

Canadian HIV Vaccine Initiative Achievements Report

PROTECTING AND EMPOWERING CANADIANS TO IMPROVE THEIR HEALTH



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Canada

**TO PROMOTE AND PROTECT THE HEALTH OF CANADIANS THROUGH LEADERSHIP, PARTNERSHIP,
INNOVATION AND ACTION IN PUBLIC HEALTH.**

—Public Health Agency of Canada

Également disponible en français sous le titre :
Rapport des réalisations Initiative canadienne de vaccin contre le VIH

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Suggested citation: Public Health Agency of Canada. *Canadian HIV Vaccine Initiative Achievements Report*, Ottawa (Canada) : Minister of Public Works and Government Services Canada, 2017.

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Publication date: March 2017

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Cat.: HP40-177/2017E-PDF
ISBN: 978-0-660-08010-9
Pub.: 160352

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Executive summary

The CHVI, which concludes in March 2017, has been a unique collaboration between the Government of Canada (GoC) (the Public Health Agency of Canada (PHAC); Health Canada (HC); the Canadian Institutes of Health Research (CIHR); Innovation, Science and Economic Development (ISED)^{*}; the National Research Council (NRC); and Global Affairs Canada (GAC)^{*}) and the Bill & Melinda Gates Foundation (BMGF) to further strengthen global efforts to accelerate the development of a safe, effective, affordable and globally accessible HIV vaccine. An investment of \$139M (GoC - \$111M from existing resources; BMGF - \$28M^a) was made to support CHVI activities since 2007, a small investment considering that, in 2009, the total costs of HIV in Canada (loss of quality of life, health care costs, and productivity loss) was estimated at just over \$4 billion^b.

In general, HIV incidence both in Canada and around the world appears to be declining; however, HIV still affects a significant number of people, particularly in Africa, prompting continued work and research to find ways to prevent and/or eradicate HIV. Through its activities, CHVI has contributed to that body of work. It has been a key element in Canada's commitment to, and strategy for, a comprehensive, long-term approach to addressing HIV/AIDS domestically and internationally, and aligns with current GoC priorities.

There are many steps on the road to an HIV vaccine from basic lab research, to developing a candidate vaccine, to testing it in regulated clinical trials, to finally getting it approved for use and getting it manufactured. Each step in the process can take several years. For example, a vaccine for the Human Papillomavirus took approximately 20 years from initiation to approval for use. CHVI contributed to global efforts to develop an effective HIV vaccine through activities in five main areas: Advancing the Basic Science of HIV Vaccines; Translating Basic Science; Addressing Enabling Conditions; Preventing Mother-to-Child Transmission of HIV; and Supporting Coordinated Efforts (see Appendix I for more details).

Overall, CHVI activities served to advance global research and development (R&D) on HIV vaccine research and other HIV-related research, and to increase the visibility of Canadian HIV vaccine research, both domestically and internationally:

- *Collaborations* among HIV vaccine researchers in Canada and low- and middle-income countries (LMICs) were supported and strengthened, with the aim of creating international teams which would contribute to HIV vaccine discovery and social research, and training the next generation of HIV vaccine researchers. More than 50 grants, that emphasized a multidisciplinary approach and tapped into the unique strengths and knowledge of researchers in both Canada and LMICs, were awarded. The results of the research that was conducted through CHVI investments added to the body of knowledge for HIV vaccine and HIV-related subjects through publications in peer-reviewed journals and conference presentations (see Appendix III). While some projects are still in early stages, they are expected to lead to larger research trials and to inform practices for future HIV vaccine trials.

^{*} Formerly Industry Canada and the Department of Foreign Affairs, Trade and Development respectively.

^a BMGF's actual grant total was \$35.9M, with increased funding primarily targeting the area of "translating basic science into clinical trials".

^b The Economic Cost of HIV/AIDS in Canada, Canadian Aids Society, 2011.

- *Knowledge sharing* amongst researchers improved, generating numerous publications, presentations and seminars; resulting in new diagnostic approaches and tools for HIV vaccine research, and communities with greater awareness of vaccine preparedness, and engagement for trials and vaccine development. The research collaborations and knowledge sharing activities also resulted in better-trained scientists in LMICs, and allowed involved trainees, junior researchers and students to complete advanced degrees.
- Through 29 projects, the number and *capacity* of 23 Canadian small- and medium-sized enterprises (SMEs) conducting R&D on HIV vaccine development and other technologies related to the prevention, treatment, and diagnosis of HIV increased. This funding allowed some firms to further advance their technology toward *commercialization*.
- A focus on *the policy and regulatory environment* to better prepare Canadian communities and LMICs for future vaccine clinical trials was highly successful: in Africa, CHVI efforts contributed to the doubling of the number of member countries of the African Vaccine Regulatory Forum capable of conducting vaccine clinical trials using internationally-accepted ethics, regulatory approvals and oversight.
- Progress on *prevention of HIV/AIDS* was made in strengthening the capacity of countries with a high prevalence of HIV/AIDS to prevent mother-to-child transmission of HIV (PMTCT) resulting in improved delivery and uptake of PMTCT services.

The achievements of the CHVI extended beyond its stated objectives. For example, it created a more cohesive and synergistic HIV vaccine research community through expanded and improved information sharing and knowledge transfer, and by enabling partnerships to form amongst government, academia and industry. The skills gained by LMICs through CHVI capacity-building activities have benefited other vaccine-related research. For example, increased capacity to conduct clinical trials writ large and to meet internationally-accepted ethics and regulatory approvals and oversight has led to successful vaccines now in use in the African region (e.g., conjugate meningitis A, rotavirus, human papillomavirus). Some research findings from CHVI projects have leveraged additional research grants to pursue related lines of research. For example, a finding from a project researching immune responses in HIV exposed uninfected infants in Africa led to a grant to study microbiota in infants' guts. The collaboration with the BMGF facilitated subsequent collaborations on other shared priorities, such as Ebola and Hepatitis C. CHVI also made it possible for CIHR and the BMGF to directly collaborate on research to improve understanding on the mucosal immune response to HIV. In fact, involvement in CHVI has enabled CIHR to leverage its investments in HIV research threefold.

The development of any vaccine is a long, complex process that can take years to complete. It has been more challenging compared to other vaccines, and despite the many developments in the HIV vaccine field, a vaccine remains elusive. CHVI has made a strong contribution to the overall field of HIV vaccine research, and its effects will endure beyond its completion in 2017. The numerous publications and presentations generated from the more than 100 projects have advanced and disseminated knowledge in the areas of HIV vaccine research and other HIV-related research. Additional publications may be generated in the final year of the CHVI. It enabled private sector companies to conduct HIV vaccine and other HIV technologies-related research and move their technology towards commercialization. Researchers in both Canada and LMICs will be able to use their work with CHVI to leverage future funding; this has already been happening. For example, the 9 capacity-building projects carried out in Africa all

succeeded in obtaining additional grants. Researchers and communities in LMICs are better equipped to conduct their own research and in turn contribute to research globally, a notable accomplishment. Collaborations and relationships that have been established will continue or lead to new ones; again, this has already borne out. Useful mechanisms for collaboration, knowledge sharing, networking and mentoring, such as the Alliance of researchers and webinars provide a valuable platform from which to continue these activities. And, in absence of an effective vaccine, the activities undertaken to increase the quality, access and uptake of PMTCT services will in turn reduce the incidence of mother-to-child transmission of HIV.

As a final note, the GoC's science and technology (S&T) system is evolving into a science and innovation ecosystem with an emphasis on networks of collaborative, multidisciplinary partnerships in order to draw upon the scientific expertise required, wherever it resides, to address national priorities. The concept of the CHVI is an excellent representation of such an ecosystem through its coordinated and collaborative undertaking, by various means, that brought together actors from different disciplines and settings to spur HIV vaccine development. And it did so in a cost-effective manner by utilizing existing funding mechanisms and by leveraging additional funding from other sources.

The way forward

As with S&T in general, the HIV research landscape is shifting. HIV vaccine trials are becoming more complex and costly to run because of the need to incorporate new HIV prevention technologies such as Pre-exposure prophylaxis and microbicides into study designs. There is also increasing attention and funding being put to HIV cure research. In recent years, there's been a shift in research funding for clinical trials (decrease) and for basic research (increase). In response to this changing landscape, there is a movement towards considering a more integrated and comprehensive approach to HIV prevention research. In 2014, the first Research for Prevention (HIV R4P) conference was held, bringing together researchers from around the world working in all areas of HIV prevention research. The broader focus on HIV prevention could help researchers gain a greater understanding of HIV immunology and to find solutions for cross-cutting issues.

The GoC remains committed to addressing HIV/AIDS in Canada and contributing to global efforts. Canada will continue to support HIV vaccine-related research under existing programs such as the Federal Initiative to Address HIV/AIDS in Canada. Canada will build on the achievements of the CHVI and will continue to work on comprehensive approaches to addressing HIV/AIDS prevention and treatment including vaccine research.

Introduction

HIV continues to be a major global public health issue. According to the World Health Organization (WHO), approximately 36.9 million people were living with HIV at the end of 2014, with Sub-Saharan Africa being the most affected region (25.8 million). Women and children make up 54% (17.4 million and 2.6 million respectively) of the total number of people living with HIV worldwide. In Sub-Saharan Africa, mother-to-child transmission of HIV remains an issue. Between 15% and 45% of children born to HIV-positive women can become infected with the virus during pregnancy, delivery, or breastfeeding. Interventions to prevent mother-to-child transmission of HIV can reduce the risk of transmission to less than 5%^c. In 2014, 2 million people became newly infected with HIV globally, with sub-Saharan Africa accounting for almost 70% of the global total^d. In Canada, an estimated 75,500 people were living with HIV at the end of 2014, with 2,570 people newly infected in that year^e.

The development of an HIV vaccine is a challenge due to the nature of HIV, the lack of a natural protective response to it, and the inability to accurately predict the human immune response to HIV. Social and institutional barriers—such as difficulty recruiting volunteers to participate in HIV vaccine clinical trials, and insufficient capacity among African regulatory authorities to review and monitor clinical trials taking place in Africa—present additional challenges for HIV vaccine development. Still, a safe and effective preventative HIV vaccine is considered to be the best hope, as well as the most efficient and cost-effective means of controlling or eradicating HIV. This provided an impetus for the Government of Canada (GoC) and the Bill and Melinda Gates Foundation (BMGF) to partner on the Canadian HIV Vaccine Initiative (CHVI).

Background

The CHVI is a collaboration between the GoC (the Public Health Agency of Canada (PHAC); Health Canada (HC); the Canadian Institutes of Health Research (CIHR); Innovation, Science and Economic Development (ISED)*; the National Research Council (NRC); and Global Affairs Canada (GAC)*) and the Bill & Melinda Gates Foundation (BMGF) to further strengthen global efforts to accelerate the development of a safe, effective, affordable and globally accessible HIV vaccine. An investment of \$139M (GoC - \$111M from existing resources; BMGF - \$28M^f) was made to support CHVI activities.

In 2010, as a result of a significant increase in private sector HIV vaccine pilot scale manufacturing facilities in North America and Europe (a major plank when CHVI was initiated), funding originally earmarked for a manufacturing facility was reallocated to the key areas and governance structures identified in a renewed CHVI. CHVI concludes in March 2017.

^c <http://www.who.int/hiv/topics/mtct/en/>

^d HIV/AIDS Fact Sheet No. 360, World Health Organization, November 2015

^e Summary: Estimates of HIV Incidence, Prevalence and Proportion Undiagnosed in Canada, 2014, Public Health Agency of Canada, November 2015

* Formerly Industry Canada and the Department of Foreign Affairs, Trade and Development respectively.

^f BMGF's actual grant total was \$35.9M, with increased funding primarily targeting the area of "translating basic science into clinical trials".

The CHVI has been a key element in Canada's commitment to, and strategy for, a comprehensive, long-term approach to addressing HIV/AIDS domestically and internationally*, and aligns with current GoC priorities. It served to mobilize Canadian HIV vaccine expertise to address gaps identified in the Scientific Strategic Plan (SSP), which was developed by more than 120 experts from 15 countries, WHO and UNAIDS and other international collaborators, under the auspices of the Global HIV Vaccine Enterprise (the Enterprise) established by the BMGF and the United States National Institutes of Health.

The Enterprise was established in 2004 with the aim to accelerate the development of preventive HIV vaccines by implementing the SSP, increasing and mobilizing significant new funding, and enhancing collaboration among HIV vaccine researchers. Canadian expertise aligned well with the objectives of the Enterprise, and the CHVI was seen as a significant Canadian contribution to global HIV vaccine efforts and to strengthening the capacity to undertake HIV vaccine research and development in low- and middle-income countries (LMICs).

PHAC provided the lead on the CHVI and through the CHVI Secretariat, ensured the horizontal coordination across partner departments/agencies and with the BMGF. CHVI Ministers and the BMGF were provided with strategic advice and direction, and recommendations on projects to be funded through the CHVI by an Advisory Board, made up of three external experts, three representatives of the BMGF, and the Director of the CHVI Alliance Coordinating Office (ACO), all leaders in their respective fields. The ACO, housed within the International Center for Infectious Diseases, provided administrative support to the Advisory Board, and created and promoted a network of HIV researchers (the Alliance).

To address its mandate, the CHVI sought to:

- Advance the basic science of HIV vaccine discovery and social research in Canada, and in LMICs;
- Support the translation of basic science discoveries into clinical research, with a focus on accelerating clinical trials in humans;
- Address enabling conditions to facilitate regulatory approval and community preparedness;
- Prevent Mother-to-Child Transmission of HIV (PMTCT) by enhancing the accessibility, quality, and uptake of services in LMICs; and
- Support coordinated efforts to enable horizontal collaboration within CHVI and with domestic and international stakeholders.

The following highlights the key achievements associated with each of the areas:

Advancing the Basic Science of HIV Vaccines (ABS) (\$30M)

(CIHR - \$15M; GAC - \$12M; BMGF - \$3M)

Objective: to strengthen the capacity of, and promote greater involvement and collaboration amongst, researchers in Canada and in LMICs working in HIV vaccine discovery and social research.

Through over 60 vaccine-related research projects involving investigators from Canada, Africa, India, the U.S., New Zealand, and Switzerland, the CHVI made a strong contribution to HIV

* The Government of Canada's domestic approach to addressing HIV/AIDS is framed by the Federal Initiative to Address HIV/AIDS in Canada and CHVI; its global contribution is led by Global Affairs Canada.

vaccine discovery and social research, and preparing the next generation of HIV vaccine researchers both in Canada and in LMICs. These projects made progress in advancing novel ideas, tools, approaches, and best practices, which will feed into future research to help develop an HIV vaccine. Research findings were made available to the HIV vaccine community through publications and conference presentations for use by other researchers, thus contributing to the global effort to find an HIV vaccine. Appendix II provides an indication of the breadth of research supported through the CHVI, while Appendix III provides a list of some of the publications and conference presentations they generated.

One of the key achievements of these projects was the relationships and synergies strengthened and developed both among team members and with other research teams working in HIV vaccine research. The multidisciplinary nature of the teams and collaboration with international researchers facilitated the exchange of ideas and knowledge, thus advancing research faster than what would have been possible for researchers working on their own. Bringing team members together from across the HIV research field provided opportunities to bring new “out of the box” ideas to HIV vaccine research that may lead to potential discoveries and has laid the groundwork for future research collaborations. The team grants, in particular, which linked researchers from Canada and LMICs, yielded positive and potentially lasting results, including future collaborations amongst team members, the potential to pursue new research paths, and the formation of new collaborations.

CHVI projects strengthened the field of HIV vaccine researchers, both in Canada and LMICs, by helping trainees and junior researchers increase their capacity to conduct HIV vaccine research, allowing them to pursue higher education and advancing their careers. Senior researchers became mentors and leaders in the area of HIV vaccine research.

Perhaps most importantly, the CHVI projects strengthened the capacity of LMICs to conduct their own HIV vaccine research, and to apply their new-found knowledge and skills to other health issues affecting their countries.

Translating Basic Science into Clinical Trials in Humans (TBSCT) (\$60M)
(GAC - \$16M; BMGF - \$26M; ISED - \$13M; PHAC - \$5M)

Objective: to assist researchers, in the public and private sectors, in moving promising HIV vaccine candidates from preclinical research into clinical trials in humans.

Under this area, Canadian small- and medium-sized enterprises (SMEs) were provided funding to develop an HIV vaccine and other technologies related to the prevention, diagnosis, and treatment of HIV. To date, 29 projects were funded (see Appendix II). While systemic barriers for SMEs persist in the pursuit of an HIV vaccine (e.g., lack of financing, lack of vaccine candidates), research and development (R&D) activity in HIV-related technologies increased as a result of funding. For some firms, the available funding was a catalyst to enter the field of HIV vaccine research. Project funding also increased SMEs' capacity to conduct HIV vaccine and other HIV technologies-related R&D, and enabled them to move their technology further towards commercialization, led to new research findings, and the development of new technologies. For example, a whole-virus method developed by one firm that could potentially prohibit both the initial acute infection and the establishment of a latent reservoir of HIV virus in cells, was subsequently used in a Phase I clinical trial on a vaccine candidate.

Through the CHVI, the capacity of researchers in LMICs to conduct HIV prevention trials were strengthened and physical infrastructure was upgraded through 9 research projects (involving researchers from 23 countries and conducted at 30 sites), 5 complementary grants, and 10 pilot awards to young researchers. These projects generated more than 70 peer-reviewed publications and more than 50 conference presentations. Researchers and students received training in good clinical laboratory practice, qualitative and quantitative research skills, research management, and ethics. Researchers' new skills translated into new opportunities. For example, based on the strengths they acquired through their involvement in the CHVI, the Senegal team was selected to perform part of phase 2 trials of an Ebola vaccine, funded by the Canadian Partnership on Ebola Vaccine.

Collaborations amongst the nine research teams were increased and greater synergies and complementarities were achieved across the research teams, with other CHVI research teams, and with other global efforts to build capacity for HIV prevention trials. These efforts resulted in additional funding in excess of \$14M and new collaborations with other organizations such as CIHR, McGill University and the European & Developing Countries Clinical Trials Partnership.

Addressing Enabling Conditions (AEC) (\$19.4M)

(BMGF - \$6.9M; PHAC - \$5.5M; HC - \$5M; GAC - \$2M)

Objective: to better prepare LMICs and Canada for future HIV vaccine clinical trials by focusing on policy and regulatory issues related to vaccine clinical trials.

Regulatory capacity to conduct HIV vaccine clinical trials was strengthened in both LMICs and Canada through knowledge exchange, training and mentoring. Conferences, workshops, and satellite sessions were used to bring together National Regulatory Authorities (NRA) in LMICs to share knowledge about systems, tools, approaches, current challenges, and lessons learned; to network with regional and international regulators; and to learn about specific subjects such as biologics and quality review, and building relationships between ethics boards and regulatory authorities. A mentorship program was developed to address specific regional needs and challenges. For example, NRAs in Malawi and Nigeria were trained in various processes and procedures to better equip them to deal with the policy and regulatory processes related to clinical trials.

Through support to the World Health Organization's (WHO) African Vaccine Regulatory Forum (AVAREF), a network of NRAs and national Ethics Committees in 19 African countries, the GoC played a role in strengthening countries' regulatory capacity for vaccines to provide reviews, approvals, and oversight of vaccine trials. The provision of advice, and technical and regulatory expertise aided in the development of guidelines, norms and standards for vaccine regulation, and a platform for online collaboration and information exchange. These efforts have resulted in increased capacity of these countries to conduct vaccine clinical trials with internationally accepted ethics, regulatory approvals and oversight. While these improvements have largely benefited the conduct of clinical trials for vaccines in general, it is expected that the skills learned and knowledge gained will be transferable to HIV vaccine clinical trials.

Finally, the capacity and knowledge of Canadian and LMIC organizations and communities were strengthened, through the development of toolkits, training tools, workshops and outreach activities, so that they would be able to support potential future vaccine trials and new prevention technologies.

Preventing Mother-to-Child Transmission of HIV (PMTCT) (\$30M) (GAC)

Objective: to increase the quality, access and uptake of PMTCT services, and to help reduce the spread of HIV in the absence of a safe and effective vaccine.

While separate from CHVI's other vaccine-related activities, activities to improve the quality, access and uptake of PMTCT services provided an important interim measure to address the PMTCT gap in the absence of an HIV vaccine. Grants were provided to WHO and the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) to enhance access, quality and uptake of services to PMTCT of HIV by determining innovative and effective implementation strategies and programmatic solutions to overcome existing barriers and bottlenecks, and to enhance PMTCT service delivery. The WHO project (six projects, two each in Malawi, Nigeria, and Zimbabwe) resulted in strengthened collaborations between researchers, health workers and community leaders, and significantly increased the capacity of health care workers. Since this project began, over 2,600 health care workers were trained in areas such as good clinical practices, service delivery, implementing national protocols, data collection and management, and research techniques; and almost 5,000 mother-infant pairs have been enrolled over the six projects (47%-188% of target enrolment). One project in Malawi was able to leverage additional funding from a number of sources for a sub-study monitoring the effects on infants exposed to antiretroviral drugs given to HIV-infected mothers during breastfeeding.

The EGPAF project resulted in an increase in antenatal care before 20 weeks, facility deliveries, and male partner HIV testing. The project also strengthened collaboration among researchers and health care workers, engaged community leaders to share knowledge at the community level and to promote the uptake and adherence to interventions related to PMTCT.

Supporting Coordinated Efforts (SCA) (\$7.5M) (PHAC)

Objective: to strengthen the coordination of Canadian HIV vaccine-related activities with other global efforts.

Together, the CHVI Secretariat and the ACO strengthened the coordination of Canadian HIV vaccine-related activities with other global efforts. An Alliance network (now consisting of 300+ members) of leading researchers from the public and private sectors, and from the international community, government agencies, international HIV/AIDS organizations, and national community organizations was created.

Through this network and other activities, opportunities were created for information and knowledge dissemination and exchange, research collaboration, networking, mentoring, and learning for both domestic and international HIV vaccine researchers. For example, the ACO regularly provided training webinars and workshops to new and early career researchers. It published a monthly e-bulletin that showcased researchers, and provided information on upcoming events and conferences, funding opportunities, and new HIV vaccine research. It also promoted the CHVI to external audiences through its website, social media, and international conferences. The overall results have been a greater number of collaborations among HIV researchers and other disciplines, improved communication between and amongst researchers, more new and early career investigators entering the field of HIV vaccine research, and increased visibility of Canadian HIV vaccine research to multidisciplinary audiences.

Projects supported by the Bill & Melinda Gates Foundation (BMGF)

HIV is one of the leading priorities of the BMGF. Its goal is to support efforts to reduce the global incidence of HIV significantly and sustainably, and to help people infected with HIV lead long, healthy, and productive lives. Efforts are focused on the poorest hyper-endemic countries of Sub-Saharan Africa. The BMGF's largest investment is in vaccine research and development, one of six areas in which it invests to advance the development and delivery of new HIV prevention methods while improving the efficiency and effectiveness of existing prevention and treatment efforts. The BMGF provides funding to move novel product concepts toward human clinical trials through to investments in late-stage clinical trials.

Under the auspices of the CHVI, the BMGF supported projects in the areas of Advancing Basic Science, Translating Basic Science into Clinical Trials in Humans, and Addressing Enabling Conditions. For example, BMGF funding supported projects aimed at: gaining a better basic understanding of HIV-mucosa interactions and immune responses; enhancing biostatistical, computational biology, and mathematical modeling research for assessing correlates of vaccine efficacy in randomized clinical trials; seeking new biomarkers that reliably identify recently HIV infected individuals; developing an immunology laboratory in Cape Town, South Africa; and advancing promising HIV vaccine candidates to licensure through investments in late-stage clinical trials, such as the Pox-Protein Public Private Partnership.

Conclusion

Overall, the CHVI was successful in achieving its expected outcomes, and it did so by leveraging additional funding and using pre-existing funding mechanisms to ensure the optimization of resource use. Since the launch of CHVI in 2007, the HIV vaccine environment has evolved. Advances in HIV/AIDS research has led to a change in the research focus and priorities of major funders and players, with activities falling under three main areas of interest: HIV vaccine R&D and advancing a comprehensive approach to prevention, investigating early treatment and achieving functional cure, and exploring cross-cutting research themes (e.g., mucosal immunology). The completion of the CHVI and the changing HIV vaccine environment mark an opportunity for Canada to refocus its priorities and scope of activities. The objectives set out for the CHVI remain relevant: Canada will continue its commitment to work in partnership with its domestic and international partners, and to support HIV vaccine-related research. It is believed that Canada's strengths in HIV vaccine and vaccine-related R&D, and the foundation laid through CHVI, Canada's contribution to the field, both domestically and globally, can be met by the existing Federal Initiative to Address HIV/AIDS in Canada.

CHVI- Funded Research Projects and Activities

Program Area	Project Title	Recipient
ABS	Applied phylogenetics for HIV prevention	University of British Columbia
ABS	A comparative immunogenicity study of HIV-1 Pr160Gag-Pol virus-like particles bearing gp120, CD40L and/or TLR5 agonist flagellin	Université Laval
ABS	A new human cell experimental system for evaluating prototype HIV-1 vaccines	Université Laval
ABS	Conformational changes of HIV-1 envelope induced by CD4: a new mechanism governing sensitivity to ADCC	Centre hospitalier de l'Université de Montréal (CHUM)
ABS	HIV vaccine development and preparedness studies: systems biology and social approaches to characterize determinants of HIV acquisition and disease progression in Female Sex Workers and in cohorts of slow progressors	Centre hospitalier de l'Université de Montréal (CHUM)
ABS	Identification of naturally-occurring anti-HIV-1 neutralizing molecules from a cohort of highly-HIV-1 exposed seronegative individuals	Centre hospitalier de l'Université de Montréal (CHUM)
ABS	Identification of broadly-neutralizing antibodies targeting HIV-1 envelope glycoproteins in their unbound conformation	Centre hospitalier de l'Université de Montréal (CHUM)
ABS	At the Crossroads of Vertical and Horizontal HIV Transmission: The HIV-Exposed Uninfected Infant as a Window into Successful HIV Vaccine Design	University of British Columbia
ABS	Uncovering the immunological landscape of HIV antibody responses	Fred Hutchinson Cancer Research Center
ABS	Dissecting the mechanisms of protection by attenuated Nef-deleted HIV vaccine	Institut de recherches cliniques de Montréal
ABS	The Botswana-Canada AIDS vaccine discovery partnership	Jewish General Hospital (Montreal)
ABS	The potential of APOBEC3G in the development of a novel anti-HIV-1 therapeutic	Jewish General Hospital (Montreal)
ABS	Studying the antiviral activity of bone marrow stromal cell antigen 2 and the countering mechanism from HIV-1 Vpu	Jewish General Hospital (Montreal)

Program Area	Project Title	Recipient
ABS	Functional correlate of mucosal antibody response to HIV infection in blood	McMaster University
ABS	Innate, Adaptive, and Mucosal Immune Responses in HIV-1 Exposed Uninfected Infants: A Human Model to Understand Correlates of Immune Protection	McMaster University
ABS	Interaction between sex hormones, microbiome and innate immunity in the female reproductive tract: Impact mucosal immunity and HIV susceptibility	McMaster University
ABS	Heteroclitic peptides to increase human immunodeficiency virus-specific CD8+ T cell interleukin-2 production	Memorial University of Newfoundland
ABS	The impact of APOBEC-induced mutations of viral genomes on adaptive immunity in HIV+ individuals	Memorial University of Newfoundland
ABS	Comprehensive Development and Evaluation of Herpes Virus as HIV Vaccine Vectors with Special Reference to Suitability and Application in Sub-Saharan Africa	Mount Sinai Hospital (Toronto)
ABS	Herpes viruses as re-activating Vaccine Vectors: Protective Efficacy of a Varicella Zoster-HIV Vaccine in the SIV Macaque model"	Mount Sinai Hospital (Toronto)
ABS	Intestinal microbiota, immune activation and vaccine responsiveness of the HIV-exposed infant	Ottawa Hospital Research Institute
ABS	Close encounters of a Natural Killer kind: Understanding how NK cells protect against HIV infection	Research Institute of the McGill University Health Centre
ABS	The functional profile of NK cells in HIV exposed uninfected subjects: Association with carriage of NK receptor-HLA ligand genotypes	Research Institute of the McGill University Health Centre
ABS	Barriers to engaging young people in HIV vaccine trials in a priority setting	Simon Fraser University
ABS	Probing MBL function in oligomannose-specific anti-HIV antibody responses	Simon Fraser University
ABS	Prophylactic HIV Vaccines for Social Networks of Injection Drug Users	Simon Fraser University
ABS	Development and preclinical testing of a nanoparticle-based HIV-1 vaccine	Université Laval
ABS	Canadian African Prevention Trials Network Travel Grant	University of British Columbia

Program Area	Project Title	Recipient
ABS	Innate, Adaptive, and Mucosal Immune Responses in HIV-1 Exposed Uninfected Infants: A Human Model to Understand Correlates of Immune Protection	University of Cape Town (South Africa)
ABS	A HIV vaccine targeting protease cleavage sites	University of Manitoba
ABS	Attacking HIV protease cleavage sites with immunization - Explore the rapid mutation rate of HIV-1	University of Manitoba
ABS	Characterization of a new "intracellular immunization" strategy restricting HIV-1 infection and inducing host immune response	University of Manitoba
ABS	CIHR/CHVI Team in the socio-cultural aspects of implementing HIV vaccine programs among MSM and FSWs in Asia and Africa	University of Manitoba
ABS	Defining mucosal determinants of HIV risk in the CAPRISA 004 trial using high throughput proteomic approaches	University of Manitoba
ABS	Defining the mechanisms of IRF1 in mediating innate resistance to mucosal HIV acquisition in HIV exposed seronegative (HESN) women	University of Manitoba
ABS	Defining variation in Tuberculosis and HIV specific cellular immune responses during latent and active TB infection	University of Manitoba
ABS	Genetic determinants of HIV-1 acquisition in Kenyan men who have sex with men	University of Manitoba
ABS	Limiting HIV target cells by inducing immune quiescence in the female genital tract	University of Manitoba
ABS	Mucosal predictors of HIV acquisition	University of Manitoba
ABS	Research on the social and cultural aspects of implementing HIV vaccine programs among MSM and FSWs in Asia and Africa	University of Manitoba
ABS	The biology of FREM1 in HIV transmission and its variants in resistance and susceptibility to vaginal HIV infection	University of Manitoba
ABS	The Canadian African Vaccine Enterprise (CAVE)	University of Manitoba
ABS	The effect of the CD4 pathogenicity island on HIV susceptibility and disease progression	University of Manitoba
ABS	Travel support to attend the AIDS Vaccine 2008 Partnership Development Forum in Cape Town, South Africa	University of Manitoba

Program Area	Project Title	Recipient
ABS	Promoting innate immunity to HIV infection by vaccine delivery of third generation RNA analogs	University of Ottawa
ABS	A combined early and late HIV-1 protein-specific exosome-targeted T cell vaccine capable of stimulating HIV-1 specific CD8+ CTL responses in absence of CD4+T cells and counteracting immune suppression	University of Saskatchewan
ABS	Combined late and early HIV-1 protein-specific exosome-targeted T cell-based vaccine capable of stimulating CTL responses in absence of CD4+ T cell help	University of Saskatchewan
ABS	Application of novel assays to quantify mucosal susceptibility to HIV and to define key mucosal targets during HIV transmission	University of Toronto
ABS	Applying novel ex vivo and in vitro assays to define mechanisms of HIV protection in the foreskin	University of Toronto
ABS	Development of Novel Vaccine strategies against HIV-1 infection	University of Toronto
ABS	Discovery of new B cell immunogens for HIV vaccines	University of Toronto
ABS	Enhancing Care and Prevention in HIV Vaccine Trials: An International, Interdisciplinary Collaboration	University of Toronto
ABS	HIV vaccine design based on novel strategies to induce protective mucosal cellular and humoral immunity	University of Toronto
ABS	CIHR team grant in HIV vaccine discovery: Novel mechanisms and strategies of protection	University of Toronto
ABS	How viral membrane components influence epitope recognition by the broadly neutralizing antibody 2F5: potential translation into vaccine design	University of Toronto
ABS	CHVI Team in Social and behavioral research on HIV vaccines	University of Toronto
ABS	Understanding mucosal protection against HIV: delineating interactions between the immune system, microbiome and mucus	University of Toronto
ABS	CIHR/CHVI Team in HIV Vaccine Design Based on Novel Strategies to Induce Protective Mucosal Cellular and Humoral Immunity	University of Toronto
ABS	Short Term Travel Grant to Attend AIDS Vaccine 2008 Partner Development Forum	University of Toronto
ABS	Eliciting and identifying broad anti-HIV immune response with a Polyvalent Anti-HIV Vaccine	University of Western Ontario

Program Area	Project Title	Recipient
AEC	Lessons Learned: Building on public health interventions with populations affected by HIV	Canadian AIDS Society
AEC	New prevention technologies (NPTs) and vaccines satellite session at the 6th Canadian HIV/AIDS skills building symposium in Montreal	Canadian AIDS Society
AEC	Biomedical approaches to HIV prevention	Canadian AIDS Treatment Information Exchange
AEC	Support for annual conferences on HIV research	Canadian Association for HIV Research
AEC	Preparing Canadian public health community for new HIV prevention technologies: Understanding the knowledge, information needs and potential role of the public health workers of Canada and learning from the experiences in Southeast Europe	Canadian Public Health Association of Canada
AEC	African Vaccine Regulatory Forum (AVAREF) - Development of a Working Prototype for a Virtual Collaborative Platform	ED-COM Software Inc.
AEC	Biostatistics, Computational Biology, and Mathematical Modeling for the Assessment of Immune Correlates of Protection in P5 trials in RSA	Fred Hutchinson Cancer Research Center
AEC	Program delivery and conference support 2009-2013	Global HIV Vaccine Enterprise
AEC	Regulatory Capacity Building Workshop: Vaccine Clinical Trial Review from Ebola to HIV in Kigali, Rwanda March 2015	Global HIV Vaccine Enterprise
AEC	Support for AIDS Vaccine 2013 Conference and 2014 HIVR4P Conference	Global HIV Vaccine Enterprise
AEC	Support for HIVR4P 2014 Conference	Global HIV Vaccine Enterprise
AEC	Roadmap and Consultation on the Vaccine Development Process in Canada and Internationally	Harold Rode
AEC	African Vaccines Regulatory Forum (AVAREF)	Health Canada participation in AVAREF meetings
AEC	African Vaccines Regulatory Forum: Needs Assessment, Roadmap and a Mock-Up for a Cyber Platform and Virtual Community	Ian Michel
AEC	Building community engagement in vaccine efforts in Canada and Africa	Interagency Coalition on AIDS and Development

Program Area	Project Title	Recipient
AEC	New prevention technologies workshop series	Interagency Coalition on AIDS and Development
AEC	Prevention technologies in the broader spectrum of HIV prevention	Interagency Coalition on AIDS and Development
AEC	Analysis of West African Institutions for Potential Selection as a West African Centre of Excellence in Regulatory Capacity	Liliana Chocarro
AEC	Regulatory Capacity Mentorship Program: Initial Planning for a Regional Training Session	Liliana Chocarro
AEC	HIV Incidence Biomarker Development	Metabolistics Inc.
AEC	Annual HPFB International Regulatory Forum (organised 7 forums between 2009 - 2015)	Regulators in LMICs
AEC	CHVI Mentorship Program (Malawi and Nigeria)	Regulators in LMICs
AEC	Numerous training/information sessions for NRAs	Regulators in LMICs
AEC	Advisory and Management Support for the P5 (Pox-Protein Public Private Partnership)	SHI Consulting Inc.
AEC	Supporting establishment of the African AIDS Vaccine Partnership Secretariat	Uganda Virus Research Institute
AEC	Development, revision and dissemination of normative good participatory practice and ethical guidelines on the conduct of HIV prevention trials	UNAIDS
AEC	Dissemination of Good Participatory Practice Guidelines for biomedical HIV prevention trials	UNAIDS
AEC	African Vaccine Regulatory Forum (AVAREF) Program	WHO
AEC	CHVI sustainable regulatory development to accelerate access to HIV vaccines	WHO
AEC	Strengthening the ethical-legal framework for HIV vaccine trials	WHO and UNAIDS
PMTCT	Community-based interventions for the prevention of mother-to-child transmission of HIV	Elizabeth Glaser Pediatric AIDS Foundation
PMTCT	Enhancing the prevention of mother to child transmission of HIV	WHO
SCA	CHVI Research and Development Alliance Coordinating Office	International Centre for Infectious Diseases
TBSCT	Design, production and evaluation of a dendritic cell receptor-targeted multi-antigen Chimigen® HIV prophylactic/therapeutic vaccine	Akshaya Bio Inc. (Paladin/Chimigen)
TBSCT	Establishment of the efficacy of New Chimigen® HIV prophylactic/therapeutic vaccines	Akshaya Bio Inc. (Paladin/Chimigen)

Program Area	Project Title	Recipient
TBSCT	Enhancement of CD4+ T-Cell population using synthetic innate receptor agonists, as an opportunity for HIV therapy	Alberta Research Chemicals
TBSCT	Identification of new targets for the development of immunotherapies to eradicate infected immune cells from HIV-1-infected patients	Alethia Biotherapeutics Inc.
TBSCT	Identification of new targets for the development of immunotherapies to eradicate infected immune cells in HIV-1-infected patients	Alethia Biotherapeutics Inc.
TBSCT	Development of a HIV Timeline & 4th Generation Early HICDetection Lateral Flow Test for the Simultaneous Detection of Recent versus Established HIV Infection and Early HIV Detection	Artron Bioresearch Inc.
TBSCT	Point of care technology development	Boreal Genomics Inc.
TBSCT	Acute and early HIV-1 infection in child bearing women during pregnancy and post-partum period in Tanzania, Zambia and Botswana: Studies on incidence and transmitted viruses	Botswana Harvard AIDS Institute Partnership
TBSCT	TanZamBo Capacity Building for HIV Prevention Research Network	Botswana Harvard AIDS Institute Partnership
TBSCT	Establishing the prerequisites for randomized trials of HIV preventive interventions	Centre hospitalier affilié universitaire de Québec (Hôpital du St-Sacrement du CHA)
TBSCT	Development of ChemArrays™ as new small molecule therapies for HIV-TB	ChemRoutes Corp.
TBSCT	Commercial Handheld Cell Analyzer System for Global Health	Chipcare Corp.
TBSCT	Evaluation of Proprietary NICAMS as Anti-viral Agents for Treatment of HIV and HIV/HCV Co-infection	Ciclofilin (Aurinia/Isotechnika)
TBSCT	African Development of AIDS Prevention Trials Capacities, Phase 2 (ADAPT2)	CIET Trust, South Africa
TBSCT	Manufacturing and proof of concept for LE-Poly-ICLC as a therapeutic vaccine for HIV patients	Dalton Chemical Laboratories Inc.
TBSCT	Research Program of Adolescent HIV Prevention Strategies	Edendale Hospital, Department of Medicine, South Africa
TBSCT	Ultra-sensitive p24 HIV antigen assay utilizing Lab-on-a-blister pack technology	Evik Diagnostic Innovations Inc.

Program Area	Project Title	Recipient
TBSCT	Ultra-sensitive p24 HIV assay	Evik Diagnostic Innovations Inc.
TBSCT	Vaccination through dendritic cells specific DNA delivery	Feldan Inc.
TBSCT	HVTN 100 and Establishment of CyTOF and Fluidigm Assays	Fred Hutchinson Cancer Research Center
TBSCT	P5-SA Phase 1-2a Correlates Program	Fred Hutchinson Cancer Research Center
TBSCT	Development and launch of an interactive web tool to guide researchers, funders and advocates through the process of advancing the HIV vaccine candidate from preclinical studies to the first-in-human trial	Global HIV Vaccine Enterprise
TBSCT	Oral amphotericin B delivery system pre-clinical and clinical development	iCo Therapeutics Inc.
TBSCT	Exploration of an HIV-vaccine enabling technology based on the DepoVax vaccine platform	Immunovaccine Inc.
TBSCT	Creating a common platform for HIV vaccine research and HIV care and treatment programs	Institute of Human Virology, Nigeria
TBSCT	Adding Behavioral Science Capacity to Document Deterrents and Promoters of HIV Vaccine Trials in Nigeria	Institute of Human Virology, Nigeria
TBSCT	Protein therapeutics for eliminating the latent HIV infection in the HAART therapy	iProgen Biotech Inc.
TBSCT	Development of dual antigen-antibody rapid test for earlier detection of HIV	MedMira Laboratories Inc.
TBSCT	Point of care detection of amplified HIV-1 RNA	Metaara Medical Technologies Inc.
TBSCT	MetaHealthZone™ HIV urine metabolite profiling	Metabolistics Inc.
TBSCT	Rapid POC Urine-based HIV Diagnostic Kit for use in Resource Limited Areas	Norgen Biotek Corp.
TBSCT	Development of antibodies for the treatment of HIV	Plantform Corp.
TBSCT	Phase 2 - Entry inhibitor antibodies for treatment or inhibition of HIV infection	Plantform Corp.
TBSCT	Implementation of Couples' Voluntary HIV Counseling and Testing (CVCT) Services in Durban, South Africa for HIV Prevention and Intervention	Rwanda Zambia HIV Research Group
TBSCT	CHVI Landscape Study	SHI Consulting Inc. (O&M)
TBSCT	Cell separation products for HIV research: Simultaneous multimodal cell separation	Stemcell Technologies Inc.

Program Area	Project Title	Recipient
TBSCT	SAV001 - HIV vaccine development	Sumagen Canada Inc.
TBSCT	Development of an Immunology Laboratory in Cape Town, South Africa	The Hutchinson Center Research Institute of South Africa
TBSCT	RSA-Canada-US HIV Vaccine Research Partnership with Cape Town Immunology Laboratory, South Africa	The Hutchinson Center Research Institute of South Africa
TBSCT	Canada-Africa Prevention Trials (CAPT) Network: Building African capacity for HIV/AIDS prevention trials	Uganda Virus Research Institute Uganda
TBSCT	Building Capacity to Design, Implement and Evaluate Participatory Action Research Projects to Promote and Protect the Health and Safety of the Healthcare Workforce: A South African- Canadian Collaboration	University of British Columbia
TBSCT	West African Platform for HIV Intervention Research (WAPHIR)	Université Cheikh Anta DIOP Laboratoire de Bactériologie Virologie, Senegal
TBSCT	Canada-Sub-Saharan Africa (CANSSA) HIV/AIDS Network: Building capacity for prevention trial research and clinical care in Africa	University of Kwazulu Natal, South Africa
TBSCT	Determination of Mucosal Secretory Factors that Influence Susceptibility to HIV Infection among Female Sex Workers in Kenya	University of Nairobi, Kenya
TBSCT	Kenya AIDS Vaccine Initiative (KAVI): A Centre of Excellence for HIV vaccine/prevention trials in East Africa	University of Nairobi, Kenya
TBSCT	Development of a novel viral entry inhibitor for the prevention and treatment of HIV/AIDS	ViroCarb Inc.
TBSCT	Rapid HIV diagnostics	ZBX Corp.
TBSCT	The ZAP HIV 1&2 Ab RAPID TESTS - Completion of Development and Clinical Testing in Sub-Saharan Africa	ZBX Corp.

Sample of publications and conference presentations generated by CHVI projects

Publications

Liu J., Zhan W., Kim C.J., Clayton K., Zhao H., Lee E., Cao J.C., Ziegler B., Gregor A., Yue FY., Huibner S., MacParland S., Schwartz J., Song H.H., Benko E., Gyenes G., Kovacs C., Kaul R., Ostrowski M. IL-10-producing B cells are induced early in HIV-1 infection and suppress HIV-1-specific T cell responses. *PLoS One*. 2014 Feb 21; 9(2):e89236.

Vineet R Joag, Lyle R McKinnon, Segen Kidane, Mark H Yudin, Billy Nyanga, Steve Kimwaki, Stephanie Rainwater, James Arthos, Julie Overbaugh, Omu Anzala, Joshua Kimani, Rupert Kaul. Application of an HIV Entry Assay to Identify HIV Target Cells in the Female Genital Tract. CROI 2014 (2014).

Slack, C. (2014). Ancillary care in South African HIV vaccine trials: Addressing needs, drafting protocols, and engaging community. *Journal of Empirical Research on Human Research Ethics*, 9(1), 83–95.

Chakrapani, V., Newman, P. A., Singhal, N., Nelson, R., & Shunmugam, M. (2013). "If it's not working, why would they be testing it?": Mental models of HIV vaccine trials and preventive misconception among men who have sex with men in India. *BMC Public Health*, 13(1), 731.

Koen, J., Essack, Z., Slack, C., Lindegger, G., & Newman, P. A. (2013). "It looks like you just want them when things get rough": Civil society perspectives on negative trial results and stakeholder engagement in HIV prevention trials. *Developing World Bioethics*, 13(3), 138–148.

Essack, Z., Koen, J., Slack, C., Lindegger, G., & Newman, P. A. (2012). Civil society perspectives on negative biomedical HIV prevention trial results and implications for future trials. *AIDS Care*, 24(10), 1249–1254.

Chakrapani, V., Newman, P. A., Singhal, N., Jerajani, J., & Shunmugam, M. (2012). Willingness to participate in HIV vaccine trials among men who have sex with men in Chennai and Mumbai, India: A social ecological approach. *PLoS ONE*, 7(12), e51080.

Dietrich J., Coetzee J., Otjombe K., Hornschuh S., Mdanda S., Nkala B., Makongoza M., Tshabalala C., Soon C.N., Kaida A., Hogg R., Gray G.E., Miller C.L. (2014). Adolescent-friendly technologies as potential adjuncts for health promotion. *Health Education*, 114(4), p. 304-308.
Hornschuh S., Laher F., Makongoza M., Tshabalala C., Kuijper L.D.J., Dietrich J. (2014). Experiences of HIV-positive adolescents and young adults in care in Soweto, South Africa. *Journal of HIV/AIDS and Social Sciences*. 13(4), p. 420- 435.

Otjombe K., Dietrich J., Laher F., Hornschuh S., Nkala B., Chimoyi L., Kaida A., Gray GE, Miller CL. Health-seeking behaviours by gender among adolescents in Soweto, South Africa. *Global Health Action*. In press 2014.

Matthews L.T., Milford C., Kaida A., Ehrlich M.J., Ng C., Greener R., Mosery F.N., Harrison A., Psaros C., Safren S.A., Bajunirwe F., Wilson I.B., Bangsberg D.R., Smit J.A. Lost opportunities to reduce periconception HIV transmission: safer conception counseling by South African providers addresses perinatal but not sexual HIV transmission. *J Acquir Immune Defic Syndr* 2014 67 Suppl 4:S210-7.

Mann J.K., Chopera D., Omarjee S., Kuang X.T., Le A.Q., Danroth R., Anmole G., Reddy T., Radebe M., Goulder P.J.R., Walker B.D., Novitsky V., Williamson C., Brockman M.A., Brumme Z.L., Ndung'u T. Nef-mediated down-regulation of CD4 and HLA class I in HIV-1 subtype C infection: influence of immune pressure and association with disease progression. *Virology* 2014 468-470C:214-225.

Mann J.K., Barton J.P., Ferguson A.L., Omarjee S., Walker B.D., Chakraborty A., Ndung'u T. The fitness landscape of HIV-1 gag: advanced modeling approaches and validation of model predictions by in vitro testing. *PLoS Comput Biol*. 2014 Aug 7;10(8):e1003776.

Mann J.K., Byakwaga H., Kuang X.T., Le A.Q., Brumme C.J., Mwimanzi P., Omarjee S., Martin E., Lee G.Q., Baraki B., Danroth R., McCloskey R., Muzoora C., Bangsberg D.R., Hunt P.W., Goulder P.J., Walker B.D., Harrigan P.R., Martin J.N., Ndung'u T., Brockman M.A., Brumme Z.L. Ability of HIV-1 Nef to downregulate CD4 and HLA class I differs among viral subtypes. *Retrovirology* 2013 Sep 16; 10:100.

Chopera D.R., Mann J.K., Mwimanzi P., Omarjee S., Kuang X.T., Ndabambi N., Goodier S., Martin E., Naranbhai V., Karim S.A., Karim Q.A., Brumme Z.L., Ndung'u T., Williamson C., Brockman M.A.; CAPRISA 004 TRAPS Team. No evidence for selection of HIV-1 with enhanced gag-protease of Nef function among breakthrough infections in the CAPRISA 004 tenofovir microbicide trial. *PLoS One* 2013 Aug 28; 8(8):e71758.

Markle T.M., Mwimanzi P., Brockman M.A. HIV-1 Nef and T cell activation: A history of contradictions. *Future Virology* 2013 8(4).

Matthews L.T., Crankshaw T., Giddy J., Kaida A., Smit J.A., Ware NC, Bangsberg DR. Reproductive decision-making and periconception practices among HIV-positive men and women attending HIV services in Durban, South Africa. *AIDS Behavior* 2013 Feb;17(2):461-70.

Mwimanzi P., Markle T.J., Martin E., Ogata Y., Kuang X.T., Tokunaga M., Mahiti M., Pereyra F., Miura T., Walker B.D., Brumme Z.L., Brockman M.A., Ueno T. Attenuation of multiple Nef functions in HIV-1 elite controllers. *Retrovirology*. 2013 Jan 7; 10:1.

Chopera D.R., Cotton L.A., Zawaira A., Mann J.K., Ngandu N.K., Ntale R., Carlson J.M., Mlisana K., Woodman Z., de Assis Rosa D., Martin E., Miura T., Pereyra F., Walker B.D., Gray C.M., Martin D.P., Ndung'u T., Brockman M.A., Karim SA, Brumme ZL, Williamson C; CAPRISA 002 Study Team. Intersubtype differences in the effect of rare p24 gag mutation on HIV-1 replicative fitness. *Journal of Virology* 2012 Dec; 86(24):13423-33.

Mwimanzi P., Markle T., Ueno T., Brockman M.A. Human Leukocyte antigen (HLA) class I down-regulation by human immunodeficiency virus negative factor (HIV-1 Nef): what might we learn from natural sequence variants? *Viruses* 2012 4(9):1711-30.

Brumme Z.L., Chopera D.R., Brockman M.A. Modulation of HIV reservoirs by host HLA: bridging the gap between vaccine and cure. *Current Opinion in Virology* 2012 Oct; 2(5):599-605.

Mwimanzi P., Markle T.J., Ueno T., Brockman M.A. Human leukocyte antigen (HLA) class I down-regulation by human immunodeficiency virus type 1 negative factor (HIV-1 Nef): what might we learn from natural sequence variants? *Viruses*. 2012 Sep; 4(9):1711-30.

Wright J.K., Naidoo V.L., Brumme Z.L., Prince J.L., Claiborne D.T., Goulder P.J., Brockman M.A., Hunter E., Ndung'u T. Impact of HLA-B*81-associated mutations in HIV-1 Gag on viral replication capacity. *Journal of Virology* 2012 Mar; 86(6):3193-9.

Wright J.K., Brumme Z.L., Julg B., van der Stok M., Mncube Z., Gao X., Carlson J.M., Goulder P.J., Walker B.D., Brockman M.A., Ndung'u T. Lack of association between HLA class II alleles and in vitro replication capacities of recombinant viruses encoding HIV-1 subtype C Gag-protease from chronically infected individuals. *Journal of Virology* 2012 Jan; 86(2):1273-6.

Kerry V.B., Ndung'u T., Walensky R.P., Lee P.T., Kayanja V.F., Bangsberg D.R. Managing the demand for global health education. *PLoS Medicine* 2011 Nov; 8(11):e1001118.

Wright J.K., Novitsky V., Brockman M.A., Brumme Z.L., Brumme C.J., Carlson J.M., Heckerman D., Wang B., Losina E., Leshwedi M., van der Stok M., Maphumulo L., Mkhwanazi N., Chonco F., Goulder P.J., Essex M., Walker B.D., Ndung'u T. Influence of Gag-protease-mediated replication capacity on disease progression in individuals recently infected with HIV-1 subtype C. *Journal of Virology* 2011 Apr; 85(8):3996-4006.

Chopera DR, Wright JK, Brockman MA, Brumme ZL. Immune-mediated attenuation of HIV-1. *Future Virology* 2011 6(8): 917-928.

Wright J.K., Brumme Z.L., Carlson J.M., Heckerman D., Kadie C.M., Brumme C.J., Wang B., Losina E., Miura T., Chonco F., van der Stok M., Mncube Z., Bishop K., Goulder P.J., Walker B.D., Brockman M.A., Ndung'u T. Gag-protease-mediated replication capacity in HIV-1 subtype C chronic infection: associations with HLA type and clinical parameters. *Journal of Virology* 2010 Oct; 84(20):10820-31.

Ho-Foster A., Laetsang D., Masisi M., Anderson M., Tlhoiwe D., Cockcroft A., Andersson N. Gender-specific patterns of multiple concurrent sexual partnerships: a national cross sectional survey in Botswana. *AIDS Care* 2010; 22(8): 1006-1011.

Cockcroft A., Andersson N., Ho-Foster A., Marokoane N., Mziyako B. What happened to multiple sexual partnerships in Swaziland? Analysis of five linked national surveys between 2002 and 2008. *AIDS Care* 2010; 22(8): 955-960.

Cockcroft A., Lengwe Kunda J., Kgakole L., Masisi M., Laetsang D., Ho-Foster A., Marokoane N., Andersson N. Community views of inter-generational sex: findings from focus groups in Botswana, Namibia and Swaziland. *Psychology, Health and Medicine* 2010; 15 (5): 507-514.

Mitchell S., Cockcroft A., Lamothe G., Andersson N. Equity in HIV testing: evidence from a cross-sectional study in ten Southern African countries. *BMC International Health and Human Rights* 2010, 10:23.

Amuri B., Mitchell S., Cockcroft A., Andersson N. Socio-economic status and HIV and AIDS stigma in Tanzania. *AIDS Care* 2011; 23 (3): 378-382.

Andersson N., Cockcroft A. Choice-Disability and HIV Infection: A cross sectional study of HIV Status in Botswana, Namibia and Swaziland. *AIDS Behav* 2011

Andersson N., Cockcroft A. Male circumcision, attitudes to HIV prevention and HIV status: across-sectional study in Botswana, Namibia and Swaziland. *AIDS Care* 2011, 1-9.

Mitchell S., Cockcroft A., Andersson N. Population weighted raster maps can communicate findings of social audits: examples from three continents. *BMC Health Services Research* 2011,11(suppl 2): S14.

Andersson N. Proof of impact and pipeline planning: directions and challenges for social audit in the health sector. *BMC Health Services Research* 2011, 11 (Suppl 2); S16.

Andersson N., Paredes-Solis S., Milne D., Omer K., Marokoane N. Laetsang D., Cockcroft A. Prevalence and risk factors for forced or coerced sex among school-going youth: national cross-sectional studies in ten southern African countries in 2003 and 2007. *BMJ Open* 2012; 2:e000754.

Andersson N., Cockcroft A, Thabane L., Marokoane N., Laetsang D., Masisi M. HIV prevention in favour of the choice disabled: protocol of a cluster randomised controlled trial to reduce HIV risk in Botswana, Namibia and Swaziland. *Trials* 2013, 14: 274.

Cameron M., Cockcroft A., Wanjiru-Waichigo G., Marokoane N., Laetsang D., Andersson N. From knowledge to action: participant stories of a population health intervention to reduce gender violence and HIV in three southern African countries. *AIDS Care* 2014.

Cockcroft A., Masisi M., Thabane L., Andersson N. Building capacities of elected national representatives to interpret and to use evidence for health-related policy decisions: a case study from Botswana. *Journal of Public Health Policy* 2014 doi: 10.1057/jphp.2014.30.

Cockcroft A., Masisi M., Thabane L., Andersson N. Legislators learning to interpret evidence for policy. *Science* 2014, 345: 1244-1245.

Gray, C.M., Loubser S., Kriel C., Mercer M., Brookes, H.J. Immunology for Clinicians: A Trojan Horse Approach. *Science*, 2010; 239:1613-14.

Chen H., Xiang Z.Q., Li Y., Kurupati R.K., Jia B., Bian A., Zhou D.M., Hutnick N., Yuan S., Gray C., Serwanga J., Auma B., Kaleebu P., Zhou X., Betts M.R., Ertl H.C.J. Adenovirus-Based Vaccines: Comparison of Vectors from Three Species of Adenoviridae', *Journal of Virology*, Oct. 2010, p. 10522–10532 vol. 84, no. 20.

Hong H.A., Loubser A.S., de Assis Rosa D., Naranbhai V., Carr W., Paximadis M., Lewis D.A., Tiemessen C.T., Gray C.M. KIR genotyping and HLA KIR-ligand identification by real-time PCR. *Tissue Antigens* 2011; 78:185-194.

Mills E.J., Bakanda C., Birungi J., Chan K., Ford N., Cooper C., Nachega J.B., Dybul M., Hogg R. Life expectancy of persons receiving combination antiretroviral therapy in low-income countries: A cohort analysis from Uganda. *Annals of Internal Medicine*, 2011; 155(4):209-216. 2011 July 19.

Muldoon A.K., Shannon K., Khanakwa S., Ngolobe M., Birungi J., Zhang W., Shen A., King R., Mwesigwa R., Moore D.M. Gendered HIV risk patterns among polygynous sero-discordant couples in Uganda. *Culture, Health & Sexuality*. 2011 September; 13(8): 933-944.

Dietrich J., Khunwane M., Laher .F, de Bruyn G., Sikkema K.J., Gray G. "Group sex" parties and other risk patterns: A qualitative study about the perceptions of sexual behaviors and attitudes of adolescents in Soweto, South Africa, *Vulnerable Child Youth Stud*, 2011 September 1; 6(3):244-254.

Katusiime C., Kambugu A. A rare entity of primary extranodal diffuse large B cell lymphoma of the lower limb calf in an HIV-infected young adult on highly active antiretroviral therapy. *BMJ Case Rep*. 2012 Mar 27;2012.

Castelnuovo B., Kiragga A., Afayo V., Ncube M., Orama R., Magero S., Okwi P., Manabe Y.C., Kambugu A. Implementation of provider-based electronic medical records and improvement of the quality of data in a large HIV program in Sub-Saharan Africa, *PLoS One*, 2012;7(12).

Lebina L., Laher F., Mukudu H., Essien T., Otworld K., Gray C., Martinson N. Does routine prophylactic oral flucloxacillin reduce the incidence of post-circumcision infectious? *Am J Infect Control*, 2013 Oct; 41(10):897-900 Epub 2013 Mar 13.

Miller C.L., Dietrich J., Nkala B., Palmer, A., Hogg, R.S., Tshabalala C., Makongoza M., Kanter S., Kaida A., Gray G. Implications for HIV Prevention: Lesbian, Gay and Bisexual Adolescents in Urban South Africa are at Increased Risk of Living with HIV. *The Pediatric Infectious Disease Journal*, 2013 June; 32(6):e263-4.

Mhlomo S., Dietrich J., Otworld K.N., Robertson G., Coates T.J., Gray G. Factors Associated with Not Testing For HIV and Consistent Condom Use among Men in Soweto, South Africa. Sued O, editor. *PLoS ONE*, 2013 May 16;8(5):e62637.

Gray C.M., Hong H.A., Young K., Lewis D.A., Fallows D., Manca C., et al. Plasma interferon-gamma-inducible protein 10 can be used to predict viral load in HIV-1-infected individuals. *J Acquir Immune Defic Syndr*. 2013 Jul 1;63(3):e115–116.

Kiwanuka N., Ssetaala A., Mpendo J., Wambuzi M., Nanvubya A., Sigirenda S., Nalutaaya A., Kato P., Nielsen L., Kaleebu P., Nalusiba J., Sewankambo N.K. High HIV-1 prevalence, risk behaviours, and willingness to participate in HIV vaccine trials in fishing communities on Lake Victoria, Uganda . *J Int AIDS Soc*. 2013 Jul 22;16(1).

Balfour L., Farrar T., McGilvray M., Wilson D., Tasca G.A., Spaans J. N., Mathews C., Maziya L., Khanyile S., Dalgleish L., Camero, D.W. "HIV Prevention in Action on the Football Field: The Whizzkids United Program in South Africa." *AIDS Behavior*, 2013 Jul; 17 (6):2045-52. doi:10.1007/s10461-013-0448-6.

Katusiime C., Schlech W.F. 3rd, Parkes-Ratanshi R., Sempa J., Kambugu A. Characteristics of Sexually Transmitted Infections among High-Risk HIV-Positive Patients Attending an Urban Clinic in Uganda. *J Int Assoc Provid AIDS Care*, 2013 Oct 21. [Epub ahead of print].

Young K.M., Gray C.M., Bekker L.G. Is Obesity a Risk Factor for Vaccine Non-Responsiveness? *PLoS One*, 2013 Dec 11.

Kiwanuka J., Mulogo E., Haberer J.E. Caregiver perceptions and Motivation for Disclosing or Concealing the Diagnosis of HIV Infection to Children Receiving HIV Care in Mbarara, Uganda: A Qualitative Study. PLoS ONE. 2014;9(3): e93276.

Riou C., Burgers W.A., Mlisana K., Koup R.A., Roederer M., Karim S.S.A., Williamson C., Gray C.M. Differential Impact of Magnitude, Polyfunctional Capacity, and Specificity of HIV-Specific CD8+ T Cell Responses on HIV Set Point. J Virol, 2014 Feb; 88(3):1819-1824.

Kiwanuka N., Ssetaala .A, Nalutaaya A., Mpendo J., Wambuzi M., Nanvubya A., Sigirenda S., Kitandwe P.K., Nielsen L.E., Balyegisawa A., Kaleebu P., Nalusiba J., Sewankambo N.K. High incidence of HIV-1 infection in a general population of fishing communities around Lake Victoria, Uganda. PLoS One. 2014 May 27;9(5).

Kidzeru E.B., Hesselning A.C., Passmore J.A., Myer L., Gamielien H., Tchakoute C.T., Gray C.M., Sodora D.L., Jaspán H.B. In-utero exposure to maternal HIV infection alters T-cell immune responses to vaccination in HIV-infected infants. AIDS, 2014 June 19;28(10):1421-30.

Muyanja E., Ssemaganda A., Ngauv P., Cubas R., Perrin H., Srinivasan D., Canderan G., Lawson B., Kopycinski J., Graham A.S., Rowe D.K., Smith M.J., Isern S., Michael S., Silvestri G., Vanderford T.H., Castro E., Pantaleo G., Singer J, Gillmour J., Kiwanuka N., Nanvubya A., Schmidt C., Birungi J., Cox J., Haddad EK, Kaleebu P., Fast P., Sekaly R.P., Trautmann L. Immune activation alters cellular and humoral responses to yellow fever 17D vaccine. J Clin Invest, 2014 Jul 1;124(7):3147-58.

Thurston I.B., Dietrich J., Bogart L.M., Otjombe K.N., Sikkema K.J., Nkala B., Gray G.E. Correlates of Sexual Risk Among Sexual Minority and Heterosexual South African Youths. American Journal of Public Health. 2014 July; 104(7)1265-1269.

Katusiime C., Ocama P., Kambugu A. Basis of selection of first and second line highly active antiretroviral therapy for HIV/AIDS on genetic barrier to resistance: a literature review. Afr Health Sci, 2014 Sep;14(3):679-81.

Bazira J., Mwambi B., Muyindike W. Feasibility for Same Day Tuberculosis Diagnosis Using the Smear Microscopy Approach in Rural South Western Uganda, This is an Open Access article distributed under the terms of the Creative Commons Attribution License. 2014. (<http://creativecommons.org/licenses/by/3.0>).

Loubser S., Paximadis M., Gentle N., Puren A., Gray C.M., Tiemessen C.T. Frequencies of immune hypersensitivity reaction-associated HLA class I alleles in healthy South African Indian and mixed ancestry populations determined by a novel real-time PCR assay. Tissue Antigens, 2014 Oct;84(4):389-97.

Toukam Tchakoute C., Hesselning A.C. Kidzeru E.B., Gamielien H., Passmore J.S., Jones C.E., Gray C.M., Sodora, D.L., Jaspán, H.B. Delaying BCG vaccination until 8 weeks of age results in robust BCG-specific T cell responses in HIV-exposed infants. Journal of Infectious Diseases 2014.

Okpokoro E., Osawe S., Datong P., Yakubu A., Ukpong M., Orhii P., Idoko J., Dakum P., Garber G., Abimiku A. Preparing for HIV Vaccine Trials in Nigeria: Building the Capacity of the Community and National Coordinating, Regulatory and Ethical Bodies. Journal of AIDS and Clinical Research 2013, 4(12).

Presentations

Newman, P. A., Rubincam, C., Chuang, D., Lindegger, G., Chakrapani, V., Rongprakhon, S., & Tepjan, S. (May, 2014). Global challenges to achieving meaningful community engagement in biomedical HIV prevention research: a multiple embedded case study in Canada, India, South Africa and Thailand. Oral presentation at the 2014 Annual Conference, Canadian Association for HIV Research, St. John's, Newfoundland, Canada.

Newman, P. A., Lindegger, G., Chakrapani, V., Rongprakhon S., Slack, C., Shunmugam, M., Tepjan, S., Essack, Z., Koen, J., & Logie, C. (November, 2013). Community engagement in biomedical HIV prevention research: a multiple embedded case study in Canada, India, South Africa and Thailand. Oral presentation at the Ontario HIV Treatment Network Annual Research Conference, Toronto, ON, Canada.

Newman, P. A., Chakrapani, V., Shunmugam, M., Singhal, N., & Jerajani, J. (2013, November). Mental models of HIV vaccines and clinical trials among high risk MSM in India. Electronic poster presented at the 11th International Congress on AIDS in Asia and the Pacific, Bangkok, Thailand.

Newman, P. A., Chakrapani, V., Jerajani, J., Shanmugam, M., & Singhal, N. (2012, September). A social ecological model of willingness to participate in HIV vaccine trials among men who have sex with men in Chennai and Mumbai, India. Poster presented at the AIDS Vaccine Conference 2012, Boston, Massachusetts, U.S.

Newman, P. A., Lindegger, G., Chakrapani, V., Tepjan, S., Logie, C., Essack, Z., Koen, J., Slack, C., Rongprakhon, S., Shunmugam, M., & Yim, S. (2012, January). Social and ethical challenges of community engagement in international HIV prevention trials: An embedded, exploratory multiple case study in India, South Africa, Thailand and Canada. Oral presentation at the Society for Social Work and Research 16th Annual Conference, Washington, D.C., U.S.

Rautenbach, C., Lindegger, G., Slack, C., & Newman P. (2014, October). Models of HIV vaccine trial-related concepts: the dilemma of trust for the informed consent process. Oral presentation accepted for HIVR4P Conference, Cape Town, South Africa.

Slack, C. (2014, April). Ethical challenges in clinical trials of HIV vaccines. Webinar presentation, Canadian HIV Vaccine Initiative (CHVI) Research and Development Alliance Coordinating Office, Winnipeg, MB, Canada.

Lindegger, G., Rautenbach, C., Quayle, M., Singh, S., & Welsh, S. (2013, September). Enhancing informed consent for HIV vaccine trials in South Africa. Paper presented at the 3rd Annual Workshop in Applied Ethics, Northeastern University, Boston, MA, U.S.

Chakrapani, V., Newman, P. A., Mengle, S., Shinde, D., Dakshinamoorthy, D. K., Nelson, R., & Shunmugam, M. (2014, July). Mental models of placebo and vaccine-induced seropositivity among MSM in India: implications for interventions to counter preventive misconception among prospective HIV vaccine trial participants. Poster exhibition to be presented at the 20th International AIDS Conference, Melbourne, Australia.

Chakrapani, V., Newman, P. A., Singhal, N., Jerajani, J., & Shunmugam, M. (2013, November). Mental models of HIV vaccines and clinical trials among high risk men who have sex with men

in India. E-poster presentation at the 11th International Congress on AIDS in Asia and the Pacific, Bangkok, Thailand.

Mark Brockman, “Developing a multidisciplinary strategy to examine HIV risk and clinical outcomes in South African adolescents” – Afri-Can Synchronicity Forum – Entebbe, Uganda. January 18, 2013.

Mark Brockman, “Developing a multi-disciplinary approach to assess HIV risk and enhance prevention activities in South African youth” – Canadian Association for HIV Research (CAHR) Conference – Vancouver, British Columbia. April 2013.

Mark Brockman, “Building sustainable research collaborations in Africa” – HIV Vaccine Trials Network, Young Investigator Workshop – Cape Town, South Africa. October 21, 2013.

Janan Dietrich, “Youth-centred approaches to studying HIV risk in adolescents and young adults living in a priority setting” – HIV Research for Prevention (HIV R4P) – Cape Town, South Africa. October 28, 2014.

Janan Dietrich - Engaging adolescents in HIV Vaccine research trials; HIV R4P Conference, South Africa; October, 2014.

Liautaud, L.M. O'Hara, M. Engelbrecht, A. Rau, E.A. Bryce, L. Nophale, J. Spiegel, and A. Yassi. Building Capacity to Design, Implement and Evaluate Workplace-based HIV and Tuberculosis programmes for the Healthcare Workforce: Evaluating the first two phases of a South African- Canadian Workplace-based Training Program. Canadian Association for Research on Health (CARWH) Conference. 1-2 June, 2012. Vancouver, BC.

Liautaud, L.M. O'Hara, M. Engelbrecht, A. Rau, E.A. Bryce, J. Spiegel, L. Nophale, W. Kruger, K. Uebel, D. Roscoe, M. Zungu, D. Steyn, and A. Yassi. Building Capacity to Design, Implement and Evaluate Workplace-based HIV and Tuberculosis programmes for the Healthcare Workforce: Evaluating the first two phases of a South African-Canadian Collaboration. Global Health Conference. 13-15 November, 2011. Montreal, QC.

Yassi A, O'Hara L, Nophale L, Zungu M, Rees D, Bryce E, Spiegel J. The Occupational Health and Safety Information System (OHAIS): A state-of-the-art information system designed to promote and protect the health of the healthcare workforce in the era of emerging infectious diseases. Infection Prevention Control Africa Network Conference. 31 October- 3 November, 2011. Windhoek, Namibia.

Van Rensburg A.J., Building Capacity to design, implement and evaluate participatory action research projects to decrease the burden of HIV and promote and protect the health and safety of the healthcare workforce; a South African-Canadian collaboration. Afri-Can forum. January 17-19, 2013. Entebbe, Uganda.

Andersson N., Masisi M., Thabane L., Cockcroft A. Building capacities of elected national representatives to interpret and to use evidence for health-related policy decisions: a case study from Botswana. AfriCan Forum, Entebbe, Uganda, 17-19 January 2013.

Laetsang D., Cockcroft A., Wanjiru Waichigo G., Marokoane N., Andersson N. “We want to have control of our lives”: Stories of young women participating in an HIV prevention intervention. AfriCan Forum, Entebbe, Uganda, 17-19 January 2013.

Cockcroft A., Laetsang D., Marokoane N., Andersson N. Binge drinking and HIV status among youth aged 15-29 years in Botswana, Namibia and Swaziland. 17th International Conference on AIDS and STIs in Africa (ICASA), Cape Town, South Africa. 7-11 December 2013.

Laetsang D., Cockcroft A., Marokoane N., Andersson N. Concerting services to strengthen community HIV prevention efforts. 17th International Conference on AIDS and STIs in Africa (ICASA), Cape Town, South Africa. 7-11 December 2013.

Birungi J., Alinga S., Anya S., Ngolobe M., Abdullah N., Shannon K., Muldoon K., King R., Kaleebu P., Mills E., Moore D.M. "Undiagnosed treatment failure among HIV-positive individuals receiving antiretroviral therapy (ART) at a rural clinic in Uganda: implications for program success. 6th IAS Conference on Pathogenesis and Treatment: Abstract no. MOPE 435. 2012.

Birungi J., Lyavala J., Muldoon K. Building research capacity of teams in developing countries through North-South Collaboration-Canadian-African Prevention Trials Partnership - TASO Uganda experience. 6th IAS Conference on Pathogenesis and Treatment: Abstract no. CDD156. 2012.

Akolo M., Kimani J., Musyimi A., Gelmon L. A phone call and involvement of people infected /affected with HIV/AIDS can save a life. 6th IAS Conference on Pathogenesis and Treatment: Abstract no.MOPE414. 2012.

Ngolobe M.H., Wendy W., Muldoon K., Wang H., Nyonyintono M., Alinga S., King R., Birungi J., Kat, S., Moore D. Effect of couples counseling on HIV risk behaviour among HIV sero-discordant couples in Uganda. : 6th IAS Conference on HIV Pathogenesis and Treatment: Abstract no.MOPE331. 2012.

Kabami, J., Bajunirwe, F. "Incidence and predictors of pregnancy among HIV positive women attending the Immune Suppression Syndrome Clinic in Mbarara Hospital between 2006-2010" Poster presented at CFAR Sub Saharan Conference, Kampala, May 2011.

Coetzee, J. Sexual and reproductive health services for female street and hotel based sex workers operating from Johannesburg City Deep, South Africa. International Psychology Conference. Cape Town, South Africa, 22-27 July 2012.

Schlech W., Kambugu A., Beyeza-Kashesya J., Parkes-Ratanshi, R. A study of the potential benefit of integration of quality sexual and reproductive health (SRH) care with HIV care using a "stepped wedge" design. Afri-Can Forum, Laico Lake Victoria Hotel, Entebbe, Uganda, January 17-19, 2013.

Muyindike, W. et al., Family Planning use among HIV positive females enrolling into HIV care at Mbarara Hospital. Presented at AFRI-CAN conference in Entebbe, Uganda. January 2013.

Katusiime C., Kambugu A., Schlech W., Parkes-Ratanshi R. Sexual and reproductive health in HIV positive young women in an urban clinic in Uganda: causes of vaginal discharge: The Afri-Can Synchronicity Forum, 17th-19th January 2013 Entebbe, Uganda.

Katusiime C., Kambugu A., Schlech W., Parkes-Ratanshi R. Sexual and reproductive health in young people with HIV in an urban clinic in Uganda: the important role of syphilis: The Afri-Can Synchronicity Forum, 17th-19th January 2013 Entebbe, Uganda.

Mpiima D., Birungi J., Luzze C., Kanters S., Makabayi R. "Community anti retroviral therapy (ART) delivery models for high patient's retention and sustaining good adherence: the AIDS Support Organisation (TASO) operational research findings, CDC/PEPFAR funded project in Uganda. 7th IAS Malaysia. 30-03 July 2013, Kuala Lumpur, Malaysia.

Parkes-Ratanshi R., Kakaire T., Sempa J., Musiime B., Kuznik A., Castelnuovo B., Schlech W. Cost of patient care at different stages of treatment within the public health model of HIV care: analysis from an urban HIV centre in Uganda, ISOPOR 2014, Montreal QC, Feb 2014.

Muyindike W. et al., Alcohol Consumption among persons with HIV not yet on ART in Mbarara. Presented at Kettil Bruun International Alcohol research conference in Uganda, Kampala June 2013.

Akolo M. Early disclosure of HIV results to children influence future ART/care services. Poster presentation. CAHR 2014. 1-4 May 2014, St.John's, NFLD, Canada.

Akolo M. Regular sex partners to sex workers a "forgotten population" with HIV/STI burden. Oral presentation. AIDS 2014. 20-25 July 2014, Melbourne, Australia.

Akolo M. HIV negative partners in discordant relationships are a forgotten lot: room for prep. Poster presentation HIVR4P 2014. 28-31 October 2014, Cape Town, South Africa.

Ssali L., Obare F., Birungi J., Egessa A., Okoboi S., Wangisi J., Lyavala J.O, Bakanda C., Kalibala S. Retention in care among HIV infected adolescents on antiretroviral therapy in Uganda: a retrospective review. 20th International AIDS Conference: Poster no. THPE063. July 20-25 2014, Melbourne, Australia.

Okoboi S., Chan K., Nanfuka M., Wangisi J., Nyonyitono M., Munderi P., Kaleebu P., Nabiryo C., Birungi J., Moore D. Lack of effectiveness of adherence counseling on reversing virologic failure among long-term ART patients in rural Uganda. 20th International AIDS Conference: Poster no.WEPE326. July 20-25 2014, Melbourne, Australia.

Birungi J., Wang H., Ngolobe M.H., Muldoon K., Khanakwa S., Kin, R., Kaleebu P., Shannon K., Ochai R., Montaner J., Mills E., Laurencio L., Abdallar N., Moore D. Very low prevalence of virologic failure among HIV positive patients receiving first-line antiretroviral therapy for more than five years without routine viral load testing. Poster no. WEPE087. July 20-25 2014, Melbourne, Australia.

Muyindike W. et al., Changes in self reported Contraceptive Use among women in HIV care, Mbarara Hospital. Accepted for Presentation on 10th December 2014 at 10th Annual Scientific Conference organized by Mbarara University of Science and Technology, Mbarara.

Birungi J., Wang H., Ngolobe M.H., Muldoon K., Khanakwa S., King R., Kaleebu P., Shanno, K., Ochai R., Montaner J., Mills E., Laurencio L., Abdallar N., Moore D. Lack of effectiveness of antiretroviral therapy (ART) as an HIV prevention tool for serodiscordant couples in a rural ART program without viral load monitoring in Uganda. 19th International AIDS Conference: Abstract no.TUAC0103. Washington, USA.

Parkes-Ratanshi R., Kakaire T., Mayanja F., Tumikye A., Mitchell B., Schlech W. Characteristics and outcomes of patients seeking care at a new “co-pay” convenience clinic established to explore sustainable funding models in Uganda, CROI, Seattle WA, 23-26 Feb 2015.

Dietrich J., Martison N., Wilson D., McGilvray M., Govender R. A qualitative exploration of medical male circumcision among young men from Whizzkids United, Edendale, Pietermaritzburg. HIVR4P, 28-31 October 2014. P29.01.

Ambia J., Agot K. Barriers and facilitators to adherence in user dependent trials. Afri-Can Forum 17-19 January, 2013, Entebbe, Uganda.

Mutua G., Nyange J., Farah B., Oyugi J., Wakasiaka S., Olenja J., Omosa G., Khaniri M., Jaoko W., Anzala O. Building Regional Clinical trial Capacity through GCP Training: Progress Prospects and Challenges. Afri-Can Forum 17-19 January, 2013, Entebbe, Uganda.

Oyugi J., Farah B., Anzala O. Enhancing KAVI’s laboratory capacity to perform state-of-the-art immune monitoring of HIV vaccine trials. Afri-Can Forum 17-19 January, 2013, Entebbe, Uganda.

Obila O.J.I., Mureithi M.W., Oyugi J.O., Anzala A.O., Rupert Kaul. Effects of hormonal contraception on HIV – 1 transmission through the female genital tract among women in Nairobi. Afri-Can Forum 17-19 January, 2013, Entebbe, Uganda.