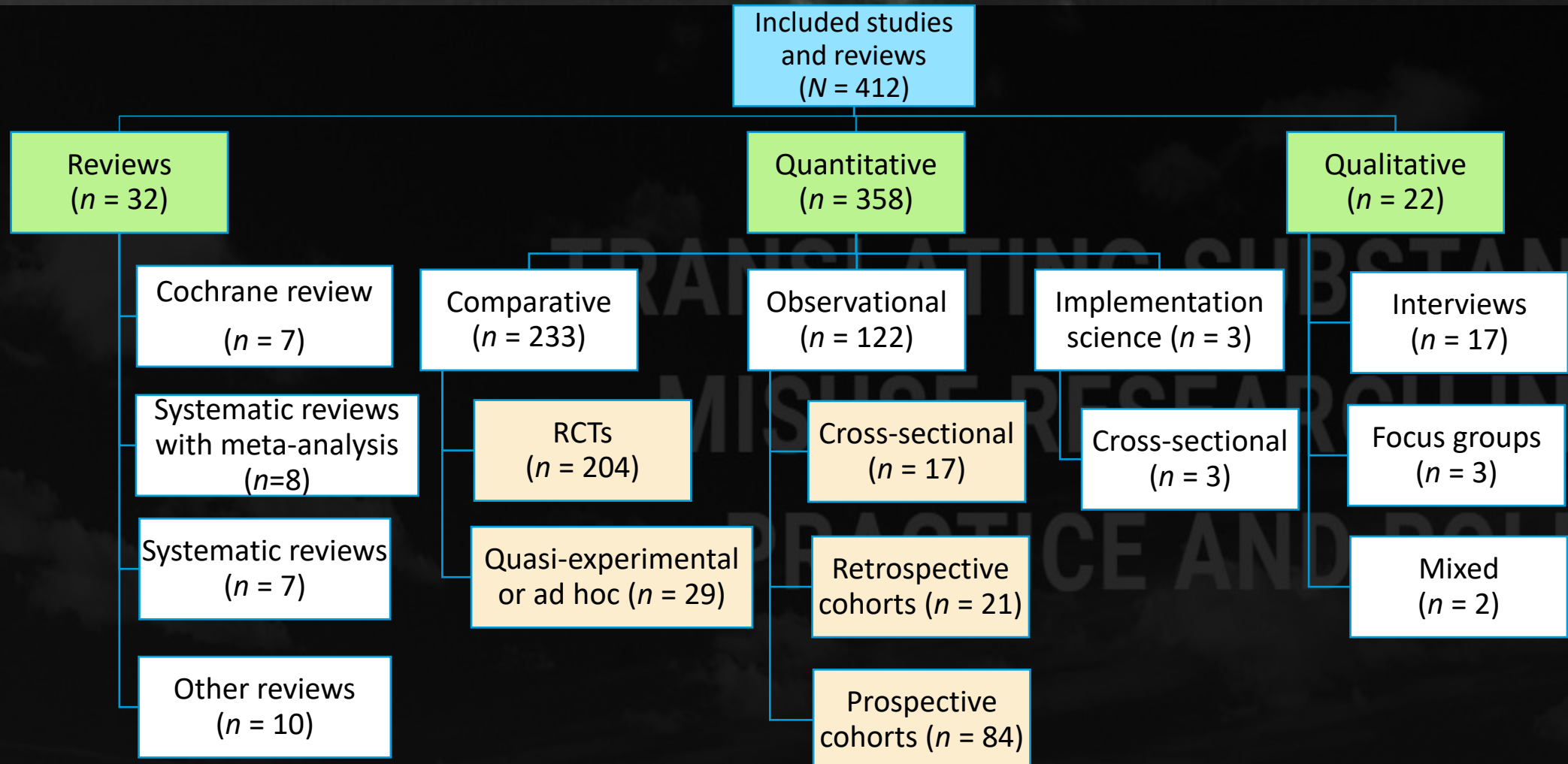


Search terms: Intervention approaches

	Sub-category	Search Terms	
Pharmacologic Interventions	Opiate agonist treatments	Buprenorphine; Buprenorphine-Naloxone (Suboxone); Methadone, Methadose Opioid agonist treatment, Opioid maintenance, Opiate substitution; Levo- α -acetylmethadol (LAAM); Prescribed diamorphine hydrochloride (prescribed heroin)	
	Antagonist treatments	Naloxone, Naltrexone, Narcan, Narcotic Antagonist; Opioid Antagonist	
Psychosocial Interventions	Psychological Therapies/ Psychotherapy	Behavioural therapies	Aversion stimulation, Biofeedback, Covert sensitization,; Neurofeedback; Behavioural intervention, Behavioural program, Behavioural services, Behavioural therapy, Behavioural treatment; Community reinforcement; Contingency Management, Contingency therapy, Operant, Voucher; Electric stimulation, Electrostimulation therapy, Electro-therapy; Reinforcement schedule, Reinforcement psychology, Stimulant drug
		Cognitive Behavioural Therapies	Behaviour therapy, Cognitive therapy; Mind-Body Therapies,; Relaxation technique, Relaxation therapy; Psychological Adaptation; Relapse prevention
		Family Based Interventions	Couple therapy, Family therapy, Group therapy, Interpersonal therapy, Marital therapy, Marriage therapy, Support therapy
		General terms	Non-pharmaceutical, Non-pharmacological; Psychoanalysis; Psychotherapeutic Techniques, Psychotherapy; Psychiatric intervention, Psychiatric program, Psychiatric service, Psychiatric therapy, Psychiatric treatment; Psychoeducation intervention, Psychoeducation program, Psychoeducation services, Psychoeducation therapy, Psychoeducation treatment Psychosocial intervention, Psychosocial program, Psychosocial services, Psychosocial therapy, Psychosocial treatment, Social intervention, Social program, Social therapy, Social treatment
	Other psychotherapy	Confrontational intervention; Insight oriented therapy; Psychodrama, Role play	
	Social network and Environment-based therapies	Community care, Community centre, Community mental health, Community network, Community psychiatry, Community psychology, Community service; Therapeutic community	
	Complementary Interventions	Alternative medicine, Alternative therapy; Complementary therapies, Complimentary therapy; Aboriginal healer, Healing ceremony, Indigenous healer, Native healer, Native medicine, Native therapy, Traditional medicine, Traditional therapy; Faith Healing, Meditation, Religion, Prayer, Spiritual; Animal assisted therapy, Art therapy, Bibliotherapy, Colour therapy, Music therapy; Aromatherapy	
	Counselling	Counselling; Coping behaviour, Coping skills, Self-control training, Social skills; Incentive, Motivation; Rehabilitation	
	Harm reduction Interventions	Harm reduction; Needle-Exchange Programs, Peer needle, Syringe exchange, Safe injection; Street nurse, Street outreach, Street clinic, Outreach Program; Safer inhalation, Crack kit; Supervised consumption; Formal intervention, Prevention program	
	Other Interventions	Detox; Discussion group; Client centered; Paradox; Problem solving; Psychological debrief; Socialization, Social Adjustment; Transactional, Befriend; Withdrawal management	
Self-Help & Support Groups	LifeRing, Methadone Anonymous, Mutual support, Narcotics Anonymous, Peer support, Recovery support, Self-help groups, Self-help, Stress management, Support groups, SMART Recovery, Twelve-Step		
Social Services	Case care, Case management; Education lecture, Education program, Education Film, Education Intervention; Occupational guidance, Vocational education, Vocational Guidance, Vocation; Housing; Income assistance services, Public assistance, Social Care, Social service; Outreach; Social support; Voluntary worker, Volunteers; Wraparound services		

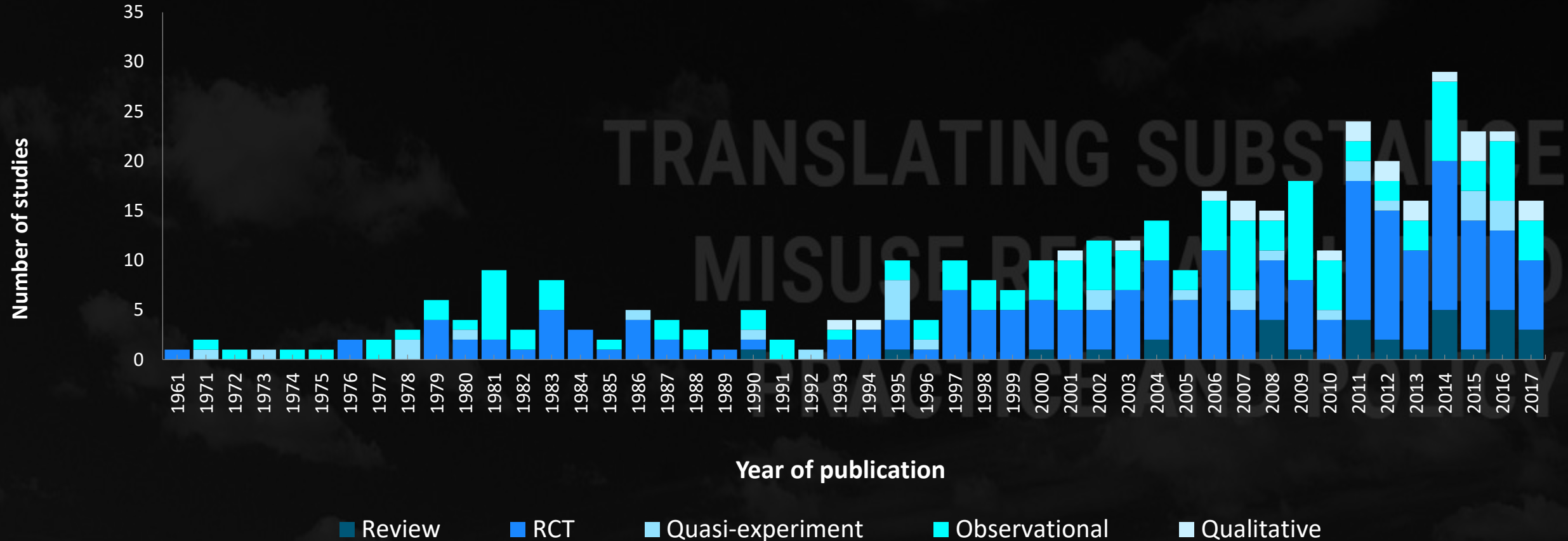


Types of evidence produced





Types of evidence produced, 1961 - 2017





Geographic origin of evidence, 1961 – 2017





Treatment settings/modalities investigated, 1961 – 2017

	Reviews (n = 32)	Comparative studies		Observational studies			Qualitative studies (n = 22)
		RCTs (n = 204)	QESs (n = 29)	Prospective (n = 84)	Retrospective (n = 21)	Cross sectional (n = 17)	
<i>Outpatient (community-based care)</i>	27 (84.4%)	168 (82.4%)	19 (65.5%)	42 (50.0%)	15 (71.4%)	14 (82.4%)	16 (72.7%)
<i>Inpatient (acute care)</i>	2 (6.3%)	9 (4.4%)	1 (3.4%)	6 (7.1%)	---	1 (5.9%)	---
<i>Residential treatment</i>	1 (3.1%)	8 (3.9%)	1 (3.4%)	12 (14.3%)	1 (4.8%)	---	2 (9.1%)
<i>Corrections</i>	2 (6.3%)	3 (1.5%)	1 (3.4%)	1 (1.2%)	1 (4.8%)	1 (5.9%)	1 (4.5%)
<i>Other</i>	---	6 (2.9%)	---	2 (2.4%)	---	1 (5.9%)	1 (4.5%)
<i>Multiple</i>	---	10 (4.8%)	7 (24.1%)	21 (25.0%)	4 (19.1%)	---	5 (22.7%)



Target populations providing evidence, 1961 – 2017

	Reviews (n = 32)	Comparative studies		Observational studies			Qualitative studies (n = 22)
		RCTs (n = 204)	QESs (n = 29)	Prospective (n = 84)	Retrospective (n = 21)	Cross sectional (n = 17)	
<i>General adult population</i>	30 (93.8%)	162 (79.4%)	22 (75.9%)	76 (90.5%)	16 (76.2%)	12 (70.6%)	10 (45.5%)
<i>Special populations*</i>	2 (6.3%)	32 (15.7%)	5 (17.2%)	5 (6.0%)	4 (19.0%)	4 (23.5%)	5 (22.7%)
<i>Other</i>	---	---	---	---	---	---	2 (9.1%)
<i>Multiple**</i>	---	10 (4.9%)	2 (6.9%)	3 (3.6%)	1 (4.8%)	1 (5.9%)	5 (22.7%)

* Treatment offered only to veterans, prisoners, patients with other legal involvement, pregnant women, patients with comorbid alcohol use disorders, homeless patients, or HIV+ patients. ** Treatment offered to adults *and* one or more special populations, and/or articles that included health care providers or members of patients' families as participants in addition to patients



Types of psychosocial treatments investigated, 1961 – 2017

	Comparative studies		Observational studies			Qualitative studies (n = 22)
	RCTs (n = 204)	QESs (n = 29)	Prospective (n = 84)	Retrospective (n = 21)	Cross sectional (n = 17)	
<i>Psychological</i>	104 (51.0%)	11 (37.9%)	30 (35.7%)	10 (47.6%)	5 (29.4%)	8 (36.4%)
<i>Addiction sector</i>	12 (5.9%)	3 (10.3%)	16 (19.0%)	4 (19.0%)	3 (17.6%)	4 (18.2%)
<i>System management</i>	13 (6.4%)	---	2 (2.4%)	1 (4.8%)	2 (11.8%)	---
<i>Social interventions</i>	14 (6.9%)	2 (6.9%)	1 (1.2%)	---	2 (11.8%)	3 (13.6%)
<i>Harm reduction</i>	1 (0.5%)	3 (10.3%)	4 (4.8%)	3 (14.3%)	2 (11.8%)	3 (13.6%)
<i>Other</i>	14 (6.9%)	3 (10.3%)	6 (7.1%)	1 (4.8%)	1 (5.9%)	1 (4.5%)
<i>Multiple</i>	46 (22.5)	7 (24.1)	25 (29.8)	2 (9.5%)	2 (11.8%)	3 (13.6%)

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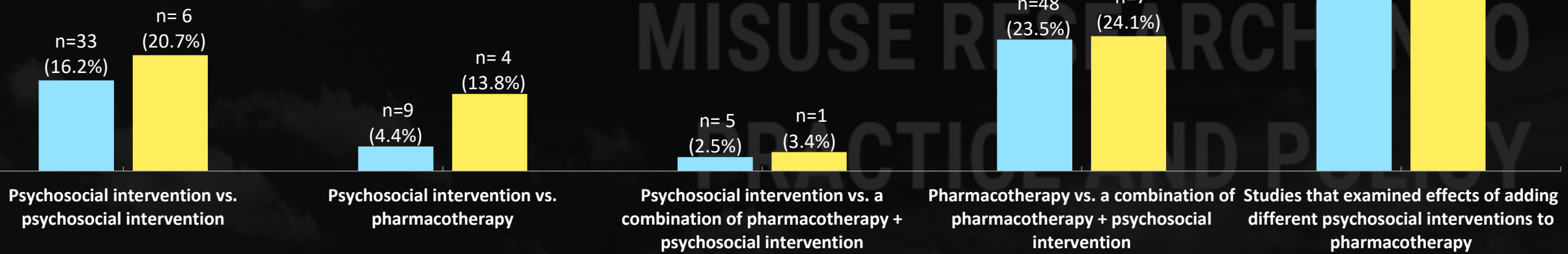


Research questions addressed in comparative studies

Studies evaluating stand-alone psychosocial interventions
(n = 58; 24.9%)

Studies evaluating adjunct role of psychosocial interventions in pharmacotherapy (n = 175; 75.1%)

% of studies



■ RCT (N=204) ■ QES (N=29)



Patient characteristics, 1961 – 2017

	Comparative studies		Observational studies			Qualitative studies (n = 22)
	RCTs (n = 204)	QESs (n = 29)	Prospective (n = 84)	Retrospective (n = 21)	Cross sectional (n = 17)	
<i>Sample size: M (SD)</i>	138.9 (164.1)	170.6 (191.2)	374.7 (563.4)	631.9 (1192.3)	668.7 (2149 .9)	22.7 (12.3)
<i>Males</i>	68.7%	68.3%	70.5%	75.0%	66.7%	62.5%
<i>Type of opioid(s) used (%)</i>						
<i>Heroin</i>	47.5%	51.7%	50.0%	28.6%	58.8%	81.8%
<i>Prescription opioids</i>	5.9%	10.3%	---	---	5.9%	---
<i>Opium</i>	1.5%	---	---	28.6%	5.9%	---
<i>Unspecified</i>	32.4%	34.5%	34.5%	---	23.5%	18.2%
<i>Multiple</i>	12.7%	3.4%	15.5%	42.9%	5.9%	---
<i>Comorbid mental disorder assessed? (%)</i>						
<i>Yes, exclusion criterion</i>	10.8%	3.4%	4.7%	---	5.9%	4.5%
<i>Yes, studied</i>	48.0%	31.0%	40.0%	23.8%	5.9%	4.5%
<i>No</i>	38.2%	51.7%	51.8%	61.9%	76.5%	22.7%
<i>Unclear</i>	2.9%	13.8%	3.5%	14.3%	11.8%	63.6%

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Protocol characteristics, 1961 – 2017

	Comparative studies		Observational studies			Qualitative studies (n = 22)
	RCTs (n = 204)	QESs (n = 29)	Prospective (n = 84)	Retrospective (n = 21)	Cross sectional (n = 17)	
<i>Pharmacotherapies (%)</i>						
<i>Methadone</i>	54.9%	51.7%	47.6%	57.1%	35.3%	36.4%
<i>Buprenorphine</i>	7.8%	10.3%	3.6%	9.5%	---	9.1%
<i>Bup/Naloxone</i>	5.9%	3.4%	1.2%	4.8%	---	4.5%
<i>Naltrexone</i>	8.8%	---	6.0%	4.8%	11.1%	---
<i>Multiple/other</i>	5.9%	13.7%	13.1%	4.8%	22.2%	4.5%
<i>Unclear</i>	15.2%	---	28.6%	19.0%	38.1%	31.8%
<i>n/a</i>	1.5%	20.7%	---	---	---	13.6%
<i>Psychosocial treatment manualized? (%)</i>	41.7%	13.8%	14.3%	9.5%	23.5%	18.2%
<i>Patient attrition reported (%)</i>	63.7%	44.8%	41.7%	4.8%	n/a	n/a
<i>Post-tx follow up reported</i>	34.4%	34.5%	44.0%	19.0%	n/a	n/a

Outcomes investigated in RCTs evaluating stand-alone psychosocial interventions

Outcome	Design 1 Psychosocial vs. psychosocial (n = 33)	Design 2 Psychosocial vs. pharmacotherapy (n = 9)	Design 3 Psychosocial vs. pharmacotherapy + psychosocial (n = 5)
<i>Drug use</i>	18 (54.5%)	5 (55.6%)	5 (100.0%)
<i>Retention in treatment</i>	22 (66.7%)	6 (66.7%)	5 (100.0%)
<i>Cravings</i>	6 (18.2%)	3 (33.3%)	---
<i>Mental health, mood/affect</i>	11 (33.3%)	5 (55.6%)	---
<i>Risk behaviours</i>	7 (21.2%)	---	3 (60.0%)
<i>Employment</i>	6 (18.2%)	2 (22.2%)	1 (20.0%)
<i>Criminality</i>	3 (9.1%)	2 (22.2%)	2 (40.0)
<i>Service access, treatment satisfaction</i>	3 (9.1%)	---	1 (20.0)

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Summary of findings

1. Extant evidence mainly produced in the US. Very little Canadian research has been produced to understand the role of psychosocial interventions in treatment of OUD.
2. Evidence has prioritized community-based, outpatient treatments offered to general adult populations of heroin users.
 - Very limited evidence on other populations and treatment modalities (e.g., prescription opioid users, inpatients, corrections, residential programs).
3. Psychosocial intervention strategies have been construed narrowly, i.e., psychological therapies most studied.
 - Very limited evidence available on the role of social interventions, harm reduction, and system navigation in OUD treatment.
4. At the same time, heterogeneous psychological approaches have been studied (e.g., contingency management, cognitive behavioural therapy, generic counselling, group therapy). Low rates of manualized interventions.
 - This variety precludes generalizations on the impact of this type of psychosocial intervention approach via meta-analysis.

Summary of findings

5. From a clinical trials (comparative) perspective, the evidence base primarily conceptualizes psychosocial interventions narrowly, *as adjuncts to pharmacotherapies*.
 - Limited evidence on impact of stand-alone psychosocial interventions – despite this being the most common approach used in addiction treatment throughout Canada, and nation-wide gaps in service coverage for pharmacotherapies.
6. Retention in treatment and substance use are the most-studied outcomes.
 - Very limited evidence available on treatment effects on employment, other risk behaviours, criminality, satisfaction with services and connections to other services.
7. Virtually no evidence from implementation science research has been produced.
 - The literature does not provided a basis for enhancing scale-up of effective interventions for maximizing population impact.

Conclusion

- 56 years of research on psychosocial interventions in the treatment of OUD has produced a highly diverse body of evidence on outpatient methadone treatment for heroin users, very little 'made in Canada' contributions, and a meagre evidence base on treatment for prescription opioid users.
- Little attention has been paid to how psychosocial interventions can promote the rehabilitative outcomes valued by Dole and Nyswander – the researchers who first documented the effectiveness of pharmacotherapy (methadone) in the treatment of OUD.

Thanks for your attention!

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