SYRINGE EXCHANGE PROGRAMS KENTUCKY USA – HARM REDUCTION EXAMINED THROUGH AN INTEGRATED POLICY, MEDICAL INFECTION PREVENTION AND IMPLEMENTATION SCIENCE APPROACH

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Background:
The Heroin Act of 2015 authorized local health departments (LHD) in Kentucky, USA to operate Syringe Exchange Programs (SEPs), previously illegal in the state. Since passage of the law, Kentucky has come to lead the U.S. both in number of sites and SEPs per capita, with 74 operational sites as of February 2021. Under Kentucky law, county & city-county governments and district boards of health must all agree to the administrative regulations governing SEP operations. The impact on program effectiveness of this three-body local approval process has previously not been examined.

Methods:
Using a medical infection prevention perspective and implementation science approach, the study team conducted a literature and policy review for SEPs operating in the US and abroad. Injection practices, common causes of infection and a pharmacokinetics reviews were also performed. Findings from this work were used to develop a *KY SEP Survey*, which followed the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. The survey was distributed to all LHD between fall 2020/spring 2021.

Results:
Survey response rate was close to 20%. Responses indicated that restricted policies resulted in:

- 0% reporting moderate high or high confidence in reaching participants
- Sub-optimal syringe distribution with an average of 46.1 syringes per participant per year
- <5% of SEP participants being tested for HIV or HCV
- Inadequate supplies necessary to prevent infection (Figure 1)
- Significant program vulnerability with 60% of respondents reporting grants make up more than 90% all program funding

Infection Prevention Supplies	% of Sites Always Available	% of Sites Never Available	Prevents
Sterile alcohol pads	100%	0%	Skin & soft tissue infection, bacteraemia, sepsis, endocarditis
Band aids	92%	8%	Skin & soft tissue infection
Sharps/re-sealable container	92%	0%	Accidental needle stick
Condoms	83%	17%	HIV, viral hepatitis, STI
Multiple syringe sizes	75%	8%	Skin & vein damage, infections associated with reuse, bent or broken needle
Topical antibiotic ointment	75%	0%	Skin & soft tissue infection, bacteraemia, sepsis, endocarditis
Tourniquets/ties	75%	17%	Vein damage, abscesses
Cotton filters	67%	17%	DVT, thrombophlebitis, bacterial growth associated with formation of abscesses
Needles/syringes (one size)	67%	17%	Reuse
Cookers	58%	33%	Viral, bacterial, fungal infections
Non-sterile gauze or cloths	58%	42%	Infections introduced through soiled cloth
Naloxone/Narcan	50%	17%	Overdose
Lubricant	42%	58%	Reduces risk of condom breakage & localized tissue trauma
Sterile water/saline strips	42%	50%	Skin & soft tissue infection, bacteraemia, sepsis, endocarditis
2ml water ampoules	25%	67%	Skin & soft tissue infection, bacteraemia, sepsis, endocarditis
Sterile gauze or cloths	25%	58%	Infections introduced through soiled cloth
Cooker handle	17%	58%	Burns
Hand sanitizer/soap/wipes	8%	67%	Pathogens on hands from further contaminating substance
Re-sealable bottled water	8%	75%	Empty - improper needle sticks. Open - when used for diluting substance, possible introduction of streptococcus
Acidifiers	0%	92%	Invasive candidiasis, Candida endophthalmitis
Rapid fentanyl test strips	0%	92%	Overdose

Conclusion:

By employing evidence–based approaches to ascertain overall effectiveness of SEPs in Kentucky, the team was able to clearly attribute insufficiencies in harm reduction practices to local administrative regulations. SEPs within and outside of Kentucky may want to consider adopting this methodology to thoroughly evaluate operations and plainly communicate with policymakers.

Disclosure of Interest Statement:

Rose and Bartholomew have received grant funding from Gilead Sciences Inc. through Gilead's FOCUS initiative. This project was funded through Gilead Science's Inc., HepConnect Initiative.