

*New perspectives on the opioid epidemic and medication treatment*

Lauren Scaletta, PsyD, and Nathan Valentine, MD, FAPA

Wednesday, September 29, 2021

1

**Disclosures**

Lauren Scaletta, PsyD, and Nathan Valentine, MD, FAPA, have each declared that they do not, nor does their family have, any financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the presentation. Drs. Scaletta and Valentine each declared that they do not have any relevant non-financial relationships. Additionally, all planners involved do not have any financial relationships.

2

**Learning objectives**

Upon completion of the instructional program, participants should be able to:

1. Describe one recent trend of the overall mortality of opioid use
2. List at least two potential modifications of practice or policy that can reduce mortality in individuals with opioid use disorder.
3. Identify at least two effective contingency management tools that increase treatment adherence

3

**What we'll cover in this webinar**

**An overview of opioid mortality and effect of medication treatment**

- Rates and changes in opioid-related mortality
- Effect of medication use on mortality
- Recent efforts at Rogers to increase use of medications

**Psychological considerations for treatment engagement and risk reduction**

- Contingency management strategies to increase treatment adherence
- Modifiable and non-modifiable factors contributing to relapse and treatment discontinuation risk

**Case studies**

- Discussion on how they would have been handled with "older" strategies vs. how they might be handled in light of recent advancements in our understanding

4

*An overview of opioid mortality and effect of medication treatment*

Please use the Q&A feature to send your questions to the moderator.

5

*A brief timeline of the opioid epidemic, or "playing from behind."*

- 1995 – OxyContin approved
- 1996 – buprenorphine for MAT approved (Subutex)
- 1999-2000 – rise in overdose deaths begins to accelerate
- 2001 – stronger warnings in labeling for opioid medications
- 2002 – buprenorphine/naloxone for MAT approved (Suboxone)
- 2003 – FDA warning letter to Purdue Pharma
- 2006 – Vivitrol approval
- 2010 – beginning of sharp rise in heroin-related overdoses
- 2013-2014 – flurry of FDA actions to control opioid prescriptions
- 2014 – beginning of sharp rise of fentanyl overdoses
- 2015 – intranasal naloxone approved
- 2017 – National emergency declared

**Overdose Death Rates Involving Opioids, by Type, United States, 1999-2019**

Source: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA. US Department of Health and Human Services, CDC, 2020. <https://wonder.cdc.gov/>

[www.cdc.gov](https://www.cdc.gov)

6

*Mortality overview*

**Figure 1. National Drug-Involved Overdose Deaths\* Number Among All Ages, by Gender, 1999-2019**

\*Includes deaths with underlying causes of unintentional drug poisoning (X40-X44), suicide drug poisoning (X60-X64), homicide drug poisoning (Y88), or drug poisoning of undetermined intent (Y10-Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

7

*The double epidemic*

Year	Total overdose deaths	All opioid deaths	Synthetic opioid deaths
2015	52,404	35,091	9,580
2016	63,632	42,249	19,413
2017	70,237	47,600	28,466
2018	67,367	46,802	31,335
2019	70,630	49,860	36,359
2020	93,331	69,710	57,550

8

### What do 70,000 deaths look like?

9

### "The white epidemic"

All demographic groups experienced more overdose deaths during 2020 — particularly males, younger age groups, and communities of color.

Demographic Group	Estimated Percent Increase
All	30
Male	33
Female	23
Ages 15-24	49
Ages 25-34	33
Ages 35-44	36
Ages 45-54	25
Ages 55-64	23
Black	45
Latino/Hispanic	42
AIAN	39
Asian American	37
White	24

Note: AIAN = American Indian/Alaska Native.  
 Date: Centers for Disease Control and Prevention, Quarterly Provisional Drug Overdose Estimates with Demographics, Aug. 2021. Provisional estimates from the CDC are not final data and are subject to change.  
 Source: Jesse C. Baumgartner and David C. Riedley, "The Drug Overdose Mortality Toll in 2020 and Near-Term Actions for Addressing It," The Point blog, Commonwealth Fund, July 15, 2021, updated Aug. 16, 2021.

10

### Why isn't anything working?

- Availability of treatment has been outpaced by new cases of OUD
- Individuals in remission from OUD experience relapses, so the total number of active cases is at least partially summative
- Existing treatments are underutilized due not only to availability but also to excessive expectations for the person receiving treatment
- Many parts of the recovery community continue to take a dim view of MAT

11

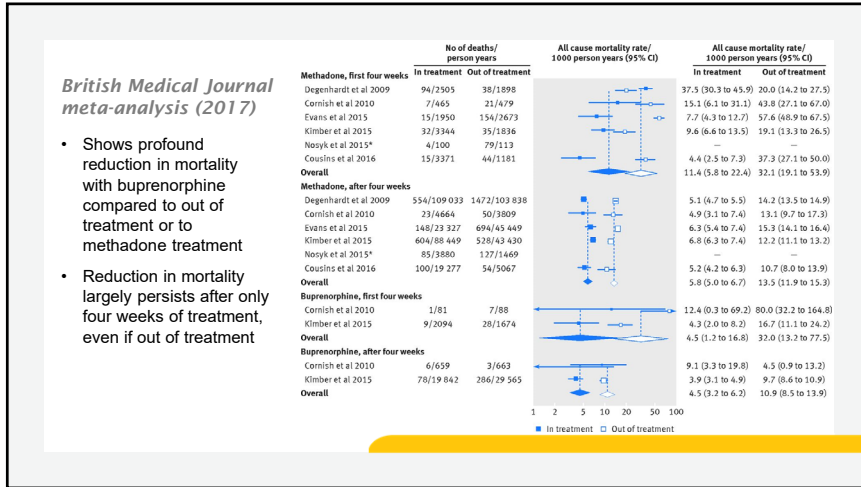
### Buprenorphine reduces mortality

- This large VA study clearly shows drastically reduced mortality for individuals who receive buprenorphine
- The highest risk for individuals not receiving buprenorphine is in the first 14 days since leaving treatment

Buprenorphine pharmacotherapy status	Person-days at risk	n, deaths	IR	UHR (95% CI)	AHR (95% CI) <sup>a</sup>
Treated	15,094,978	142	0.94	ref	ref
Not treated, overall	20,191,645	822	4.07	<b>4.61 (3.84, 5.54)</b>	<b>4.33 (3.66, 5.21)</b>
Treated	15,094,978	142	0.94	ref	ref
Not treated, stratified					
≤7 days since the last treatment	543,673	28	5.15	<b>5.13 (3.46, 7.75)</b>	<b>4.56 (3.01, 6.90)</b>
8-14 days since the last treatment	388,091	28	7.21	<b>7.47 (4.95, 11.28)</b>	<b>6.54 (4.32, 9.91)</b>
15-30 days since the last treatment	708,080	26	3.67	<b>3.95 (2.59, 6.04)</b>	<b>3.45 (2.25, 5.29)</b>
>30 days since the last treatment	18,551,801	740	3.99	<b>4.51 (3.74, 5.43)</b>	<b>4.29 (3.55, 5.17)</b>

Note: Boldface indicates statistical significance (p<0.05). Suicide/overdose indicates suicide/overdose deaths (n=964). IR indicates deaths per 100,000 person-days.

12



13

### The French experience

- All physicians have been allowed to prescribe buprenorphine since 1995 for OUD in France
- About 20% of physicians routinely prescribe buprenorphine and about 80% of individuals with OUD receive buprenorphine
- Minimal insurance obstacles to filling prescriptions, and pharmacists are allowed to monitor ongoing treatment in some capacity
- It is estimated that up to 20% of buprenorphine is misused or diverted, but deaths have still decreased 79%

14

### What can be done here?

- We cannot emulate the successes of France without substantial and improbable changes in law, policy and the overall health care system
- However, buprenorphine is more accessible in the US than ever before but underutilized
- We can mobilize the knowledge we have within the current system.
- Diversion should be monitored but erring on the side of access results in far less mortality
- Even individuals with inconsistent engagement or “low motivation” show a substantial decrease in mortality when prescribed buprenorphine

15

### Results from a recent “Rapid Improvement Event” (RIE) at Rogers

- A standard work was created for discharge buprenorphine prescriptions for inpatients
- An automated reminder was created to provide prescription at time of discharge
- Patient education materials were created

TN	RIE Metric	Base-Line (Sept - April)	Goal	90 Days Exp'd	Wk 1 5/24-5/31	Wk 2 6/7-6/14	Wk 3 6/14-6/21	Wk 4 6/23-6/29	Wk 5 6/30-7/6	Wk 6 6/27-7/3	Wk 7 7/4-7/10	Wk 8 7/11-7/17	Wk 9 7/18-7/24	Wk 10 7/25-7/31	Wk 11 8/1-8/7	Wk 12 8/8-8/14
CE	% of patients with FDA approved recovery med ordered during hospital stay	83.4% (N= 661)	90%	90%	91%	97%	100%	95%	98%	96%	88%	87%	95%	94%	95%	100%
CE	% of Buprenorphine patients that discharge with a bridge script	1.4% (4 out of 292)	35%	35%	34%	50%	75%	46%	45%	44%	38%		75%	67%	47%	55%
	Provider report of prescribing discharge meds		50%					93%	95%	76%	55%	78%	85%	73%		63%

16

### Summary

- The opioid epidemic continues to accelerate in lethality
- The use of medications, especially buprenorphine, is proven to drastically reduce mortality, even in “non-ideal” patients
- There are regulatory and legal obstacles to expanding buprenorphine use
- However, many obstacles are more modifiable, especially changing attitudes among providers, patients and the overall recovery community about where buprenorphine and other medications fit
- Relatively small interventions can have a big impact on utilizing buprenorphine more aggressively

17

### Psychological considerations for treatment engagement and risk reduction



Please use the Q&A feature to send your questions to the moderator.

18

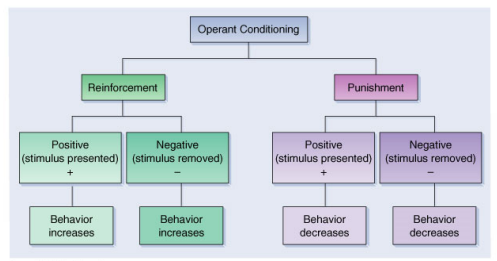
### Risks for relapse or treatment non-adherence

<p><b>Modifiable:</b></p> <ul style="list-style-type: none"> <li>• Treatment resistance ←</li> <li>• Low motivation ←</li> <li>• Lack of family/support system involvement ←</li> <li>• Negative emotions</li> <li>• Coping ability</li> <li>• Conduct disorder symptoms</li> <li>• Polysubstance use</li> <li>• Poor sleep</li> </ul>	<p><b>Non-modifiable:</b></p> <ul style="list-style-type: none"> <li>• Genetics</li> <li>• Age</li> <li>• Sexual orientation</li> <li>• Gender identity</li> <li>• Race and ethnicity</li> <li>• Socio-economic background</li> <li>• Chronic pain</li> <li>• Co-occurring mental health diagnoses</li> <li>• Prior SUD treatment</li> <li>• Greater withdrawal symptoms</li> <li>• Overdose history</li> </ul>
--	---

19

### What is contingency management (CM)?

- A behavioral intervention where patients receive material incentives contingent on objectively verified behavior change
- Based in operant conditioning principles



The flowchart illustrates Operant Conditioning, which is divided into Reinforcement and Punishment. Reinforcement is further divided into Positive (stimulus presented) and Negative (stimulus removed). Positive reinforcement leads to behavior increases, while negative reinforcement also leads to behavior increases. Punishment is divided into Positive (stimulus presented) and Negative (stimulus removed). Both positive and negative punishment lead to behavior decreases.

© 2000 John Wiley & Sons, Inc.

20

### Pharmaco-behavioral theory of substance use

#### Psychoactive substances:

- Euphoria (positive reinforcement)
- Reduces negative feelings (negative reinforcement)
- Substance use results in loss of other reinforcers (job, family, friends)

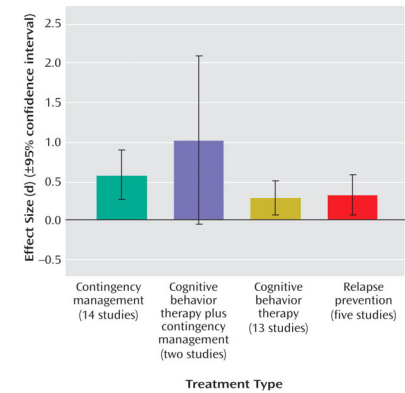
Result is that psychoactive substances are highly reinforcing and hijack the reward pathway in our brain

(Correia et al., 2010; Hogarth, 2020; McDonell, 2021; McPherson et al., 2018)

21

### Treatment outcomes

- Analysis shows CM enhances psychosocial treatment interventions (Dutra et al., 2008; Jhanjee, 2014)
- CM addresses extrinsic motivation but shows promise for increasing intrinsic motivation to change substance use behavior (Walter & Petry, 2015)

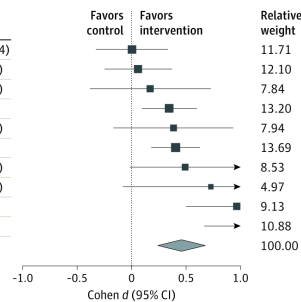


22

### CM vs. controls: Therapy attendance

A Therapy attendance

Study	Cohen d (95% CI)
Kidorf et al, <sup>72</sup> 2018	0.006 (-0.33 to 0.34)
Jiang et al, <sup>61</sup> 2012	0.06 (-0.25 to 0.37)
Rhodes et al, <sup>73</sup> 2003 <sup>a</sup>	0.17 (-0.38 to 0.73)
Chen et al, <sup>65</sup> 2013	0.35 (0.10 to 0.60)
Rhodes et al, <sup>73</sup> 2003 <sup>b</sup>	0.39 (-0.16 to 0.94)
Hser et al, <sup>60</sup> 2011	0.40 (0.18 to 0.93)
Rowan-Szal et al, <sup>30</sup> 2005	0.50 (-0.15 to 1.01)
Jones et al, <sup>74</sup> 2000	0.73 (-0.08 to 1.54)
Petry et al, <sup>27</sup> 2005	0.97 (0.50 to 1.44)
Kodorf et al, <sup>75</sup> 2013	1.05 (0.67 to 1.42)
Total (95% CI)	0.43 (0.22 to 0.65)

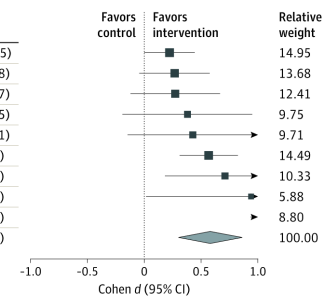


23

### CM vs. controls: Opioid abstinence

A Opioid use

Study	Cohen d (95% CI)
Hser et al, <sup>60</sup> 2011	0.23 (0.007 to 0.45)
Jiang et al, <sup>61</sup> 2012	0.27 (-0.04 to 0.58)
Ling et al, <sup>62</sup> 2013	0.28 (-0.12 to 0.67)
Jarvis et al, <sup>63</sup> 2019	0.38 (-0.19 to 0.95)
Robles et al, <sup>64</sup> 2002	0.43 (-0.14 to 1.01)
Chen et al, <sup>65</sup> 2013	0.57 (0.32 to 0.83)
Correia et al, <sup>66</sup> 2003	0.71 (0.18 to 1.25)
McCaul et al, <sup>67</sup> 1984	0.94 (0.02 to 1.87)
Preston et al, <sup>68</sup> 2000	2.07 (1.42 to 2.71)
Total (95% CI)	0.58 (0.30 to 0.86)



24


### CM implementation

<p><b>Reinforcers:</b></p> <ul style="list-style-type: none"> <li>• Vouchers or cash</li> <li>• On-site prizes</li> <li>• Clinic privileges</li> <li>• Refunds and rebates</li> </ul>	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>• Frequency</li> <li>• Immediacy</li> <li>• Magnitude</li> <li>• Selection</li> <li>• Consistency</li> </ul>
---	---

25

### Schedules of reinforcement

- Escalating reinforcers and bonuses
- Intermittent schedules of reinforcement



26

### Barriers to CM implementation

**Federal/local laws**

- Centers for Medicare and Medicaid (CMS) imposes annual limits on incentives to a maximum monetary value of \$75.

**Stigma**

- Belief abstinence should be a "given," not rewarded.
- CM is "swapping" substance use for gambling.

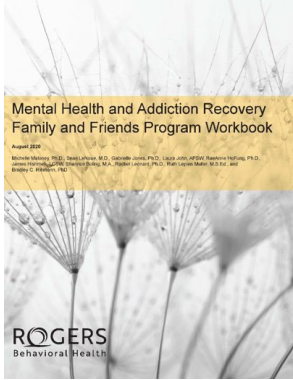
**Cost**

**History of gambling addiction**

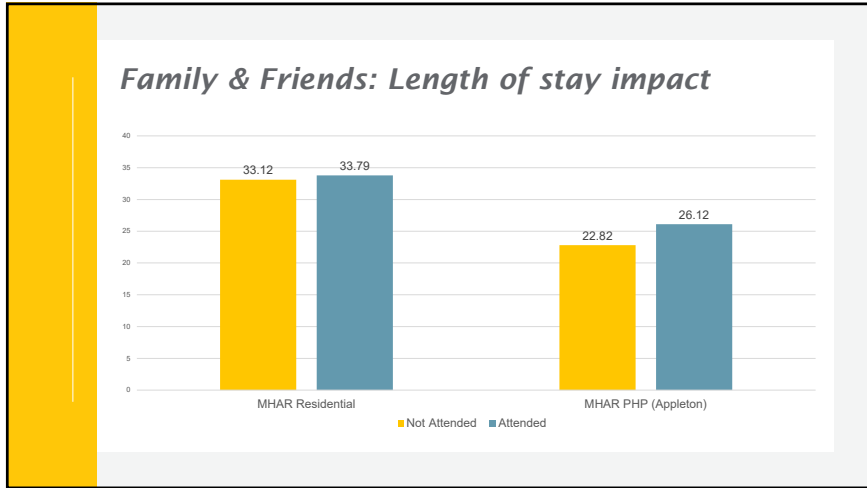
27

### Family involvement

- Ghafri et al., 2020 demonstrates family engagement in treatment is an independent predictor of treatment retention in individuals with OUD
- Rogers "Family & Friends" program is a combined approach of psychoeducation and process discussion focused on the family members and friends



28



29

- ### Summary
- Risk factors for treatment non-adherence and relapse can be mitigated by implementation of contingency management (CM)
  - CM is an effective tool to increase treatment attendance, outcomes, and negative urinary drug screens
  - Building family and community support is an additional strategy to increase treatment engagement for individuals with OUD

30

### Case studies

Please use the Q&A feature to send your questions to the moderator.

31

### “Donovan”

Donovan is an 18-year-old cisgender male admitted to residential treatment with opioid use disorder, mood disorder, and PTSD. He successfully induced on buprenorphine and experienced relief of withdrawal and cravings. He had poor engagement in treatment, minimal family involvement and planning for ongoing care was hampered by his participation and very rural home area. He had a premature discharge based on unsafe behavior in the program and returned home without definitive follow-up in place.

32



### “Jamie”

Jamie is a 30-year-old non-binary individual accessing outpatient services and they have been using opioids for the past 10 years.

They previously attended services with this clinic a couple months ago but stopped showing up after a few sessions and relapsed.

Jamie has some current legal charges and stated they are most interested in attending treatment to show their lawyer they are trying. They appear uninterested in the reinforcers being offered and occasionally have unexcused absences from sessions.

33

### Time for questions and answers...



34

### Where to get additional information...



[drugabuse.gov](http://drugabuse.gov)  
National Institutes of Health



[samhsa.gov](http://samhsa.gov)  
U.S. Department of Health & Human Services



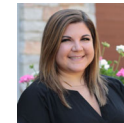
[recoveryanswers.org](http://recoveryanswers.org)  
Massachusetts General Hospital  
Harvard Medical School

35

### About the presenters...



**Nathan Valentine, MD, FAPA**  
Dr. Valentine is board-certified in addiction medicine and general psychiatry and serves as medical director of the Herrington Center for Mental Health and Addiction Recovery at Rogers' Oconomowoc campus. He has experience working with adults with addiction and psychiatric disorders at the inpatient, residential, partial hospitalization, and intensive outpatient levels of care. Dr. Valentine is a member of the American Academy of Addiction Psychiatry, and a fellow of the American Psychiatric Association.



**Lauren Scaletta, PsyD**  
Dr. Scaletta serves as clinical supervisor of the Herrington Center for Mental Health and Addiction Recovery at Rogers Behavioral Health's Oconomowoc and West Allis campuses. Her clinical interests include psychological assessment, externalizing symptoms, chronic emotion dysregulation, developmental and attachment issues, mood disorders, anxiety disorders, personality disorders, family support and education, and the relationship between mental and physical health.

Call or visit:  
800-767-4411 | [rogersbh.org](http://rogersbh.org)



36