What is Program Science?

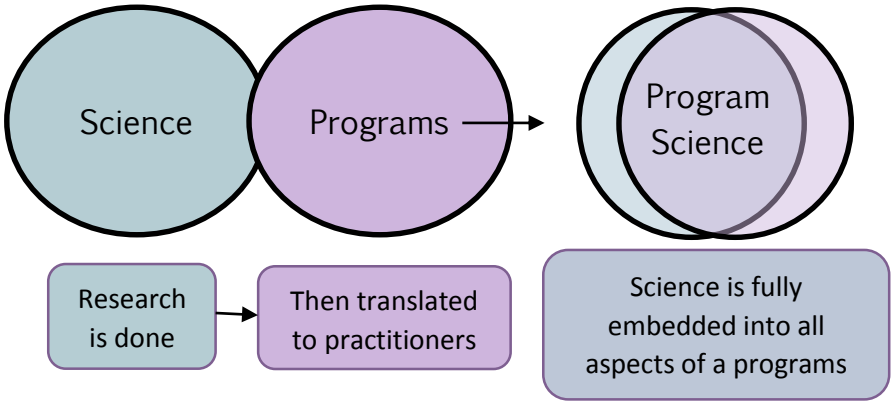
Background

Three decades into the HIV epidemic and centuries into the appearance of other STIs – and despite the development of many effective prevention technologies – it's clear that there is still a long way to go to get ahead of these epidemics.

DEFINITION:
Program Science promotes collaboration and integration between programs and science to improve the ways programs are designed, implemented and evaluated to accelerate and increase health impact**

Given this, we ask ourselves, **how can we transform the way we work to have a bigger impact?** The answer will not be a surprise to most PAN member organizations because it is how they have been intuitively working for years. The answer lies with **asking questions**. Asking questions to more fully understand the communities we serve, their service needs and the outcomes and impacts of our programs. Program science works to formalize this process and to support organizations to engage with data, research and other analyses with the goal of improving programs and services for people living with HIV, HCV and other related conditions.

Program science is a relatively new approach that integrates elements from program planning, evaluation, operations research, quality assurance, surveillance/epidemiology and community development. It works to support the development of policies and programs when you are starting with very little background information or evidence. In addition, program science brings together researchers with those engaged in program and policy development. As some people describe it, program science is about finding "the right strategy for the right populations at the right time – by doing the right things the right way and ensuring appropriate scale and efficiency."[i]



Rather than science driving the agenda,

issues impacting programs drive the science

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How do we do program science?

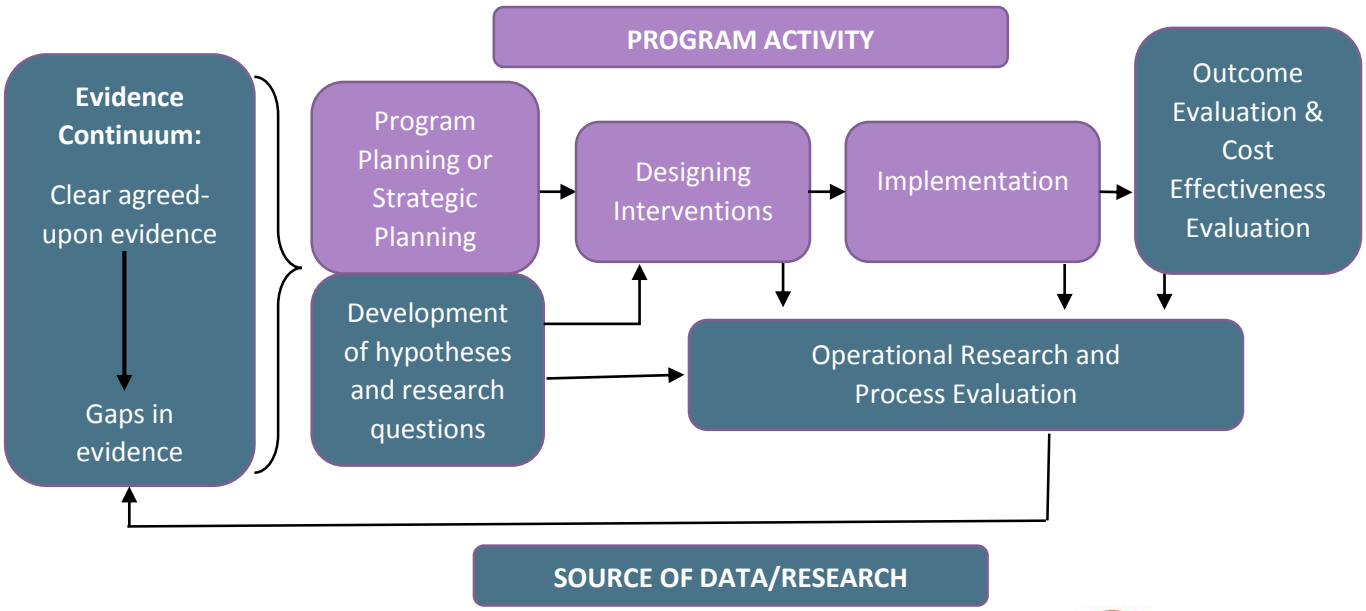
The short answer is by grounding research within practice. We've probably all heard about "evidence-based practice." Evidence-based practice is when we examine and weigh previously developed and agreed-upon evidence (which is based in sound research), before selecting an appropriate solution, or program.

For example, the evidence from years of research tells us condoms are a good way of preventing the spread of HIV. So, most community-based organizations doing HIV prevention will distribute condoms to those who need them. This is a public health intervention. It is a program based on proven evidence.

Basing programs on evidence is a nearly impossible task when there isn't a pool of existing evidence for programs to learn from. Many services and programs delivered at the community-based level have not been researched, which means that valuable learnings have not made it into the formal, published pool of evidence. But this doesn't mean there are not valuable lessons to be learned from each of our programs.

Program science recognizes there are untapped learnings or data in each of our programs. While formal evidence is still important, proponents of program science suggest that we also need to look for opportunities to gather information (in other words, do research) while programs are happening - in their planning, implementation, and evaluation phases. We can then use this information immediately to make improvements and changes to the program. Also, the information we gather can be fed back into the evidence base to be used by others running similar programs at a later date.

Getting Research Out of Practice in a Program Setting[ii]



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By expanding the way we think about evidence to include such things as hypothesis development, operational research, and process, outcome and cost-effectiveness evaluation - we are able to grow our knowledge base and engage with information that will help to improve health programs and services for people living with HIV. Program science is a continuous process of asking questions and must be supported by strong relationships with people with technical expertise who can support the gathering and analysis of information in real time: as programs happen.

Program science also acknowledges the importance of context when thinking about how best to plan, implement, evaluate, adapt, scale-up or translate programs. It is essential to understand issues **locally** and to use contextual knowledge to tailor interventions to individual settings. We need to develop interventions that will support the right populations and take into consideration local political, social and cultural factors impacting work on the ground.

Finally, program science works to create system-level linkages. In order to ensure wide-scale success, decision-makers, policy-makers and people working for government or health authorities need to be active partners in this work. They need to understand and engage with planning, implementation and evaluation decisions. Program science also works to use high-level administrative data, such as BC's provincial surveillance data or the BC's cascade of care indicators (STOP-HIV Indicators) as tools to support program decision-making.

The CIHR Centre for REACH in HIV/AIDS (REACH 2.0)

The CIHR Centre for REACH in HIV/AIDS is a national partnership of people living with HIV, community-based organizations, front-line service providers, health researchers and federal, provincial and regional policy makers working to create meaningful links between research projects. PAN is an active member of REACH and has had a formal partnership agreement with the organization since 2011. REACH was recently refunded under a CIHR HIV/AIDS Centres Grant and is in the process of shifting priorities to become "REACH 2.0."

All parts of the Canadian health care system are under increasing pressure to demonstrate that their programs and services are evidence-based, effective and sustainable. To do that, policy makers, health planners and service providers need timely access to:

1. research – to identify/develop effective interventions;
2. evaluation expertise – to assess the impact of existing programs and services; and
3. program science skills – to adapt, apply and scale-up effective interventions.

REACH 2.0 is working to create an innovative, virtual, nation-wide laboratory for intervention research, participatory evaluation and applied program science in HIV, other STIs and hepatitis C (HCV).

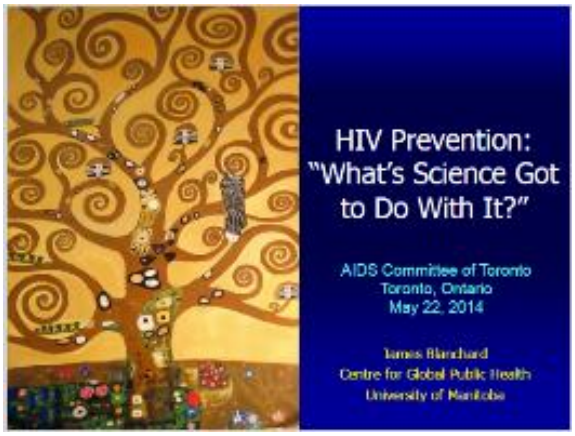
Working within a GIPA/MIPA[iii] and community-based research model, REACH 2.0 will provide the infrastructure to create and support inter-professional research, policy, practice and community teams that will:

1. Identify what programs and services that work (behavioural, clinical, biomedical, social, structural) to close gaps in the HIV prevention, care engagement and treatment cascade;
2. Provide support and expertise for front-line organizations and service providers in participatory evaluation of their programs and services;
3. Identify gaps in the implementation, scale-up and sustainability of effective programming, and support research to develop packages of interventions and theory-based programs that are shown to work;
4. Actively engage in rigorous Applied Program Science, working regionally to: appraise local HIV, STI and HCV epidemics; adapt effective programs and interventions for different Canadian contexts; assess their feasibility, effectiveness and cost-effectiveness; identify factors that may affect their scale-up and sustainability; and develop and assess strategies to support scale up;
5. Create a strong embedded training and capacity building program in community-based research, intervention research, participatory evaluation and Program Science; and
6. Develop a research and Program Science partnership among funded centres to maximize the impact of research and knowledge translation and exchange (KTE) resources.

In BC, REACH 2.0 is led by co-Chairs J. Evin Jones and Cathy Worthington. The BC REACH team - which will help to identify priorities to move forward in our province - is made up of people with lived experience, community-based organizations, academics and decision-makers. In the next few months we will be developing a plan on how best to roll out REACH 2.0 in BC and how to support the uptake of program science in our province.

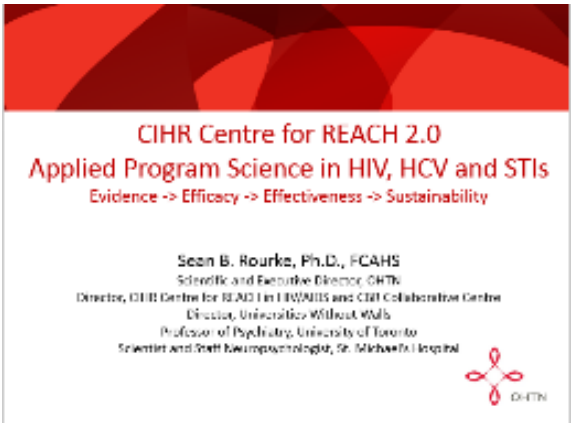
There are seven regions of REACH and these regional teams partner and work together on issues that are cross-cutting and relevant to one other. REACH is also supported by a national infrastructure and partners with national agencies such as CATIE, the Canadian Aboriginal AIDS Network and the Public Health Agency of Canada.

OTHER RESOURCES:



James Blanchard from the Centre for Global Health at the University of Manitoba talks about Program Science and provides some great examples in a developing world context (click on slide to left or):

http://www.ohtnmedia.ca/act/rd2014/03_JBlanchard/



Sean Rourke from the Ontario HIV Treatment Network and the Director of the CIHR Centre for REACH in HIV/AIDS and CBR Collaborative Centre talk about Applied Program Science and how it will work within the new REACH 2.0 Centre (click on slide to left or):

https://www.youtube.com/watch?v=jxHFFYpCbgM&index=2&list=PLWjczZRwH3_MNgVdDKNwUlnkBvHkcw0vn

[i] James Blanchard and Sevgi Aral. *Program Science: an initiative to improve the planning, implementation and evaluation of HIV/sexually transmitted infection prevention programmes.* Sex Transm Infect. February 2011. Vol 87 No.1.
[ii] Adapted from Justin Parkhurst, Ian Weller, Julia Kemp. *Getting research into policy, or out of practice, in HIV?*. The Lancet. 2010. 374 (24 April), 1414-1415.
** Program Science Meeting Report, May 3-5, 2010. Rome, Italy.
[iii] Greater Involvement of People Living with HIV/AIDS (GIPA), Meaningful Involvement of People Living with HIV/AIDS (MIPA)