Evidence Brief: Barriers and Facilitators to Use of Medication for Opioid Use Disorder

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August 2019
Presentation Outline

• Background on ESP & Evidence Synthesis Products
• Background on Opioid SOTA
• Overview of Topic
• Findings from August 2019 ESP Rapid Review
• Discussion and Questions
Acknowledgements

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Operational Partners
Operational partners are system-level stakeholders who have requested the report to inform decision-making. They recommend TEP members; assure VA relevance; help develop and approve final project scope and timeframe for completion; provide feedback on draft report; and provide consultation on strategies for report dissemination.

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This report is based on research conducted by the Evidence Synthesis Program (ESP) Coordinating Center located at the Portland VA Medical Center, Portland, OR, funded by the Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development.

The findings and conclusions in this document are those of the author(s) who are responsible for its contents; the findings and conclusions do not necessarily represent the views of the Department of Veterans Affairs or the United States government. Therefore, no statement in this article should be construed as an official position of the Department of Veterans Affairs.

No investigators have any affiliations or financial involvement (eg, employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented in the report.
Who We Are

Mission: To make high-quality evidence synthesis available to clinicians, managers, and policymakers as they work to improve the health and healthcare of Veterans.

“ESP reports are a terrific resource to inform policy decisions. They are methodologically rigorous and available [upon] request.”

https://www.hsrdrresearch.va.gov/publications/esp/
Our Reports Help VA With

- Guidelines and performance measures
- Effective services and patient outcomes
- Clinical policies
- Future research
# Range of Products for Different Needs

<table>
<thead>
<tr>
<th></th>
<th>Speed (product within 4 months)</th>
<th>Fully follows all SR steps</th>
<th>Critical appraisal of evidence</th>
<th>External peer review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic review</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Scoping review</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Evidence map</td>
<td></td>
<td></td>
<td>*</td>
<td>✓</td>
</tr>
<tr>
<td>Rapid evidence brief</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Evidence assist</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Evidence compendium</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence inventory</td>
<td>✓</td>
<td></td>
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</tr>
</tbody>
</table>

* Possible on a case-by-case basis
**Standard Systematic Review** (9-12 months)
Comprehensive synthesis using the most methodologically rigorous process. Reviews several broad, overarching key questions.

**Scoping Review** (4-12 months)
Descriptive overview that identifies gaps and overlap in key concepts and highlights specific and/or unique features of interest.

**Evidence Map** (9-12 months)
User-friendly visual figure or graph and interpretive summary of a broad research field that provides quick access to questions and answers that previous research has addressed and identifies gaps that are important for VHA.

**Rapid Evidence Brief** (2-4 months)
Detailed report that generally follows, but streamlines, accepted systematic review methods and PRISMA reporting guidelines.

**Evidence Assist™** (1-4 months)
Consultative memorandum with flexible format.

**Evidence Compendium** (1-2 months)
Brief summary of key features, data abstraction, and bibliography, organized by key features (eg, key question, study design, population, etc).

**Evidence Inventory** (1-4 weeks)
Bibliography organized by key features (eg, key question, study design, population, etc).
Background: In September 2019, VA HSR&D will hold a State of the Art Conference (SOTA) on Effective Management of Pain and Addiction: Strategies to Improve Opioid Safety

Goals:
- Assess current VA burden and clinical practice
- Review state of the evidence and relevance to VA population
- Where evidence is sufficient, define consensus
- Where evidence is conflicting or limited, define research agenda
- Make practice or policy recommendations where consensus exists but is at odds with practice
• **Background:** In September 2019, VA HSR&D will hold a State of the Art Conference (SOTA) on *Effective Management of Pain and Addiction: Strategies to Improve Opioid Safety*

• **Goals:**
  - Assess current VA burden and clinical practice
  - **Review state of the evidence and relevance to VA population**
  - Where evidence is sufficient, define consensus
  - Where evidence is conflicting or limited, define research agenda
  - Make practice or policy recommendations where consensus exists but is at odds with practice
Workgroup 1: Managing Opioid Use Disorder

Workgroup 2: Long-term Opioid Therapy and Tapering

Workgroup 3: Managing Co-Occurring Pain and Substance Use Disorders
The Problem: OUD Medications are Underused

More Veterans with OUD

Than Veterans with OUD on Medication Treatment

Only 39% of Veterans with diagnosed OUD on medication at the end of the 2\textsuperscript{nd} quarter of 2019
<table>
<thead>
<tr>
<th>Medication</th>
<th>Opioid receptor activity</th>
<th>Other characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methadone</td>
<td>Full activation (&quot;full opioid agonist&quot;)</td>
<td>• Only prescribed in the setting of specialized Opioid Treatment Programs subject to extensive federal regulation</td>
</tr>
</tbody>
</table>
| Buprenorphine/ naloxone  | Partial activation ("partial opioid agonist") | • May be prescribed in non-specialized settings  
  • Providers must complete 8 hour training and apply for SAMHSA waiver and updated DEA registration  
  • Subject to prescribing caps |
| Naltrexone               | Blocks the effects of opioids ("opioid antagonist") | • May be prescribed in any setting  
  • Not subject to specific regulations |
Timeline of Federal and VHA Changes Affecting OUD Treatment

- **2002**: FDA approves sublingual BUP.
- **2006**: Sublingual BUP added to VA formulary.
- **2007**: VA introduces Buprenorphine in the VA Initiative (BIV).
- **2009**: VA/DOD guidelines recommend use of BUP and methadone for OUD.
- **2010**: FDA approves XR-NTX.
- **2014**: Major provisions of ACA begin, including parity for mental health treatment.
- **2015**: Updated VA/DOD guidelines recommend use of BUP in additional settings (office-based) and XR-NTX.
- **2016**: FDA approves implantable BUP. CARA increases BUP prescription caps & expands prescribing privileges to NPs/PAs.
- **2017**: FDA approves injectable BUP.
- **2019**: VA opioid SOTA.
Prior VHA research

2011 VHA qualitative found that **provider barriers** to prescribing buprenorphine included:

- Lack of education regarding buprenorphine treatment
- Negative perceptions of patients with OUD
- Perceived lack of resources
- Thought that OUD care was best delivered outside the VA

Evidence Brief: Barriers and Facilitators to Use of Medications for Opioid Use Disorder

August 2019

Prepared for:

Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service
Washington, DC 20085

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Advisors:

Evidence Brief: Barriers and Facilitators to Use of Medications for Opioid Use Disorder

Full-length report available on ESP website:
http://www.hsrdsresearch.va.gov/publications/esp/reports.cfm
Key Question 1: What are the patient, provider, and systems-level barriers and facilitators to use of buprenorphine and extended-release naltrexone for OUD?

Key Question 2: Do these barriers and facilitators vary by patient characteristics, provider characteristics, or setting?
Eligibility Criteria

Population: Adults with OUD (excluding pregnant women)

Study Design: Any (qualitative or quantitative) study with a specific aim of identifying barriers and facilitators or factors associated with OUD medication use

Outcomes: Any factor endorsed by at least 1 participant in the study that either inhibited or helped them adopt medication treatment (or would do so)
Evidence Brief Methods

- **Search:** MEDLINE, PsycINFO, Cochrane databases and other sources (inception through March 2019) and consulted with experts
- **Study selection:** Based on eligibility criteria
- **Data abstraction:** Study characteristics and results
- **Critical appraisal:** Use of standardized tools
- **Quality control:** Assessments first completed by one reviewer and checked by at least one additional reviewer. Disagreements resolved by consensus.
- **Peer Review:** Topic and methodological experts commented, responses are publicly available
Categorial Approach to Quality Assessment

1) Sampling methods
2) Adequacy of survey or interview questions in capturing the desired information
3) Population descriptions
4) Setting descriptions
5) Barrier/facilitator detection methods
6) Whether appropriate statistical analyses were conducted (quantitative studies)
7) Whether the study used a formal process for recording, transcribing, and coding themes from interviews or open-ended responses (qualitative studies)

Met minimum quality criteria

Did NOT
Criteria for Assessing the Strength of a Body of Evidence

- Precision
- Consistency
- Methodologic limitations
- Directness

**HIGH** = Very confident that findings are stable
**MODERATE** = Some doubt
**LOW** = Major doubt; likely additional evidence needed
**INSUFFICIENT** = Cannot reach conclusion

*Based on the AHRQ Methods Guide for Comparative Effectiveness Reviews*
2057 identified from database/hand searching after removal of duplicates

1898 titles and abstracts excluded

159 full-text articles assessed for eligibility

133 full-text articles excluded

26 articles met inclusion criteria

Excluded (n=133)
- Ineligible population (n=9)
- Ineligible intervention (n=19)
- Ineligible comparator (n=1)
- Ineligible outcome (n=17)
- Ineligible setting (n=8)
- Ineligible study design (n=7)
- Ineligible publication type (n=42)
- Published pre-2014 (n=28)
- Unable to locate full text (n=2)
Prioritization of Evidence

VHA settings

Non-VHA but with sufficiently described populations and interventions

All other studies
16 Prioritized Studies

- 11 prioritized studies met all of our minimum quality criteria
- No studies in VHA settings
- No systematic reviews, RCTs, or controlled studies
- Observational studies without control groups (retrospective chart or database review) or qualitative (surveys, interviews)
**Key Question 1:** What are the patient, provider, and systems-level barriers and facilitators to use of buprenorphine and extended-release naltrexone for OUD?

**Key Question 2:** Do these barriers and facilitators vary by patient characteristics, provider characteristics, or setting?
Based on analysis of 16 prioritized studies:
• Coded based on iterative process
• No pre-defined categories
<table>
<thead>
<tr>
<th>Author, Year Study Size</th>
<th>Study Design</th>
<th>Population &amp; Setting</th>
<th>Stigma</th>
<th>Treatment Experiences &amp; Beliefs</th>
<th>Knowledge</th>
<th>Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cicero, 2018 N = 303</td>
<td>Survey</td>
<td>Adults with substance use disorder and variable buprenorphine use at treatment centers (national sample); unclear opioid use history</td>
<td>✔</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Fox, 2015 N = 21</td>
<td>Interviews</td>
<td>Former inmates with OUD recruited from addiction treatment centers in New York City; 100% history of heroin use</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Fox, 2015 N = 102</td>
<td>Survey</td>
<td>Adults in syringe exchange program with variable buprenorphine use at harm reduction agency in New York City; 98% history of heroin use</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Hewell, 2017 N = 11</td>
<td>Focus groups and interviews</td>
<td>Adults with OUD and variable buprenorphine use in Fairbanks, Alaska; unclear opioid use history</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Monico, 2017 N = 20</td>
<td>Interviews</td>
<td>Adults receiving daily buprenorphine within an OTP in Delaware; 75% history of prescription opioid use and 25% heroin use</td>
<td>✔</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

For citations see full report on ESP website: http://www.hsrdrresearch.va.gov/publications/esp/reports.cfm
<table>
<thead>
<tr>
<th>Category (n)</th>
<th>Barrier sub-categories (n)</th>
<th>Facilitator Sub-categories (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stigma (5)</strong></td>
<td>• Social stigma (4)</td>
<td>• Positive social support from peers and family (3)</td>
</tr>
<tr>
<td></td>
<td>• Self or internalized stigma (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Stigma specific to buprenorphine use (3)</td>
<td></td>
</tr>
<tr>
<td><strong>Treatment experiences &amp; beliefs (4)</strong></td>
<td>• Use of illicit buprenorphine (negative) (1)</td>
<td>• Use of illicit buprenorphine (positive) (3)</td>
</tr>
<tr>
<td></td>
<td>• Negative experience with prior treatment (1)</td>
<td>• Support from treatment providers (1)</td>
</tr>
<tr>
<td></td>
<td>• Rigid treatment structure (1)</td>
<td>• Rigid treatment structure (1)</td>
</tr>
<tr>
<td></td>
<td>• Belief that individual traits like willpower and readiness for change are more important than treatment (1)</td>
<td>• Helps prevent re-incarceration (1)</td>
</tr>
<tr>
<td><strong>Knowledge (2)</strong></td>
<td>• Lack of knowledge about where to get treatment (1)</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Low health literacy (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Logistics (4)</strong></td>
<td>• Out-of-pocket costs, including “cash-only” providers (4)</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Challenges finding a provider, long wait time (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Need to “first fail” abstinence-based treatment (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transportation and childcare barriers (1)</td>
<td></td>
</tr>
</tbody>
</table>

(n = studies reporting)

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## Studies of Provider-Identified Barriers

<table>
<thead>
<tr>
<th>Author, Year Study Size</th>
<th>Study Design</th>
<th>Population &amp; Setting</th>
<th>Stigma</th>
<th>Treatment Experiences &amp; Beliefs</th>
<th>Knowledge</th>
<th>Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrilla, 2017 N = 1,124</td>
<td>Survey</td>
<td>Rurally located US physicians on the DEA list</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Andraka-Christou, 2018 N = 20</td>
<td>Interviews</td>
<td>20 US-licensed physicians in 4 states</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DeFlavio, 2015 N = 108</td>
<td>Survey</td>
<td>Family physicians in VT or NH, 10% buprenorphine prescribers</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hutchinson, 2014 N = 92</td>
<td>Interviews</td>
<td>Physicians trained to prescribe buprenorphine in Washington</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Huhn, 2017 N = 558</td>
<td>Survey</td>
<td>US physicians (87% with buprenorphine waiver) on the American Society for Addiction Medicine and American Medical Association Listserv</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jones, 2019 N = 4,225</td>
<td>Survey</td>
<td>US clinicians obtaining an initial buprenorphine waiver or an increase in authorized patient limit</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Kermack, 2017 N = 72</td>
<td>Survey</td>
<td>New York City public sector buprenorphine prescribers serving Medicaid and uninsured patient populations</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
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<th>Facilitator Sub-categories (n)</th>
</tr>
</thead>
</table>
| Stigma (5)                            | • Social stigma (4)  
• Perception of patients with OUD (2)  
• Stigma specific to buprenorphine use (3)                                                                                                                                                                                | None                                                                                                                                              |
| Treatment experiences & beliefs (4)   | • Perception of lack of patient need or demand for buprenorphine(2)  
• Lack of interest in prescribing (1)                                                                                                                                                                                      | • Recognizing patient need/demand for buprenorphine (2)                                                                                         |
| Knowledge (2)                         | • Lack of training on OUD or OUD medications or lack of confidence in ability to treat OUD (3)  
• Perception that OUD medications are not effective (2)  
• Perception that patients do not need OUD medications(1)  
• Not knowing how to obtain waiver (1)                                                                                                                   | • Mentoring (2)  
• Access to education and training (1)                                                                                                                     |
| Logistics (4)                         | • Time constraints (7)  
• Low insurance reimbursement or need for prior authorizations (6)  
• Inability to refer to psychosocial supports, lack of referral/collaboration with addiction specialist (5)  
• Concerns about diversion (5)  
• Lack of practice partner and/or institutional support (3)  
• Lack of staff resources or space (3)  
• Cumbersome regulatory requirements (3)                                                                                                               | • Information about/ability to refer to specialty care (2)  
• Presence of peer and institutional support (2)                                                                                                          |

(n = studies reporting)

For citations see full report on ESP website: [http://www.hsrdrresearch.va.gov/publications/esp/reports.cfm](http://www.hsrdrresearch.va.gov/publications/esp/reports.cfm)
We did not identify studies of systems-level barriers with applicability to VHA settings.

Many of the logistics barriers and facilitators identified by patients and providers have direct linkages to systems.
**Key Question 1:** What are the patient, provider, and systems-level barriers and facilitators to use of buprenorphine and extended-release naltrexone for OUD?

**Key Question 2:** Do these barriers and facilitators vary by patient characteristics, provider characteristics, or setting?
## Patient Characteristics Associated with Receiving Buprenorphine

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Study Design, Study Size</th>
<th>Population and setting</th>
<th>Main findings:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagisetty 2019</td>
<td>Survey, N=1,369</td>
<td>Adults receiving buprenorphine in outpatient-based settings (not limited to patients with OUD)</td>
<td>Adults in the age range 30-50, white patients, and those who self-pay or are employed are more likely to be prescribed buprenorphine than those who are on the extremes of age and non-white.</td>
</tr>
<tr>
<td>Murphy, 2014</td>
<td>Retrospective Cohort Study, N = 4,030</td>
<td>Adults with OUD enrolled at Group Health in Washington</td>
<td></td>
</tr>
<tr>
<td>Simon, 2017</td>
<td>Database (EMR) Review, N = 100</td>
<td>Adults with OUD starting buprenorphine treatment at an adult primary care clinic Harborview Medical Center in Washington</td>
<td></td>
</tr>
</tbody>
</table>
Provider Characteristics Associated with Prescribing Buprenorphine

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Study Design, Study Size</th>
<th>Population and setting</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrilla, 2018</td>
<td>Survey with closed and open-ended questions N = 1,221</td>
<td>Rurally located US physicians on the DEA list</td>
<td>• Prescribing behavior reflects barriers and/or facilitators (<em>i.e.</em> lack of institutional support is associated with a lower likelihood that providers will prescribe)</td>
</tr>
<tr>
<td>Hutchinson, 2014</td>
<td>Semi-structured interviews using 10-minute questionnaire N = 92</td>
<td>Physicians trained to prescribe buprenorphine in Washington</td>
<td>• Barriers and facilitators may vary by region</td>
</tr>
<tr>
<td>Jones, 2019</td>
<td>Survey with close-ended questions N = 4,225</td>
<td>US clinicians obtaining an initial buprenorphine waiver or an increase in authorized patient limit</td>
<td>• When providers engage in OUD training and/or are using other OUD best practices (such as co-prescribing naloxone) they are more likely to prescribe buprenorphine</td>
</tr>
</tbody>
</table>

For citations see full report on ESP website: http://www.hsrdrresearch.va.gov/publications/esp/reports.cfm
• We identified **4 main barriers** – stigma, logistics, treatment experiences and beliefs, and knowledge gaps

• Common facilitators of OUD medication use for both patients and providers include support from peers, which highlights the **potential for community** to overcome some of the perceived barriers to OUD medication use

• Although most studies met our minimum quality criteria and findings were consistent across studies, **we have low confidence in the results and applicability to VHA populations**, as there were no studies in VHA settings and some surveys had methodologic limitations
Evidence Gaps: Future Research

• VHA-specific rates of OUD medication use and how utilization varies by patient and provider characteristics and setting

• Relative importance of barriers and facilitators in the VHA setting

• Barriers and facilitators to use of extended-release naltrexone
Limitations

• Studies were not ideally designed to answer our study questions; no studies in Veterans

• Several survey studies had low (3-46%) response rates and provided limited information on the patients and settings being assessed

• Rapid reviews streamline systematic review methods which can result in missing eligible studies or study data.
• Stigma, logistics, treatment experiences and beliefs, and knowledge of OUD medications were identified by patients and providers as barriers to use of OUD medications.

• Support from peers, family, and treatment providers was the most common facilitator for patients. One factor did not stand out as being most important among providers.

• No studies directly evaluated whether barriers and facilitators vary by patient or provider characteristics or setting.

• More research is needed regarding VHA specific barriers and facilitators and regarding naltrexone, which was discussed in 1 provider study and no patient studies.
If you have further questions, please feel free to contact:

Kate Mackey, MD, MPP
katherine.mackey@va.gov

Full-length report and cyberseminar available on ESP website:
http://www.hsrdrresearch.va.gov/publications/esp/