Research paper

The evaluation of a trial of syringe vending machines in Canberra, Australia

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Background: Syringe vending machines (SVMs) have been trialled in Canberra, Australian Capital Territory, Australia, as an intervention aiming to increase the availability of sterile injecting equipment for use by drug users (IDUs). This study evaluated the 12-month trial.

Methods: A utilisation-focused evaluation model, with both formative and summative components, was employed. Four SVMs were installed, each dispensing packs containing four 1 mL syringes and associated injecting paraphernalia. The trial participants were the clients of the SVMs and other key informants. The core measurements used were the number of syringes dispensed in Canberra by SVMs and other outlets, SVM clients’ demographics and experiences of and attitudes towards SVMs, perceived impacts of SVMs on needle sharing, unsafe disposal of used syringes in the vicinity of SVMs, and community and stakeholder attitudes.

Results: The trial was implemented successfully, with no adverse consequences identified. The SVMs appear to be serving both the usual clients of the other outlets for sterile injecting equipment (community pharmacies and the Needle Syringe Program outlets) and others who are reluctant to use such outlets or find them inconvenient. The out-of-business-hours provision of syringes through the SVMs was particularly welcomed by both SVM clients and other stakeholders. The continuing operation of the initial four SVMs is widely supported, and additional machines are requested by clients and others.

Conclusions: Owing to the success of the trial in terms of feasibility and outcomes for both IDUs and for the broader community, it is desirable that providing sterile injecting equipment through SVMs continues and be expanded as an integral component of harm reduction strategies.

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Introduction

Syringe vending machines (SVMs) are used in some parts of the world as a drug harm reduction intervention. They dispense injecting equipment when a client inserts coins to the appropriate value or, in some settings, dispense it without a payment being made. The goal of providing SVMs is to reduce the transmission of blood borne diseases (particularly HIV/AIDS and hepatitis C) among injecting drug users (IDUs), especially those who share injecting equipment and contaminated injecting environments (Dore, Law, MacDonald, & Kaldor, 2003). While sound evidence now exists as to the effectiveness of providing sterile injecting equipment through Needle Syringe Programs (NSPs) and community pharmacies (Wodak & Conney, 2005), little evaluation research has been undertaken into SVMs, despite the widespread acknowledgement that they are a valuable component of the mix of harm reduction services that should be available to IDUs (World Health Organization, 2004). This paper reports on the evaluation of a trial of SVMs in Canberra, Australian Capital Territory (ACT), Australia, which had the aim of filling, to some extent, gaps in knowledge about the feasibility of introducing SVMs, their effectiveness, and their outcomes for IDUs, other key stakeholders and the community at large.

Significant numbers of SVMs have been operating in New South Wales, Australia, since 1992 (Anon, 2005) and eight European countries have SVMs now, or have had them in the past, mostly in small numbers with the exception of France which had 250 in 2003 (European Monitoring Centre for Drugs and Drug Addiction, 2006). The few evaluations of SVMs that have been published reveal that it is practically feasible to provide SVMs for use by IDUs in diverse community settings and also in prisons (Stöver & Nelles, 2003). They are used by both the clients of other syringe outlets and by people who are reluctant to use the other outlets. SVM clients are less likely to be in treatment for drug dependence than clients of other NSP outlets, and tend to be younger, with shorter histories of injecting and lower prevalence of blood-borne viral infections (Aitken, 2003; Anon, 1989, 2005; Baxter, 2005; Berg, 1994, 1995; Conroy, 2006; Dodding & Gaughwin, 1995; Leicht, 1993; Moatti,
Methods

Setting

The trial was implemented in Canberra, a relatively affluent city with a 2005 population of approximately 325,000. Canberra IDUs are relatively well served by community agencies, including one operated by IDUs themselves. Sterile injecting equipment may be purchased in Canberra from over 30 commercially run community pharmacies and is available free of charge from approximately 15 other Needle Syringe Program (NSP) outlets.

The intervention

A trial of SVMs was conducted over the 12-month period February 2005 to January 2006, with a SVM being installed on the outside walls of four Community Health Centres, one in the Canberra inner city and three in large suburban centres. The SVMs sell FITPACKS® at AUD2.00 each, a price subsidised by the ACT Government. Each FITPACK® contains four 1 mL 27 gauge syringes, alcohol swabs, a plastic spoon, water, cotton wool balls and a ‘safer injecting’ advice card. The FITPACKS® are rigid plastic containers that have an internal moulded flap intended to capture the used needles and syringes, with the aim of preventing their removal and re-use.

An extensive though narrowly targeted advertising campaign was implemented when the machines commenced operating to inform IDUs of their existence and to invite users’ feedback on the intervention.

The trial evaluation was approved on 13 December 2004 by the ACT Health and Community Care Human Research Ethics Committee, approval no. ETH.6/04.323.

Evaluation methods

The trial was evaluated using Patton’s (1997) utilisation-focused evaluation model, assessed by Stufflebeam as being one of ‘...the best and most applicable of the program evaluation approaches...’ (Stufflebeam, 2001, p. 7). Preparatory research entailed developing a briefing document for Government, the media, community groups and others to answer questions that they might have about SVMs and the trial. Its implementation was monitored throughout, with three formative evaluation reports being prepared for key stakeholders. They are available online: <http://www.tinyurl.com/23cpux>. A photograph of a Canberra SVM is also at that web page.

Formative evaluation reports covered a range of topics, including trends in SVM sales, syringe distribution through other outlets, the unsafe discarding of injecting equipment in public places, and impacts of the trial on various stakeholders. The information sources for monitoring were primarily administrative by-product data provided by various agencies.

Three surveys were conducted; copies of the instruments are available from the author. The first was soon after the SVMs commenced operation, to gauge the initial reactions of their clients and potential clients. After the trial ended, separate surveys were administered to SVM clients and to other key stakeholders. The aims of the post-trial survey of SVM clients included identifying their demographics, learning about their experiences with the SVMs and their views about them, and assessing their views on the impacts of the SVMs and the desirability or otherwise of making changes to the SVM service. A ‘SVM client’ was defined as a respondent who answered ‘yes’ when asked if they had ever used a SVM.

A self-completion questionnaire was developed and pre-tested. Survey forms were provided to the key community organisations in Canberra serving IDUs, including the NSPs. Staff of these agencies invited their clients to complete the surveys and deposit them in a box provided. The SVM client survey forms were also distributed by the four community pharmacies that sell the largest number of FITPACKS®. The participating pharmacies’ staff offered purchasers of FITPACKS® the survey forms and a pre-paid envelope for submission of the completed questionnaires. No identifying information was asked for on the questionnaires. No payment was provided to respondents.

The survey ran for four weeks. By the cut-off date, 159 responses had been received. Twelve cases were excluded from the analysis as they answered ‘No’ to the filter question ‘Have you ever obtained a FITPACK® from a syringe vending machine’, leaving 147 valid responses.

The views of key stakeholders were assessed at the end of the trial by means of an on-line survey. These stakeholders came from diverse agencies, including the police, a government justice department, medical practitioners, drug user organisations, community-based health and social welfare organisations, community pharmacies, women’s organisations, youth, Indigenous people, used syringe disposal personnel, drug treatment personnel, the Needle Syringe Program, etc. Invitations were sent to 58 individuals and organisations and, by the survey close-off date, 33 responses had been received from key stakeholders.

Results

SVM usage

The potential clients of the SVMs quickly found out about the location of the machines and the products vended, and commenced purchasing FITPACKS® from the first week. The median monthly number of sales (925) was reached by the fifth month of operation and, throughout the trial period, the number of sales continued to rise gradually, with week-by-week fluctuations. 11,267 FITPACKS® were sold from the four SVMs over the year, a monthly mean of 939.

Impacts on other sources of sterile injecting equipment

During the trial period, Canberra NSPs dispensed a total of 388,416, 1 mL needle/syringes, and an additional 85,520 were provided to pharmacies for sale. This means that 473,936 syringes were distributed through the pre-existing outlets over the year. The syringe vending machine sales (45,068 syringes from 11,267 FITPACKS®) composed approximately 8.7% of the total from all outlets (519,044 syringes). Sales from the SVMs accounted for the small increase (5.4%) observed in the number of syringes provided through all outlets combined from the year before the trial to the trial year itself. The number provided through NSPs fell by 2.6% and the number provided to community pharmacies fell by 8.8%.

The SVM clients and their needs

The characteristics of the SVM clients surveyed (N = 147) were compared with those of the respondents to the 2005 national Australian NSP Survey (N = 1800) (National Centre in HIV Epidemiology and Clinical Research, 2006). The SVM clients appeared to be younger than the NSP clients (means of 33 years cf. 36 years) and a higher proportion was female (43% cf. 36%). They were a combination of the regular clients of the other outlets – community pharmacies and NSPs – and people who apparently are reluctant...
to use those outlets. Heroin and methamphetamine were the drugs most recently injected by clients, with similar prevalences (both 39%) of these two drugs reported. Over half the SVM clients (53%) reported obtaining sterile injecting equipment from any outlet daily or almost daily, and 40% reported obtaining it from SVMs daily or almost daily. Some 59% stated that SVMs are their usual source of injecting equipment.

The same proportion of SVM clients and respondents to the 2005 national NSP Survey reported using a new syringe for every injection over the previous month: 72%. Although providing sterile injection equipment does not, of itself, necessarily reduce needle sharing, it is noteworthy that 84% of SVM clients stated that, in their opinion, having the SVMs reduces the incidence of needle sharing among IDUs.

The SVM clients reported that they used the machines for a variety of reasons, most prominently because the other outlets were closed (73%), because it was more convenient to use the machines (53%) and because they did not like going to the other outlets (28%).

Disposal of syringes

A substantial volume of used injecting equipment is placed in the sharps disposal bins installed adjacent to the SVMs. City Rangers patrol the area around the vending machines on Saturday and Sunday mornings, picking up any syringes or FITPACKS® that have been inappropriately disposed of there. Discarded syringes or FITPACKS® were located on 19% of the 344 visits by City Rangers. Data are not available enabling a before/after intervention comparison to be made.

Products vended and cost

Most (69%) of the SVM clients stated that the contents of the FITPACKS® currently sold through the vending machines are satisfactory. They had many suggestions for additional products to be made available from the machines, including injecting paraphernalia not now provided, different types/sizes of syringes, more of the current paraphernalia, larger volume FITPACKS® and more information materials.

The AUD2.00 cost of the 4-syringe FITPACKS® was considered acceptable by 80% of the clients.

Reliability of the SVMs

Concerns about the reliability and operability of the machines emerged as a major theme of the evaluation. Both clients and key stakeholders highlighted this. While supportive of having SVMs, they emphasised the need for them to work properly, all of the time. The machines have had electrical, software and mechanical problems, some the result of vandalism that occurred when clients, frustrated at the defective machines accepting their money but failing to dispense FITPACKS®, used implements to try to retrieve their coins or obtain the FITPACKS® for which they had paid.

Overall views on Canberra’s SVMs

All the surveyed SVM clients and almost all the key stakeholders (93%) supported the provision of SVMs in Canberra, with most in favour of the continuing operation of the four currently installed machines. Most would also like to see more machines installed and have many suggestions for desirable locations, particularly the other large shopping centres, local community shopping centres and health care facilities.

For clients, additional positive comments proffered covered the convenience and ease of use of the SVMs; 24 h per day, 7 days per week availability of sterile injecting equipment; anonymity; the way they reduced needle sharing; their preferability to the other syringe outlets, etc. Key stakeholders’ comments covered similar ground, plus the fact that they send a positive, caring message about IDUs.

Concerns identified by clients were the too frequent malfunctioning of the machines, poor lighting creating an unsafe setting, lack of privacy, an inadequate range of products vended, some aspects of the design of the machines, too few machines, etc. Key stakeholders’ concerns included the reduced potential for one-on-one service provision for IDUs, the potential that children may obtain syringes from the machines, and potential adverse impacts on public amenity.

Public and opinion leader responses

The trial commenced and ran for 1 year with strong support from health and social welfare community organisations, but with virtually no comments from opinion leaders nor members of the public, neither supportive nor in opposition.

Discussion


A limitation of the study methodology was the approach to obtaining data from SVM clients through surveys distributed through the community agencies that they use. An alternative method of obtaining responses is to have trained interviewers standing adjacent to each SVM for the survey period, or in randomly or purposively sampled time slots, approaching the machines’ clients with requests for interviews. This was the method used, over 3 days, in the evaluation of a busy European SVM (Moatti et al., 2001). It was not logistically feasible, however, to use this method in this evaluation, owing to the far lower levels of SVM utilisation in Canberra than in other localities where there are much heavier concentrations of clients. Another approach would be to place survey forms in a weatherproof holder on the face of the machines, with a sign inviting clients to take them, complete them and mail them back to the researchers. This method has been used and found to produce a close to zero response rate (Berg, 1994) so was not used in this study.

The Canberra trial of SVMs was implemented smoothly as part of a broader harm reduction strategy for the city. The findings of the trial’s evaluation suggest that it delivered positive outcomes for the clients of the machines, particularly through out-of-business-hours availability of sterile injecting equipment, and for the broader community, with no adverse consequences detected. Following the introduction of the SVMs, a small net increase occurred in the total number of syringes provided in Canberra to IDUs, without any marked reduction in the numbers provided by NSPs. This means that NSP clients are continuing to have access to the range of other helping services that the NSPs provide on a face-to-face basis. It appears that the SVMs have supplemented them, not detracted from them. This is consistent with the findings of the small number of other evaluations published.
SVM clients believe that the availability of four vending machines in Canberra has definitely increased access to sterile injecting equipment, and report that the 24/7 access through vending machines is important to both themselves and other IDUs. This means that SVMs are apparently meeting previously unmet needs, serving a different population of IDUs as well as the existing clients of other outlets, making access to sterile injecting equipment easier for them, and meeting a demand for out-of-business-hours availability of sterile injecting equipment.

This trial reflects what has been demonstrated with NSPs generally: they are effective ways of reducing the risk of blood-borne virus transmission (Wodak & Cooney, 2005).

The primary outcome for clients of installing SVMs in Canberra is that they have supplemented, rather than detracted from, the roles of the pre-existing outlets for sterile injecting equipment. While the face-to-face services of the NSPs continue to be available to IDUs, they also have access to sterile injecting equipment whenever they need it.

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References


