Readiness Assessment for Harm Reduction Vending Machines:

A Decision Making Tool for Organizations and Communities

Authors

- **Erin Russell** is a DrPH candidate working in harm reduction in Maryland.
- **Zach Kosinski** is an MPH candidate working in harm reduction in rural and suburban northeastern Maryland.
- **Callie Kaplan** is a DrPH candidate leading applied research and evaluations with the Social IMPACT Research Center at Heartland Alliance in Chicago.
- **Nicole Barnes** is a DrPH candidate and an implementation specialist with ICF International.
- **Susan G. Sherman, PhD, MPH** is a Bloomberg Professor of American Health

Acknowledgements

Table of Contents

Introduction

Purpose

This is a resource for public health agencies, community-based organizations, and advocacy groups to develop knowledge about readiness for the implementation of a vending machine to distribute harm reduction supplies. Vending machines for this purpose are like snack or drink machines, but are stocked with items such as naloxone, educational materials, safer use supplies, and hygiene kits. Machines can be equipped with sign-in technology that tracks its use by program participants or the public. Agencies considering a harm reduction vending machine program will benefit from reviewing this tool with staff, community stakeholders, partners, and program participants. This tool will help agencies understand where their community sits on the continuum of readiness for vending machine implementation and identify next steps to strengthen their capacity to initiate a harm reduction vending machine program.

Public Health Problem

The United States faces two public health crises simultaneously. The overdose epidemic continues to take over 200 lives each day while COVID-19 has spread throughout the country forcing lockdowns, economic hardship, and mask and vaccine requirements. Context like this makes implementation of evidence-based public health services particularly challenging.

There is a tremendous need for comprehensive harm reduction solutions to the overdose crisis that offer flexibility in access to services and increase provider capacity to deliver the right services to the right people at the right time. Harm Reduction Vending Machines (HRVM) that dispense supplies for safer drug use and overdose and infectious disease prevention have been implemented in several locations in recent years, notably in San Juan, Puerto Rico, in Las Vegas, Nevada, and in Vancouver, British Columbia, Canada. These medical vending machines are accessible to participants in programs, and in some cases the public, outside business hours or at alternative locations. The machines can increase the reach of harm reduction programs by locating them in highly impacted communities with fewer existing harm reduction service providers and can provide contactless service to address rising overdose and infectious disease rates in the age of COVID-19.

When considering a strategy like HRVM, it is critical to understand community context and to get buy-in from staff, key community stakeholders, partners, and program participants. A lack of understanding of community readiness for intervention strategies is one of the reasons that good ideas don't always work the way they were intended. This tool seeks to fill an that gap by providing a readiness checklist to support agencies, community-based organizations, and advocacy groups to make informed decisions about the use of harm reduction vending machines in their communities.

Readiness for Implementation

Why Assess Readiness?

Understanding how ready an organization or community is to implement a policy, practice, or other initiative is critical to the success of that effort. Assessing readiness helps an organization understand gaps and areas of strength such as:

◆ the organizational setting (i.e., organizational culture and climate, knowledge and skills of staff, organizational infrastructure);

◆ the community setting (i.e., community support and motivation, policies or incentives);

◆ the components of the policy, practice or initiative itself (i.e., the complexity of it, the relative advantage compared to other alternatives, adaptability and cost);

◆ the characteristics of those who might be the recipients of the policy, practice, or other initiative (i.e., their knowledge and beliefs about it, motivation to change and other personal attributes); and

◆ preparedness for process of implementation itself (i.e., developing a plan, engagement and partnerships, champions to lead the effort and capacity to evaluate it).

> **Defining readiness:**
>
> *"Organizational readiness for implementation refers to the extent to which an organization is both willing and able to implement and sustain a selected intervention."*
>
> (Dymnicki, Wandersman, Osher, Grigorescu, & Huang, 2014)

> **Defining implementation:**
>
> *"A specified set of activities designed to put into practice an activity, program, or intervention."*
>
> (Capacity Building Center for States, 2019)

Interpreting Results

Readiness exists on a continuum and should be assessed before implementing any new program. Each organization should comprehensively assess their strengths, weaknesses, and critical capacities before deciding to implement a policy, practice, or other initiative. There are also considerations of where in the process an organization is in their preparation for implementation. For example, are they just exploring a potential idea, are they looking to be better prepared for potential implementation, or have they made a decision and now want to better understand their gaps and strengths before they start implementing?

The tool is grounded in the primary domains of the evidence-based Consolidated Framework for Implementation Research (CFIR) and organized in accordance with the EPIS (Exploration, Pre-Implementation, Implementation, and Sustainment) framework.

Additionally, organizations may consider the purpose of assessing readiness as they move through pre-implementation and implementation of HRVM. For those beginning at ground level in

exploration, assessing organizational and community readiness will help identify strengths that could support preparation and implementation efforts, as well as any critical gaps that might help make decisions about whether preparation and implementation are feasible. For organizations that are already preparing to implement HRVM, the tool may be useful to identify any strengths that can be leveraged during implementation, or any critical gaps that need to be addressed before moving to implementation. For those who have existing HRVM programs or are looking to expand them, the tool may be useful to support building capacity to scale up and monitor their capacity to sustain them.

Teaming and Assessment Approaches

Use this tool as an instrument to gather feedback from leadership, staff at different levels and in different roles that may be impacted by the policy, practice or initiative, participants who may be impacted by the effort, and community stakeholder groups that may be important to the implementation effort.

There are several approaches that could be used to do this, including distributing the section of the tool you intend to use via paper and pencil or email. Then collecting the information and synthesizing responses to get to consensus on the various items asked. An organization may also choose to hold one or more focus groups with their respondents and engage in conversation and discussion of the readiness items to get to consensus.

With either approach, in addition to collecting responses on the items of interest, the organization should identify what, if any, readiness items are critical. Critical means they must be present prior to any implementation steps. These items will vary by organization, and some examples include funding, or certain stakeholder buy-in such as approval from local government.

There may also be some readiness items that will have different responses depending on the stakeholder or group of stakeholders who are completing the assessment, these differences between groups will need to be reviewed and assessed by the organization as something that is a critical need to address before moving forward, or as something that can be built as the organization continues to move into the next

> **Defining community:**
>
> *"Community should include a diverse set of stakeholders with diverse perspectives, knowledge, and experiences that can inform organizational readiness. It is important to include people who will be impacted by implementation efforts and community members who may disagree with the effort so that an organization can understand the reasons and seek to mitigate them through information sharing and relationship building."*

phase of readiness or implementation. An example of this could be differing viewpoints on location of HRVM between community organizations, people who use drugs, and law enforcement. If this item is something that absolutely must be navigated before moving forward, then the organization should seek to do so. If it is something that the organization feels they can move forward while they concurrently work to address various stakeholder concerns, then that is an option too. Each organization's community relationships and implementation environment will be unique and should be considered before making decisions.

When ready to apply the HRVM readiness assessment tool:

1 Identify a point person who will compile all data and draft the readiness statements, having familiarized themselves with HRVM and this tool

2 Notify the leadership of the organization, if not you, and inform staff who will be involved in the implementation of HRVM of the intention to conduct a readiness assessment

3 Collaboratively with staff, identify external partners who will be involved, or whose perspective you want to include in the assessment, and confirm their contact information

4 Collaboratively with staff, decide on how to interview, survey, or otherwise engage program participants or people who will be users of the HRVM

5 Reach out to external partners to schedule time to go through question by question in a 1-1 interview or focus group

6 Take notes during the sessions, both from the participant and your own personal reflections

7 After all information is gathered, review notes with staff who will be involved in implementation of HRVM, compile/aggregate responses and identify a readiness score for each component of the tool

8 Summarize your organization's facilitators and barriers to implementation

9 Develop action steps to address barriers and advance HRVM

Assessment Tool

Rate each item in the readiness items table using the following rating scale:

SA Strongly agree (fully ready to go) **PA** Partially agree (somewhat ready) **DA** Disagree (not yet ready) **NS** Not sure (need more information)

PHASE 1: **EXPLORATION**		
Item	**Rating** (SA, PA, DA, NS)	**Notes or evidence to support rating**
Organization staff and leadership have the bandwidth and skills to address the stigmatization of harm reduction services.		
Staff and leadership believe that harm reduction vending machines (HRVM) are aligned with the organization's values.		
Staff and leadership believe that implementing HRVM is realistic and feasible given the organization's current culture, values, capacity, and existing resources.		
There is a person or persons within the organization willing to advocate and lead the effort.		
The culture at the organization is open to new ideas like HRVM.		
The norms and values of the organization are shared among all staff and leadership.		
The organization intending to oversee the HRVM is considered trustworthy by the community.		
The organization has the necessary staff to support the implementation and maintenance of HRVM (for example data, administrative, supply/logistics).		

PHASE 1: **EXPLORATION**

Item	Rating (SA, PA, DA, NS)	Notes or evidence to support rating
The organization has partnerships with police that support implementation of HRVM.		
The organization has community partnerships that support implementation of HRVM.		
The organization has relevant policy maker/ political support to implement HRVM.		
The organization is willing to prioritize the placement of the HRVM based on external feedback or information.		
The organization has access to adequate funding or funding partnerships to support the implementation and maintenance of all aspects of HRVM.		
The organization has the expertise to provide relevant health promotion information to HRVM participants.		
The organization identified, revised, or otherwise addressed internal policy barriers to implementing HRVM.		
There is high level support and policy priorities to address the health issues answered with vending machines. In other words, HRVM fit into a larger strategic plan to improve health and wellbeing in the community.		

PHASE 2: **PREPARATION**

Item	Rating (SA, PA, DA, NS)	Notes or evidence to support rating
The organization is sensitive to community concerns about certain harm reduction supplies and has integrated those into a phased implementation strategy that starts with the most acceptable.		
The organization has considered the added benefit of vending machines as a source of harm reduction supplies compared to, for example, fixed sites, mobile vans, or pharmacies.		
The organization assessed the legality of providing harm reduction supplies (including program, participant registration, data collection and reporting requirements that may affect access to supplies).		
Organization staff understand the evidence supporting vending machines and can communicate about it with multiple audiences.		
Organization staff and leadership have considered the feasibility of maintaining 24/7 access to HRVM.		
Organization staff have learned from other HRVM program's successes and challenges and can apply them to their roll out.		
Organization staff have increased their knowledge and awareness of similar efforts in neighboring jurisdictions.		

PHASE 2: **PREPARATION**

Item	Rating (SA, PA, DA, NS)	Notes or evidence to support rating
Organization staff have the skills and capacity to engage the community in ongoing discussion about HRVM.		
The organization can navigate the complexities of data collection, including participant enrollment and tracking use of the machine.		
The organization has considered a plan to ensure security of the vending machine equipment and supplies within.		
The organization has identified strategies to ensure participants feel safe accessing supplies		
The organization can provide the supplies offered in HRVM free of cost to all participants.		
The organization has existing procedures in place to incorporate community feedback into advertising and branding, as well as packaging preferences for supplies.		
The organization's procedures include feedback tools which are easily accessible for participants.		
The organization has a plan to ensure continued engagement with people who use different drugs in diverse ways on the implementation of the machine (including supplies, location, communication).		

PHASE 3: **PREPARATION–ACTION**

Item	Rating (SA, PA, DA, NS)	Notes or evidence to support rating
The organization identified, revised, or otherwise addressed internal policy barriers to implementing harm reduction vending machines.		
The organization engaged community members to discuss the placement of vending machines, addressed concerns and provided education.		
The organization has engaged law enforcement to discuss concerns around harm reduction approaches, addressed concerns and provided any needed education.		
The organization has identified location(s) for the vending machine that are easily accessible to program participants.		
The organization can include syringe disposal with vending machines if offering sterile injection equipment.		
The organization understands the level of internal knowledge and beliefs about vending machine services at all levels (staff and leadership).		

PHASE 3: **PREPARATION–ACTION**

Item	Rating (SA, PA, DA, NS)	Notes or evidence to support rating
The organization understands program participant knowledge and beliefs about vending machine services.		
The organization has relationships with participants who are willing and ready to promote services to their peers.		
The organization has a plan for training staff in the implementation of the vending machines (including but not limited to stocking, maintenance, record-keeping) as necessary.		

Analyzing Results, Making Decisions, and Next Steps

Readiness should be considered as a continuum and not necessarily black and white, ready or not ready. Analyses of the results of a readiness assessment will be unique to each organization based on gaps and strengths on the critical components they have identified, which stage they are in, and the inclusion of different perspectives in the process, particularly staff and people who use drugs who may be impacted by the program.

The following steps help teams determine their readiness in any particular item. Then, utilizing the questions below, teams may consider how to use each item's readiness rating to inform next steps:

1. As teams begin to analyze results, they either should have collected a number of individual responses or have conducted one or more focus groups. The individual items in the tool are scaled on the following scale:

   Rate each item in the readiness items table using the following rating scale:

   SA Strongly agree (fully ready to go)   **PA** Partially agree (somewhat ready)   **DA** Disagree (not yet ready)   **NS** Not sure (need more information)

   Teams should review the responses for **each item** (either individual or focus group) and tally up the total number of SA, PA, DA, or NS for **that item**.

2. Based on the highest number of responses for that item the team should be able to identify if there is consensus among respondents as to where the organization sits on the rated item. For example, if the majority of respondents rate an item as strongly agree, then that item should be considered "strongly agree".

3. If there is not a single rating that is indicated by the majority of the responses, then the organization should consider any notes, context, or additional information or data they have on that item that could help them decide how to rate it. These decisions should be based on more than just an assumption or opinion.

4. Once the team has completed this aggregation for all selected items, they should review the following questions as a team to determine next steps.

Questions for team to determine next steps:

1. In reviewing the aggregate responses to the critical items for the organization, identified as detailed in *Teaming and Assessment Approaches* above, are there strengths that can be leveraged to move forward, or are there gaps that must be addressed first?

2. For critical items rated as DA (not yet ready), what would it take to change those items' ratings? Is the level of effort required feasible? If not, are there opportunities to bring in partners that could support the effort and build organizational capacity more efficiently? If the organization identifies this item as critical, they should gain consensus from staff and stakeholders about whether a rating of " not yet ready" will prevent them from moving forward.

3. In reviewing the aggregate responses on the items that were not identified as critical, are there strengths that could be leveraged to build capacity, or any items with low readiness ratings that need to be considered before moving forward?

4. What items rated not yet ready or somewhat ready can concurrently be addressed while continuing to move forward?

Once an organization has answered these questions and decided to move forward, they may use additional sections of the toolkit to continue their ongoing assessment of organizational and community readiness or begin the process of planning for implementation.

Example Programs to Research or Consult

Caracole, Greater Cincinnati AIDS Service Organization, Cincinnati, Ohio
https://www.cincinnati.com/story/news/2021/03/08/vending-machine-safer-sex-drug-use-supplies-overdose-hiv-prevention-ohio/4592675001/
https://www.caracole.org/index.aspx

Chicago Department of Public Health, Chicago, Illinois
https://www.dhs.state.il.us/OneNetLibrary/27896/documents/By_Division/SUPR/State-of-Illinois-Overdose-Action-Plan-March-2022.pdf
https://nextcity.org/urbanist-news/chicago-group-piloting-overdose-reversal-vending-machines

Fund for Public Health and NYC DHMH Public Health Vending Machine Initiative, New York City
https://fphnyc.org/wp-content/uploads/sites/76/2021/12/Public-Health-Vending-Machine-Initiative-in-NYC-RFP-FINAL.pdf

HealthWest, Muskegon, Michigan
https://www.mlive.com/news/muskegon/2021/12/vending-machine-stocked-with-free-narcan-aims-to-curb-overdose-deaths-in-muskegon.html
https://healthwest.net/

Iniciativa Comunitaria, San Juan, Puerto Rico
https://www.iniciativacomunitaria.org/programas/
https://www.choosehelp.com/blogs/world/puerto-rico-tests-needle-exchange-vending-machines-to-reduce-the-spread-of-hiv.html

MySafe Opioid Medication Treatment Vending Machines, British Columbia
https://www.vicnews.com/news/like-an-atm-worlds-first-biometric-opioid-dispensing-machine-launches-in-b-c/

"Narcan Near Me" Vending Machines, Philadelphia Department of Public Health, Philadelphia, Pennsylvania
https://billypenn.com/2021/11/17/narcan-near-me-philadelphia-to-pilot-narcan-vending-machines-to-help-stop-fatal-overdoses/

St. Joseph County Jail Naloxone Vending Machine, Indiana
https://www.thestatehousefile.com/politics/naloxone-vending-machines-aim-to-curb-drug-overdoses/article_4decdc44-62a4-11ec-bf38-47f534a3e538.html

The Addiction Center, Broome County, New York
https://www.gobroomecounty.com/hd/release/opioidminigrantawards2022

Trac-B Impact Exchange Vending Machine Program, Las Vegas, Nevada
https://www.harmreductioncenterlv.com/impact-exchange-vending-machines

Truth Pharm, Broome County, New York
https://www.gobroomecounty.com/hd/release/opioidminigrantawards2022

Relevant Resources

Resources an organization or community seeks out next depend upon findings from completion of the Readiness Assessment Tool. This resource list is not comprehensive but rather a starting point. Please connect with the Toolkit authors for support accessing further resources.

Public Health Vending Machine Collaborative

A group open to organizations at any stage of vending machine implementation which receives formal support from the Southern Nevada Health District. Members need not be Nevada-based. Interested parties may email johnsonjes@snhd.org for more information or to join.

Naloxone Vending Machines

Naloxone Vending Machine: Considerations for Implementation
https://pttcnetwork.org/sites/default/files/2022-06/Vending%20Machine%20Brief_05_27_2022_FINAL_0.pdf

Policy and Legal Environment

FindLaw
https://caselaw.findlaw.com/

Legislative Analysis and Public Policy Association (LAPPA)

Syringe Services Programs: Summary of State Laws
https://legislativeanalysis.org/syringe-services-programs-summary-of-state-laws/

Model Syringe Services Program Act
https://legislativeanalysis.org/model-syringe-services-program-act/

Network for Public Health Law, Harm Reduction Law Project
https://www.networkforphl.org/resources/topics/projects/harm-reduction-legal-project/

Law Enforcement Engagement

Law Enforcement Action Partnership (LEAP)
https://lawenforcementactionpartnership.org/our-issues/harm-reduction/

Funding

AIDS United Syringe Access Fund
https://aidsunited.org/about-syringe-access-fund/

Centers for Disease Control & Prevention (CDC), Funding for Syringe Services Programs
https://www.cdc.gov/ssp/ssp-funding.html

Harm Reduction Funding Opportunities, National Association of County and City Health Officials (NACCHO)
https://www.naccho.org/blog/essential-elements?subcategory%5B%5D=funding-opportunity&q=harm+reduction

Navigating the Harm Reduction Funding Landscape, National Alliance of State and Territorial AIDS Directors (NASTAD)
https://nastad.org/resources/navigating-harm-reduction-funding-landscape

National Harm Reduction Organizations

Drug Policy Alliance
https://drugpolicy.org/issues/harm-reduction

National Alliance of State and Territorial AIDS Directors (NASTAD)

Harm Reduction
https://nastad.org/issues/harm-reduction

Drug User Health
https://nastad.org/teams/drug-user-health

National Harm Reduction Coalition

Home
https://harmreduction.org/

Syringe Access Landscape
https://harmreduction.org/issues/syringe-access/landscape-report/state-by-state/

North American Syringe Exchange Network (NASEN)
https://nasen.org/

National Public Health Organizations & Governmental Agencies

Association of State and Territorial Health Officials (ASTHO)
https://my.astho.org/opioids/strategies/treatment

Health & Human Services (U.S. HHS)
https://www.hhs.gov/overdose-prevention/harm-reduction

National Association of County and City Health Officials (NACCHO)
https://www.naccho.org/programs/community-health/infectious-disease/hiv-sti/harm-reduction

Office of National Drug Control Policy (ONDCP)
https://www.whitehouse.gov/ondcp/

Substance Abuse and Mental Health Services Administration (SAMHSA)
https://www.samhsa.gov/find-help/harm-reduction

Technical Assistance

National Harm Reduction Coalition (NHRC) Training and Capacity Building
https://harmreduction.org/our-work/training-capacity-building/

National Harm Reduction Technical Assistance Center, CDC
https://harmreductionhelp.cdc.gov/s/

Regional Harm Reduction Technical Assistance, National Alliance of State and Territorial AIDS Directors (NASTAD)
https://nastad.org/regional-harm-reduction-ta

Contact the Toolkit Authors

To contact the authors, send an email to RAVIStudy@jhu.edu.

References

Capacity Building Center for States. (2019). *Change and implementation in practice: Implementation planning and capacity building*. Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services.

Cama, E., Brener, L., & Bryant, J. (2014). *Characteristics and attendance patterns of a fixed-site NSP and nearby SVM: The benefits of 24-hour access to sterile injecting equipment*. Drugs: Education, Prevention and Policy, 21(6), 476–481.

Cossar, R., O'keefe, D., Dietze, P.m., & Jacka, D. (2017). *A descriptive analysis of syringe vending machine use in South-East Melbourne*. 36 Suppl 1, 4–73.

Cossar, R., O'keefe, D., Verdejo-Garcia, A., & Dietze, P.m. (2017). *Lack of premeditation increases odds of self-reported syringe vending machine use among a population of persons who inject drugs in Melbourne, Australia*. 36 Suppl 1, 4–73.

Coupland, H., Henderson, C., Pritchard-Jones, J., Kao, S.-C., Sheils, S., Nagy, R., O'Donnell, M., Haber, P. S., & Day, C. A. (2022). *Setting foot in private spaces: extending the hepatitis C cascade of care to automatic needle/syringe dispensing machines, a mixed methods study*. Harm Reduction Journal, 19(1), 56.

Day, Carolyn A., Bethany White, and Paul S. Haber. 2016. "The Impact of an Automatic Syringe Dispensing Machine in Inner-City Sydney, Australia: No Evidence of a 'Honey-Pot' Effect." Drug and Alcohol Review 35 (5): 637–43.

Deimel, Daniel, Oswald Felix, Carolin Bock, and Heino Stöver. 2020. *"Harm Reduction 24/7: Evaluation of the Vending Machine Program for Drug Users in North Rhine-Westphalia, Germany."* Heroin Addiction and Related Clinical Problems, January. http://dx.doi.org/.

Dymnicki, A., Wandersman, A., Osher, D., Grigorescu, V., & Huang, L. (2014). *Willing, able, ready: Basics and policy implications of readiness as a key component for implementation of evidence-based interventions* [Office of the Assistant Secretary for Planning and Evaluation issue brief]. Available from https://aspe.hhs.gov/reports/willing-able-ready-basics-policy-implications-readiness-key-component-implementation-evidence-based

Dodding, J., & Gaughwin, M. (1995). *The syringe in the machine.* Australian Journal of Public Health, 19(4), 406–409. https://doi.org/10.1111/j.1753-6405.1995.tb00395.x

Duplessy, C., & Reynaud, E. G. (2014). *Long-term survey of a syringe-dispensing machine needle exchange program: Answering public concerns.* Harm Reduction Journal, 11(1), 16. https://doi.org/10.1186/1477-7517-11-16

Islam, M. M., & Conigrave, K. M. (2007). *Assessing the role of syringe dispensing machines and mobile van outlets in reaching hard-to-reach and high-risk groups of injecting drug users (IDUs): A review.* Harm Reduction Journal, 4(1), 14. https://doi.org/10.1186/1477-7517-4-14

Islam, M. M., Conigrave, K. M., & Stern, T. (2009). *Staff Perceptions of Syringe Dispensing Machines in Australia: A Pilot Study.* Substance Use & Misuse, 44(4), 490–501. https://doi.org/10.1080/10826080802344757

Islam, M. M., Stern, T., Conigrave, K. M., & Wodak, A. (2008). *Client satisfaction and risk behaviours of the users of syringe dispensing machines: A pilot study.* Drug and Alcohol Review, 27(1), 13–19. https://doi.org/10.1080/09595230701711199

Islam, M. M., Wodak, A., & Conigrave, K. M. (2008). *The effectiveness and safety of syringe vending machines as a component of needle syringe programmes in community settings.* International Journal of Drug Policy, 19(6), 436–441. https://doi.org/10.1016/j.drugpo.2007.07.006

McDonald, D. (2009). *The evaluation of a trial of syringe vending machines in Canberra, Australia.* International Journal of Drug Policy, 20(4), 336–339. https://doi.org/10.1016/j.drugpo.2008.06.004

Moatti, J. P., D. Vlahov, I. Feroni, V. Perrin, and Y. Obadia. 2001. *"Multiple Access to Sterile Syringes for Injection Drug Users: Vending Machines, Needle Exchange Programs and Legal Pharmacy Sales in Marseille, France."* European Addiction Research 7 (1): 40–45.

Obadia, Y., Feroni, I., Perrin, V., Vlahov, D., & Moatti, J. P. (1999a). *Syringe vending machines for injection drug users: An experiment in Marseille, France.* American Journal of Public Health, 89(12), 1852–1854. https://doi.org/10.2105/AJPH.89.12.1852

Otiashvili, D., Kirtadze, I., Vardanashvili, I., Tabatadze, M., & Ober, A. J. (2019). *Perceived acceptability of and willingness to use syringe vending machines: Results of a cross-sectional survey of out-of-service people who inject drugs in Tbilisi, Georgia.* Harm Reduction Journal, 16(1), 21. https://doi.org/10.1186/s12954-019-0292-8

Otiashvili, David, Irma Kirtadze, Tamar Mgebrishvili, Ada Beselia, Mzia Tabatadze, Irina Vardanashvili, and Allison J. Ober. 2022. *"Implementation and Evaluation of a Syringe Vending Machine Trial in Tbilisi, Georgia."* The International Journal on Drug Policy 103 (March): 103649.

Otiashvili, David, Irma Kirtadze, Tamar Mgebrishvili, Ada Beselia, Mzia Tabatadze, Nikoloz Otiashvili, Allison J. Ober, and Martin Y. Iguchi. 2021. *"Smart Syringe Vending Machines: Research Capabilities and Implications for Research Data Collection."* Journal of Studies on Alcohol and Drugs 82 (6): 752–57.

Philbin, M. M., Mantsios, A., Lozada, R., Case, P., Pollini, R. A., Alvelais, J., Latkin, C. A., Magis-Rodriguez, C., & Strathdee, S. A. (2009). *Exploring stakeholder perceptions of acceptability and feasibility of needle exchange programmes, syringe vending machines and safer injection facilities in Tijuana, Mexico.* International Journal of Drug Policy, 20(4), 329–335. https://doi.org/10.1016/j.drugpo.2008.09.002

Rich, N., Coutelas, J., Kearley, J., Cappetta, M., & Read, P. (2019). *Free automatic vending machines: the impact on face-to face primary needle syringe program delivery.* Drug and Alcohol Review, 38, S87–S87.

Stark, K., Leicht, A., & Muller, R. (1994). *Characteristics of users of syringe vending machines in Berlin.* Sozial-Und Preventivmedizin SPM, 39(4), 209–216. https://doi.org/10.1007/BF01309220

Uthurralt, N., McGlinn, A., O'Donnell, M., Haber, P. S., & Day, C. A. (2022). *The impact of a 24-hour syringe dispensing machine on a face-to-face needle and syringe program and targeted primary healthcare clinic.* Australian and New Zealand Journal of Public Health. https://doi.org/10.1111/1753-6405.13267

White, B., Haber, P. S., & Day, C. A. (2016). *Community attitudes towards harm reduction services and a newly established needle and syringe automatic dispensing machine in an inner-city area of Sydney, Australia.* The International journal on drug policy, 27, 121–126. https://doi.org/10.1016/j.drugpo.2015.05.010