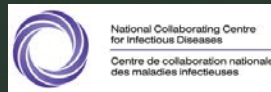


Sexually Transmitted and Blood-borne Infections (STBBI) Testing and Linkages to Care: Reaching the Undiagnosed

February 4-5, 2020
Ottawa, ON

I would like to acknowledge the Algonquin nation whose territories we
are gathered upon today.



Public Health
Agency of Canada

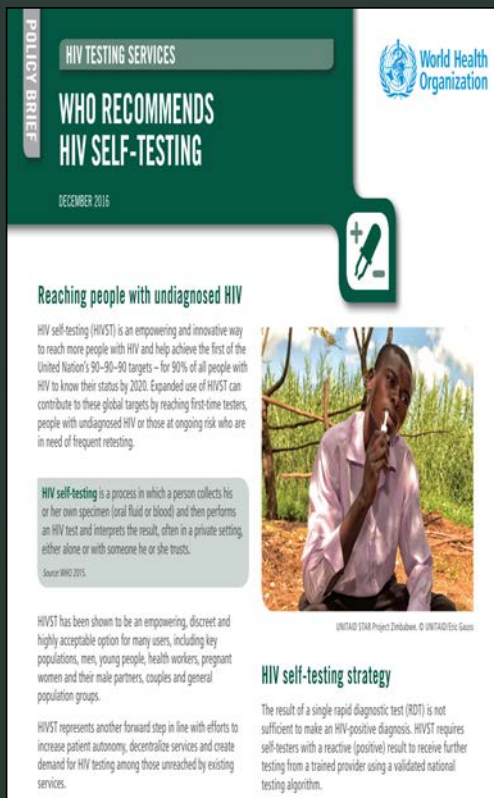
Agence de la santé
publique du Canada

HIV Self testing and digital Innovations for HIV, HCV & STBBI testing

- Nitika Pant Pai MD, MPH, PhD
- Associate Professor
- McGill University, Montreal, Canada
- nitika.pai@mcgill.ca



HIV self-testing (HIVST)



2012

FDA approves the first in-home, oral HIV self-test from OraQuick

2016

WHO release guidelines on HIV self-testing and partner notification

2020

Over 60 countries have HIV self-testing guidelines or policies in place

HIV self-testing

is a self-screening process whereby an end user (self-tester) performs an HIV self-test on their own, collects their own sample (blood or oral), interprets and records their test result, and proactively seeks linkages to counselling and care.

Globally two strategies are popular: Unassisted/Unsupervised and Assisted/Supervised HIV self testing.



2020: Data > 280 studies worldwide Policies in >60 countries in favor of HIVST

Self-testing is a middle road to engagement of populations that are not traditionally served by conventional methods

USP of convenience, confidentiality, affordability, and non-invasiveness

Minimal evidence of self-harm or domestic abuse consequent to self-tests across 250 studies

HIV ST does not stand to replace conventional testing

Time to scale HIVST globally

Assessment of the Potential Impact and Cost-effectiveness of Self-Testing for HIV in Low-Income Countries

Yvonne Cambien¹, Deborah Ford¹, Trevor Malaba¹, Sue Njezira Mwendwa², Alec Mwa³, Dore Mupfema⁴, Tonyo Nakagawa⁵, Paul Revill⁶, and Andrew Phillips⁷

RESEARCH ARTICLE

A Finger-Stick Whole-Blood HIV Self-Test as an HIV Screening Tool Adapted to the General Public

Thierry Prazuck^{1*}, Stephen Karon¹, Camella Gubavu¹, Jerome Andre², Jean Marie Legat³, Elisabeth Bouvet⁴, Georges Kreplak⁵, Jean Paul Teglas⁶, Gilles Pisloux⁷

1. Department of Infectious Diseases, Centre Hospitalier Régional, Orléans, France, 2 HF Prevention, Trappes, France, 3 Aides, Paris, France, 4 Department of Infectious Diseases, Hôpital Universitaire Bichat Claude Bernard, Paris, France, 5 Centre de Biologie du Chemen Vert (CBCV), Paris, France, 6 INSERM U1022, Hôpital Kremlin-Bicêtre, La Kremlin-Bicêtre, France, 7 Department of Infectious Diseases, Hôpital Tenon, Paris, France

* thierry.prazuck@chv-orleans.fr



Johnson CE et al. *Journal of the International AIDS Society* 2017, 16(2):e18544
<https://onlinelibrary.wiley.com/doi/10.1002/jia2.18544> | 18544-18544 | 18544-18544

Review article

Examining the effects of HIV self-testing compared to standard HIV testing services: a systematic review and meta-analysis

Cheryl C Johnson^{1*}, Caitlin Kennedy², Virginia Forner³, Nasir Saghtani⁴, Carmen Figueroa⁵, Shona Dalal⁶, Anita Sarda⁷ and Rachel Baggaley⁸

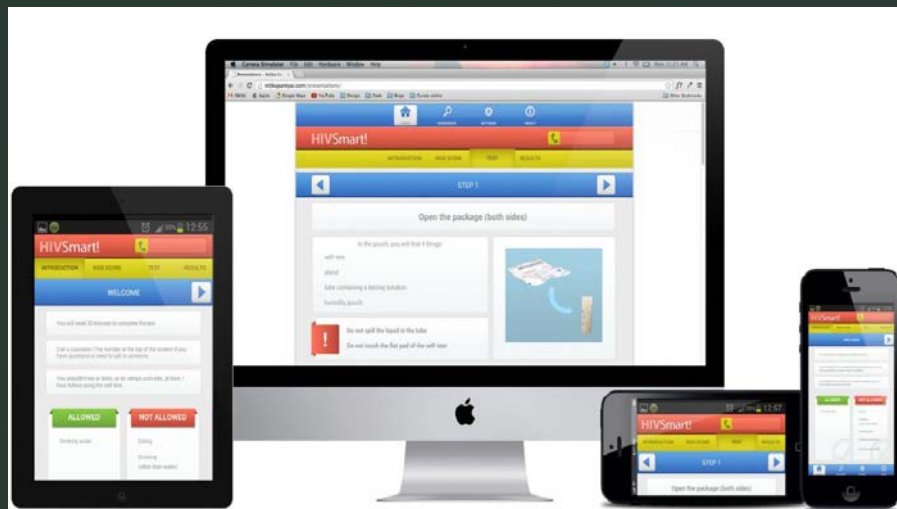
¹Corresponding author: Cheryl C. Johnson, Department of HIV, World Health Organization, 29 Avenue Appia, Geneva 1205, Switzerland. Tel: +41 22 791 4115; ccjohnson@who.int



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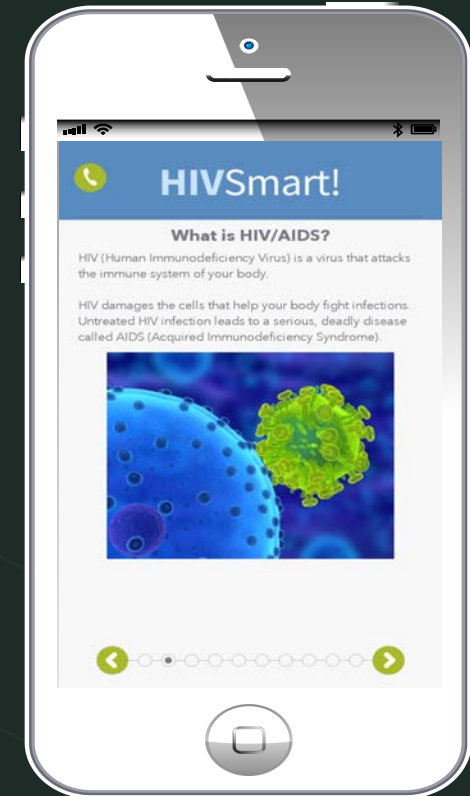
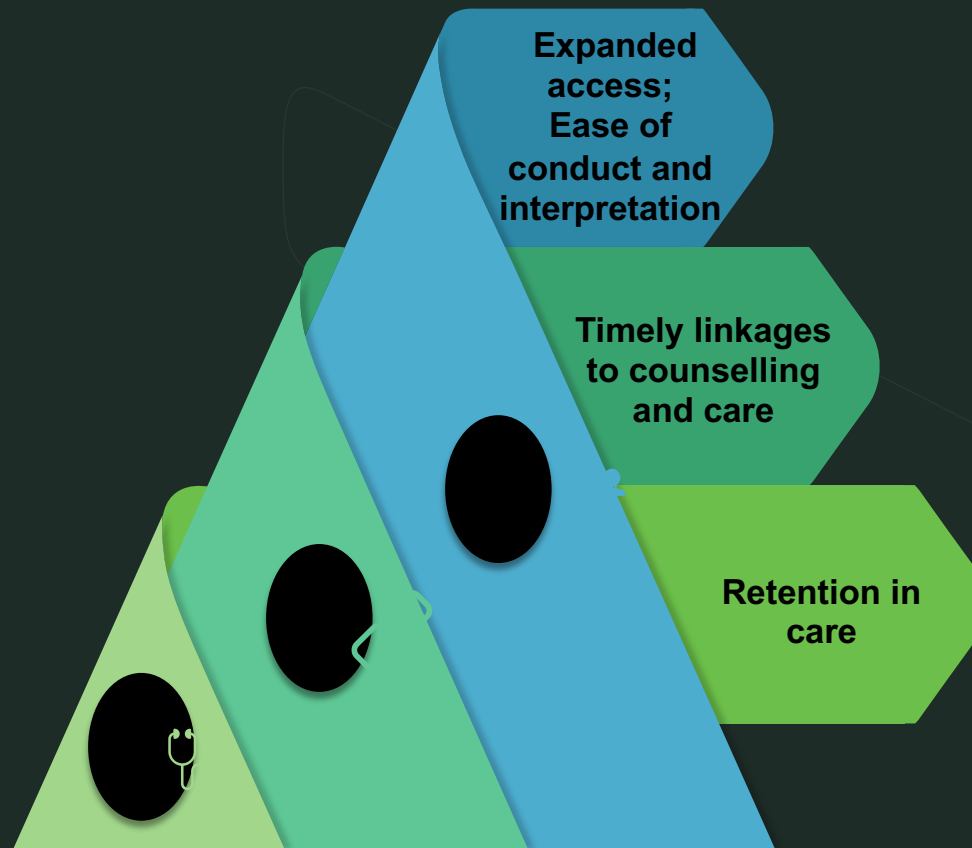
HIVSmart!: An Integrated Smartphone, Tablet, Web Based HIV Self-testing Strategy

- ▶ Smartphone, tablet based/internet-based application and database solution (Android/iPhone)
- ▶ Developed in **Canada**, tested & evaluated in **South Africa** and **Canada**, scale up **nationally and internationally**
- ▶ **Oral self tests and being worked upon for blood based self tests.**





What does HIVSmart! do?



© Nitika Pant Pai and McGill University (2013) and Grand Challenges Canada

The Journey of HIVSmart! 2009-2019

2009
-
2011

1st prototype of web based HIV self-testing strategy was evaluated in Montreal university students for feasibility

2011
-
2013

Web-based HIVSmart! strategy for healthcare professionals was evaluated in South Africa

2015
-
2017

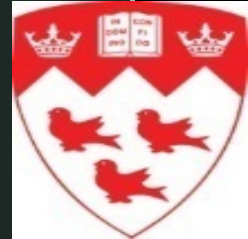
HIVSmart! app-based, unsupervised strategy tested in Montreal in 451 MSM at a private clinic

2015
-
2018

HIVSmart! app-based self-testing program evaluated in 3000 South African township populations



HIV Smart! 12 plus publications -evidence of feasibility, implementation, qualitative, cost effectiveness and Impact



JOURNAL OF MEDICAL INTERNET RESEARCH Pant Pai et al

Original Paper **JMIR Publications**
Advancing Digital Health Research

An Unsupervised Smart App–Optimized HIV Self-Testing Program in Montreal, Canada: Cross-Sectional Study

AIDS Research and Treatment

Research Article

Will an Unsupervised Self-Testing Strategy Be Feasible to Operationalize in Canada? Results from a Pilot Study in Students of a Large Canadian University

Nitika Pant Pai,^{1,2} Madhavi Bhargava,² Lawrence Joseph,³ Jigyasa Sharma,¹ Sabrina Pillay,² Bhairavi Balram,¹ and Pierre-Paul Tellier²

AIDS and Behavior
https://doi.org/10.1007/s10461-019-02516-6

ORIGINAL PAPER

Alone But Supported: A Qualitative Study of an HIV Self-testing App in an Observational Cohort Study in South Africa

Ricky Janssen¹ · Nora Engel¹ · Aliasgar Esmail² · Suzette Oelofse² · Anja Krumeich¹ · Keertan Dheda^{2,3} · Nitika Pant Pai⁴

OPEN ACCESS Freely available online PLOS ONE

Will an Unsupervised Self-Testing Strategy for HIV Work in Health Care Workers of South Africa? A Cross Sectional Pilot Feasibility Study

Nitika Pant Pai^{1,2*}, Tarannum Behlim², Lameze Abrahams³, Caroline Vadnais², Sushmita Shivkumar², Sabrina Pillay², Anke Binder², Roni Deli-Houssein², Nora Engel⁴, Lawrence Joseph⁵, Keertan Dheda³

OPEN ACCESS Freely available online PLOS MEDICINE

Supervised and Unsupervised Self-Testing for HIV in High- and Low-Risk Populations: A Systematic Review

Nitika Pant Pai^{1*}, Jigyasa Sharma², Sushmita Shivkumar¹, Sabrina Pillay¹, Caroline Vadnais¹, Lawrence Joseph², Keertan Dheda³, Rosanna W. Peeling⁴

HIVSMART

Be Smarter than HIV.

Identify, Assess, Diagnose, Connect, Get Care. Use intelligent, cutting-edge, unique, personalized, accessible, smart tools!

Download on the App Store | GET IT ON Google play

Find Local Resources | Download for Free | Stop Your Risk | Learn About HIV | Get In Care

FIND, Geneva
UNAIDS. Geneva
NAS, Washington
WHO, Geneva
CHAI, Washington
IAPAC, Washington
IDSA
IAS
CAHR
South African MoH
DST and MRC SHIP



Will an App-optimized HIV Self-testing Strategy Work for South Africans?

Results from a Large Cohort Study

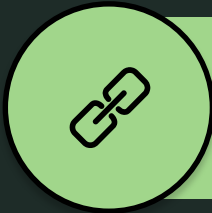
Nitika Pant-Pai¹, Ali Esmail², Gayatri Marathe², Suzette Delafosse², Marietjie Pretorius², Megan Smallwood³, Jana Daher⁴, Ricky Janssen⁵, Paramita Saha-Chaudhuri⁶, Nora Engel³, Keertan Dhedra²

¹McGill University/Research Institute of the MAMC, Department of Medicine, Division of Clinical Epidemiology, Montreal, Canada

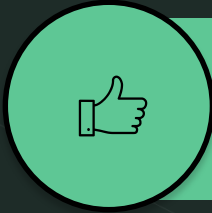
²University of Cape Town and UCT Lung Institute, Lung Infection and Immunity Unit, Division of Pulmonology, Department of Medicine, Cape Town, South Africa

³Maastricht University, Department of Health, Ethics & Society, School of Public Health and Primary Care, Maastricht, The Netherlands

⁴McGill University, Department of Epidemiology, Biostatistics and Occupational Health, Montreal, Canada



Linkage to care



Expanded access

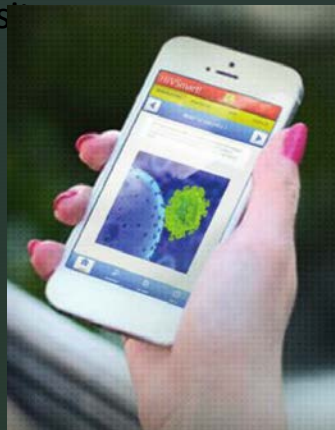


New HIV infections



Impact





The Story of HIVSmart!

A Canadian Integrated Innovation for HIV Self-Testing to Help End the HIV Epidemic

by Dr. Nitika Pant Pai



THE GLOBE AND MAIL

McGill researcher develops new HIV self-testing app 'HIVSmart!'

November 28, 2017 | Science & Technology | by Océane Marescal

Human Immunodeficiency Virus (HIV) is one of the deadliest viruses in the world and has claimed over 35 million lives to date. Recently, Nitika Pant Pai, Associate Professor at the McGill Department of Medicine and researcher at The Research Institute McGill University Health Centre has helped develop a new app called HIVSmart! designed to reduce the spread of this lethal virus. HIV attacks human CD4 T-cells—a type of white blood cell that usually protects us from disease. Without these immune cells, HIV patients are defenceless against other infections and succumb to illnesses that healthy patients would otherwise be able to fight off.



CE DONT VOUS AVEZ DÉCOUVRE LA PRESSE+ CET ÉCRAN A ÉTÉ PARTAGÉ À PARTIR DE LA PRESSE+ Edition du 17 octobre 2017, Section PAUSE SANTÉ, écran 3

INNOVATION UNE APPLICATION POUR DÉPISTER LE VIH

App puts process of AIDS testing in the palm of your hand

Ask Nitika Pant Pai about her work on a new self-test for HIV/AIDS and she'll tell you: There's an app for that.



MACLEAN'S

AUTHORS WATCH OUR VIDEOS EDUCATION HUB OUR ARCHIVES THE CANADA PROJECT CONTACT

Canada's Top Medical Doctoral University 2018: McGill University

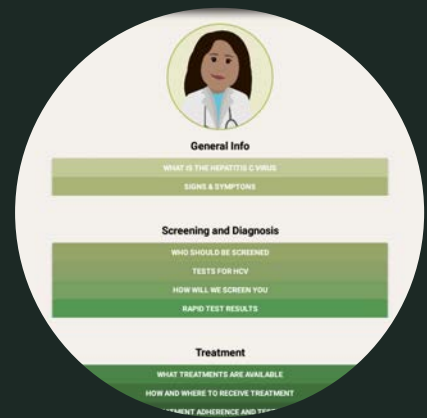
Leading innovation on artificial intelligence, HIV and neuroscience attracts students from 140 countries to McGill's campus in the heart of Montreal

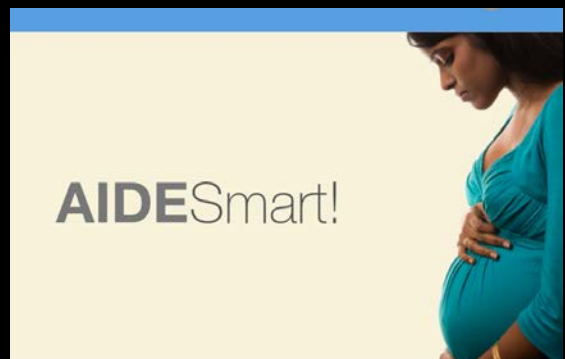
Jennifer Goldberg
October 11, 2017

Williams to Arcade Fire's Win Butler and singer-songwriter Leonard Cohen. The school has also produced more Rhodes Scholars (142) and Nobel laureates (12) than any other university in Canada.

MORE: Canada's Top Medical/Doctoral Schools 2018

McGill is lauded for its superior Ph.D. programs and medical school. Some of its alumni's more notable accomplishments include mapping the brain's motor cortex, inventing Plexiglas and discovering that atoms are divisible. Today's researchers continue that groundbreaking tradition with innovations in green chemistry, food science and computer science. In September, the Research Institute of the McGill University Health Centre (RI-MUHC) announced its role in implementing HIVSmart, a cloud-based app that facilitates HIV self-testing and care in high-risk cities worldwide. Further, scientists from the Douglas Mental Health University Institute's Translational Neuroimaging Laboratory recently used artificial intelligence and big data to recognize the signs of dementia two years before its onset. Also in the field of AI, McGill has a strong connection to Facebook's first Canadian AI lab; Joëlle Pigneur, an associate professor of computer science, was recently tapped to head up the Montreal facility.





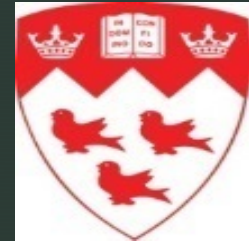
6 ORIGINAL ARTICLE
OPEN ACCESS

Epidemiology

Will an innovative connected AideSmart! app-based multiplex, point-of-care screening strategy for HIV and related coinfections affect timely quality antenatal screening of rural Indian women? Results from a cross-sectional study in India

Nitika Pant Pai,^{1,2} Jana Daher,² HR Prashanth,³ Achal Shetty,³ Rani Diana Sahni,⁴ Rajesh Kannangai,⁵ Priya Abraham,⁵ Rita Isaac³





Question-

Will A Smart App based Multiplexed strategy for Co-infections (Hepatitis C, syphilis) offered by health care workers and peer navigators be feasible? And further, impact detection of new co-infections, and help initiate linkages to care?

Methods:

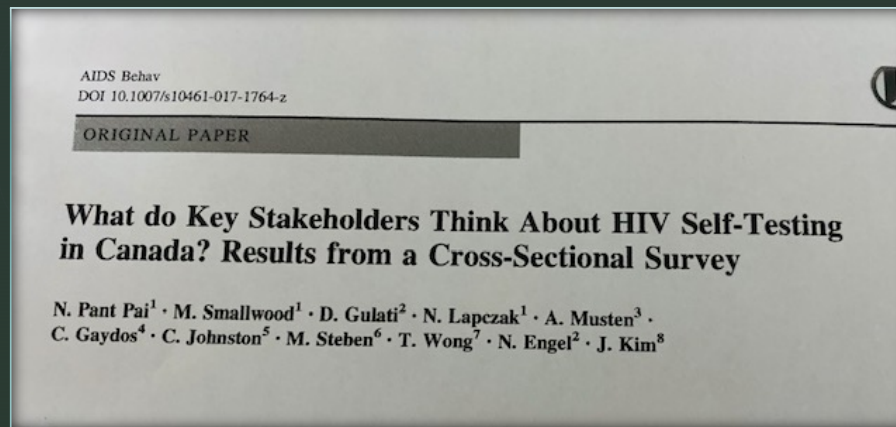
A cross sectional cohort study will be conducted in Quebec, Manitoba and Nova-Scotia in 2020-2021.

Approach:

Train front line health care professionals and peer navigators, to facilitate delivery of Multiplexed point of care test -based testing and linkage services



HIV Self testing in Canada



How should we engage priority populations to end the epidemic?
How should self testing be offered?

Thank you!
study participants, local, national and global collaborators;
colleagues Sean Rouke @CIHR Reach,
John Kim @ National Labs

