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CIHR IRSC

SHOW ME THE EVIDENCE

CIHR-SUPPORTED RESEARCH ON MANAGEMENT AND TREATMENT OF CHRONIC DISEASES

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All people profiled in this newsletter have agreed to their appearance in it and approved their individual stories.

WELCOME TO THE SECOND ISSUE OF *SHOW ME THE EVIDENCE*

In this issue, we report the progress of several researchers who are working towards improving the management and treatment of chronic illness and mental health. In Canada and around the world, the research is making a difference.

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's health research investment agency. CIHR provides support for investigator-driven health research, but also sets strategic investment priorities to respond to key health and health system challenges. CIHR has established five research priorities for the organization and health research across the country:

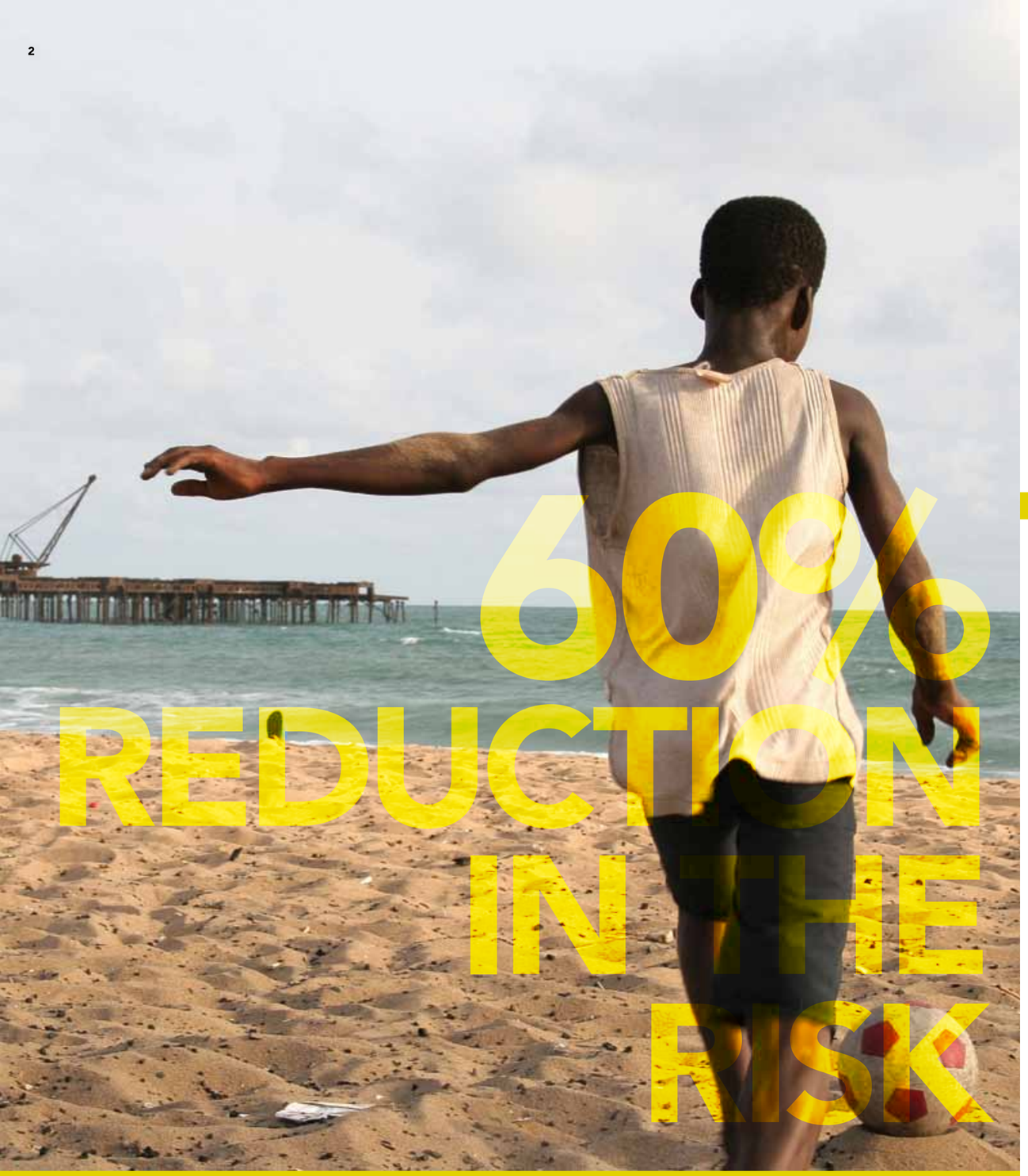
- Enhance patient-oriented care and improve clinical results through scientific and technological innovations.
- Support a high-quality, accessible and sustainable health care system.
- Reduce health inequities of Aboriginal peoples and other vulnerable populations.
- Prepare for and respond to existing and emerging global threats to health.
- Promote health and reduce the burden of chronic disease and mental illness.

Show me the Evidence showcases some of the evidence being produced by Canadian health researchers in response to the challenges listed above. In this issue, we report the progress of several researchers who are working towards improving the management and treatment of chronic illness and mental health. In Canada and around the world, the research is making a difference. This issue highlights just a few examples:

- A clinical trial demonstrating the effectiveness of male circumcision for preventing the transmission of HIV/AIDS that has led to hundreds of thousands of procedures in a number of African countries.
- The role of research evidence in helping strengthen tobacco-control measures worldwide.
- A new program to help families with young children facing mental health challenges.

These CIHR-funded research projects have delivered:

- **COST-EFFECTIVE INFECTION PREVENTION**
- **A NEW WEAPON IN THE FIGHT AGAINST HIV/AIDS**
- **REDUCED WAIT TIMES**
- **CRUCIAL EVIDENCE FOR TOBACCO CONTROL**



EVIDENCE IN ACTION: COST-EFFECTIVE INFECTION PREVENTION

ACCORDING TO AN EXPERT PANEL CONVENED BY UNAIDS, THE WORLD HEALTH ORGANIZATION AND THE SOUTH AFRICAN CENTRE FOR EPIDEMIOLOGICAL MODELLING AND ANALYSIS, ONE NEW HIV INFECTION WOULD BE AVERTED FOR EVERY 5 TO 15 MEN CIRCUMCISED IN SETTINGS WHERE HIV PREVALENCE EXCEEDS 15% OF THE GENERAL POPULATION. GIVEN THAT ADULT MALE CIRCUMCISIONS COST BETWEEN $30 AND $60, THE ESTIMATED COST "PER INFECTION AVERTED" IS BETWEEN $150 AND $900 OVER 10 YEARS. IN CONTRAST, THE COST OF LOW-PRICED TREATMENT PER HIV INFECTION TYPICALLY EXCEEDS $7,000 IF FIRST-LINE ANTIRETROVIRAL TREATMENT ONLY IS PROVIDED. SHOULD THAT TREATMENT FAIL AND FOLLOW-UP THERAPY BE REQUIRED, THE ESTIMATED COST EXCEEDS $14,000 PER INFECTION OVER THE SAME 10-YEAR TIME SPAN.[1]

CLINICAL TRIAL SPARKS MALE CIRCUMCISION PROGRAMS TO PREVENT HIV INFECTION

UNAIDS and WHO moved quickly after results published

AT A GLANCE

WHO: DR. STEPHEN MOSES, UNIVERSITY OF MANITOBA.
ISSUE: COUNTRIES IN SOUTHERN AND EASTERN AFRICA HAVE THE HIGHEST HIV INFECTION RATES IN THE WORLD. SINCE 1986, OBSERVATIONAL STUDIES IN AFRICA HAVE LINKED MALE CIRCUMCISION WITH LOWER RATES OF HIV INFECTION.
PROJECT: WORKING IN KENYA, DR. MOSES CO-LED ONE OF THE FIRST MAJOR CLINICAL TRIALS TO PROVE THE EFFICACY OF MALE CIRCUMCISION AS AN INTERVENTION TO PREVENT HIV INFECTION. CIHR PROVIDED FUNDING FOR THIS TRIAL.
RESEARCH EVIDENCE: THE RESULTS OF THE STUDY, PUBLISHED IN *THE LANCET* IN FEBRUARY 2007, SHOWED A 60% REDUCTION IN THE RISK OF ACQUIRING AN HIV INFECTION AMONG THE CIRCUMCISED MEN.
EVIDENCE IN ACTION: THE RESEARCH FINDINGS LED UNAIDS AND THE WORLD HEALTH ORGANIZATION TO ADVOCATE FOR MALE CIRCUMCISION PROGRAMS IN 14 AFRICAN COUNTRIES. SINCE THE STUDY RESULTS WERE PUBLISHED, 600,000 MALES HAVE HAD THE PROCEDURE. ESTIMATES ARE THAT ONE NEW HIV INFECTION WOULD BE AVERTED FOR EVERY 5 TO 15 MEN CIRCUMCISED IN SETTINGS WHERE HIV PREVALENCE EXCEEDS 15% OF THE GENERAL POPULATION. THE ESTIMATED COST "PER INFECTION AVERTED" IS BETWEEN $150 AND $900 OVER 10 YEARS.
SOURCES: MALE CIRCUMCISION FOR HIV PREVENTION IN YOUNG MEN IN KISUMU, KENYA: A RANDOMISED CONTROLLED TRIAL. *THE LANCET* 369 (FEB. 24, 2007): 643–656.

In early 2011, more than 10,000 boys and men in Tanzania were circumcised in just six weeks, the result of a highly organized public health campaign. The government there is planning 2.8 million circumcisions over five years.[2] Kenya has provided voluntary male circumcision to 330,000 since 2007.[3] In all, more than 600,000 circumcisions[4] have been performed in the countries of southern and eastern Africa.

Usually it takes years – sometimes decades – for research results to be translated into clinical practice. This particular intervention, shown to be a highly effective way of preventing the transmission of HIV, appears to be an exception. How and why was this the case? The story involves a long-term commitment from Dr. Stephen Moses, early support from the Canadian Institutes of Health Research (CIHR), decisive action from the World Health Organization (WHO) and UNAIDS, and, along the way, a tribute from *Time* magazine, which rated the work as the number one medical breakthrough of the year in 2007.

A University of Manitoba medical researcher who has spent much of the last 25 years in Africa, Dr. Moses was involved in some of the earliest studies to observe that African populations with higher levels of male circumcision had significantly lower levels of HIV prevalence.[5] "It was quite exciting because at the time there weren't a lot of options for HIV prevention other than condoms," he says.

In 2001, he co-authored a review of what had become a growing body of studies that suggested a direct link existed between male circumcision and lower HIV prevalence.[6] The link is based on the belief that because the foreskin's inner mucosa is rich in HIV target cells, removing it greatly reduces the risk of transmission of the virus from women to men.[7] However, Dr. Moses' review concluded that clinical evidence was needed before communities and international health organizations could be encouraged to promote the practice.

"It's a surgical procedure," says Dr. Moses. "It's permanent; there are complications that occur from time to time. The prevailing opinion became: unless there was evidence from clinical trials, it wasn't going to be advocated."

He worried that conducting a large-scale clinical trial might be impossible; however, research suggested it could work. "My colleague, Robert Bailey, from the University of Illinois at Chicago, with colleagues from Kenya, conducted a study where they asked young men in the Nyanza province of Kenya, where most men traditionally are not circumcised, if they would be willing to participate in such a trial, and the vast majority said that they would. That was a bit of a surprise."

Dr. Moses and his colleagues wrote a CIHR grant application to support a randomized controlled trial that was approved and funded in early 2001. Later that year, the National Institutes of Health in the United States approved another grant application for the project. By early 2002, they had begun recruiting 18- to 24-year-old men from Kenya's Luo ethnic group. In late 2006, when early results indicated the participants undergoing circumcision were at a far lower risk of contracting HIV, the research team decided it would be unethical to deny the control group the procedure. "We didn't stop the study," says Dr. Moses, "but we stopped the randomization and offered to everybody in the control group the opportunity to be circumcised."

CIHR WAS FIRST TO FUND THE RANDOMIZED CONTROLLED TRIAL

"It was really important that CIHR got things going. Of the three trials that eventually were done in Africa – the other ones were in Uganda and South Africa – our Kenyan one was the first one to be supported, and CIHR was the first funder," says Dr. Moses.

EVIDENCE IN ACTION: A NEW WEAPON IN THE FIGHT AGAINST HIV/AIDS

SINCE THE INTERNATIONAL INITIATIVE BEGAN, KENYA ALONE HAS PROVIDED 330,000 MEDICAL MALE CIRCUMCISIONS SINCE 2007, FOLLOWED BY SOUTH AFRICA AT 141,000, ZAMBIA AT 81,000, TANZANIA AT 42,000, AND ZIMBABWE AT 21,000, ACCORDING TO UNAIDS.

WHO AND UNAIDS ACT QUICKLY ON FINDINGS

The results of the study, published in *The Lancet* in February 2007, showed a 60% reduction in the risk of acquiring an HIV infection among the circumcised men.[8] A comparable randomized controlled trial in Rakai, Uganda found similarly striking results, and a study in Orange Farm, South Africa had also produced promising findings in 2005. *Time* magazine hailed the news as the top medical breakthrough of 2007.

Based on the evidence, WHO and UNAIDS quickly endorsed the procedure as "a significant step forward in HIV prevention"[9] and identified 14 countries in southern and eastern Africa for scale-up of male circumcision programs.[10]

"The studies by Dr. Moses and his colleagues were really critical in convincing any skeptics that circumcision is an effective intervention," says Dr. Mores Loolpapit, an Associate Director at Family Health International (FHI 360), and manager of the Male Circumcision Consortium in Kenya. "The research work offered the basis for initiating scale-up of male circumcision for HIV prevention in eastern and southern Africa."

The impact has been significant. Along with major campaigns in Kenya, Swaziland, which has the highest HIV prevalence rate in the world at 26% of adults aged 15 to 49 years, has launched a plan to provide voluntary medical male circumcision to 152,800 men. Since the international initiative began, over 141,000 medical male circumcisions have been performed in South Africa, 81,000 in Zambia, 42,000 in Tanzania, and 21,000 in Zimbabwe, according to UNAIDS.[11]

"Rapid scale-up will not only reduce the risk of HIV infection in men more quickly but women will benefit faster too as the chance of meeting a sexual partner who has HIV infection will be less," says Dr. Catherine Hankins, Chief Scientific Adviser to UNAIDS.

For Dr. Moses, who continues to work in Kenya but is now primarily involved in HIV prevention programs and research in India, the translation of the research work into policies and actions has been gratifying. "Definitely. There is a lot more to do but I think that male circumcision services are scaling up quickly, and programs are picking up steam. I'm pretty optimistic."

1 Male Circumcision for HIV Prevention in High HIV Prevalence Settings: What Can Mathematical Modelling Contribute to Informed Decision Making? *PLoS Medicine* 6, 9 (2009): e1000109. doi:10.1371/journal.pmed.1000109.

2 UN welcomes data showing male circumcision can help prevent HIV in men, UN News Centre, July 21, 2011, www.un.org/apps/news/story.asp?NewsID=39099&Cr=HIV&Cr1=AIDS.

3 Email correspondence with Dr. Mores Loolpapit, manager of the Male Circumcision Consortium in Kenya.

4 Total number based on figures supplied by UNAIDS and the Male Circumcision Consortium of Kenya.

5 Geographical patterns of male circumcision practices in Africa: association with HIV seroprevalence. *International Journal of Epidemiology* 19, 3 (1990): 693–697.

6 Male circumcision and HIV prevention: current knowledge and future research directions, *The Lancet Infectious Diseases* 1 (November 2001): 223–231.

7 The Future Direction of Male Circumcision in HIV Prevention, Conference Proceedings, Nov. 29–30, 2007, Los Angeles, U.S. Published July 2008.

8 Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *The Lancet* 369 (Feb. 24, 2007): 643–656. Excerpt from paper: *"The as-treated analysis – which adjusted for individuals who did not adhere to the randomisation assignment – estimated the RR [risk ratio] of circumcision to be 0.45 (95% CI 0.27–0.76). Excluding the four participants who were confirmed as being HIV positive at baseline, the RR of circumcision was 0.40 (0.23–0.68), which is equivalent to a 60% (32–77) protective effect of circumcision against HIV acquisition … For planning purposes, the 60% protective effect probably represents the more accurate estimate of the treatment effect, since it compares truly circumcised HIV-negative men to truly uncircumcised HIV-negative men post-randomisation."*

9 WHO and UNAIDS announce recommendations from expert meeting on male circumcision for HIV prevention, Press Release, March 28, 2007.

10 Towards Universal Access, Scaling up priority HIV/AIDS interventions in the health sector, WHO, UNAIDS, UNICEF Progress Report 2010, 3.2.1 male circumcision. Note: Originally Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, United Republic of Tanzania, Uganda, Zambia and Zimbabwe were identified for scale-up. Ethiopia was added as a target country.

11 Global Report: UNAIDS Report on the Global AIDS Epidemic 2010, www.unaids.org/globalreport/Global_report.htm.

FOR MORE INFORMATION:

Canadian Medical Association Journal, Male circumcision: a new approach to reducing HIV transmission: www.cmaj.ca/content/181/8/E134.full

Global Report: UNAIDS Report on the Global AIDS Epidemic 2010: www.unaids.org/globalreport/Global_report.htm

Time magazine, Top 10 Medical Breakthroughs of 2007: www.time.com/time/specials/2007/article/0,28804,1686204_1686252_1690372,00.html

Video with Drs. Moses and Loolpapit: www.youtube.com/watch?v=gkwu072Yomk

CIHR-FUNDED PROJECT HELPS NATIONS COMPARE AND IMPROVE THEIR TOBACCO-CONTROL POLICIES

University of Waterloo professor leads the 23-country project

AT A GLANCE

WHO: DR. GEOFFREY FONG, UNIVERSITY OF WATERLOO.

ISSUE: TOBACCO USE IS A MAJOR RISK FACTOR IN DEATHS CAUSED BY NON-COMMUNICABLE DISEASES (NCDs). WORLDWIDE, 63% OF DEATHS ARE CAUSED BY NCDs. EXPOSURE TO SECOND-HAND SMOKE KILLS 600,000 PEOPLE EACH YEAR.[1]

PROJECT: WITH CIHR FUNDING, DR. FONG FOUNDED THE ITC PROJECT IN 2002 TO CONDUCT INTERNATIONAL COHORT STUDIES OF TOBACCO USE AND MEASURE THE IMPACTS OF THE WORLD HEALTH ORGANIZATION'S FRAMEWORK CONVENTION ON TOBACCO CONTROL. THE ITC PROJECT HAS PRODUCED EIGHT NATIONAL REPORTS SINCE 2008, AS WELL AS TWO POLICY REPORTS AND 13 SUMMARIES IN NINE COUNTRIES. CURRENTLY 23 COUNTRIES ARE ACTIVE PARTICIPANTS.[2]

RESEARCH EVIDENCE: THE ITC PROJECT HAS PROVIDED EVIDENCE THAT POLICIES IN SOME COUNTRIES ARE NOT EFFECTIVE. FOR EXAMPLE, IN CHINA THE PROJECT DEMONSTRATED THAT THREE CRITICAL POLICIES – WARNING LABELS, SMOKE-FREE LAWS AND TAXATION – HAVE HAD VIRTUALLY NO EFFECT BECAUSE OF POOR IMPLEMENTATION.

EVIDENCE IN ACTION: ITC NATIONAL REPORTS PLAY A CRITICAL ROLE IN PRESENTING AND EVALUATING A GIVEN COUNTRY'S ROLE IN TOBACCO REGULATION. POLICY MAKERS USE THE ITC REPORTS IN SHAPING EFFORTS AT TOBACCO CONTROL.

SOURCES: THE IMPACT OF PICTURES ON THE EFFECTIVENESS OF TOBACCO WARNINGS, *BULLETIN OF THE WORLD HEALTH ORGANIZATION* 87, 8 (AUGUST 2009): 640–643.

As one of the world's leading tobacco-control experts, the University of Waterloo's Dr. Geoffrey Fong is in a position any researcher would envy: When he speaks, government leaders listen.

In the foreword to the France National Report by Dr. Fong's International Tobacco Control Evaluation Project (ITC Project), Xavier Bertrand, French Minister of Labour, Employment and Health, expresses gratitude for the "invaluable evidence to guide us in our efforts to fight the number one preventable cause of death and illness in the world."

Minister Bertrand's words, published in late 2011, echo those of Dr. A. F. M. Ruhal Haque, Bangladesh's Minister of Health and Family Welfare, writing that the ITC National Report on his country reveals that "much still needs to be done to reduce tobacco use and to prevent the future health, social and economic consequences of tobacco use." ITC's findings, he says, "will inspire us to do more."

The ITC National Reports, produced in part with CIHR funding, are the brainchild of Dr. Fong, who founded the ITC Project with colleagues in four countries in 2002 and has built it into a powerful 23-nation initiative. The reports represent a major way in which the ITC Project fulfills its mission of measuring the psychosocial and behavioural impacts of the World Health Organization's (WHO) 2003 Framework Convention on Tobacco Control (FCTC).

By conducting parallel surveys in countries representing 60% of the world's smokers, the ITC Project keeps participating nations informed about the effects of implementing tobacco-control policies such as graphic warning labels and smoke-free laws. Just as significantly, the reports and summaries tell leaders and policy makers how their country is doing compared to other jurisdictions.

"It's very important to get our findings out in ways that are understandable and clear," says Dr. Fong, a professor of psychology and Senior Investigator at the Ontario Institute for Cancer Research. "The reports focus on ITC findings that indicate where a country stands in respect to threat of tobacco use and whether its tobacco policies are working. If they are not working, then the ITC findings constitute evidence that we hope will give policy makers the courage to do what's right."

Doing what's right is often difficult when it comes to tobacco control. While tobacco use is blamed for more than 5 million deaths a year[3] and could kill 1 billion people in this century,[4] the tobacco lobby is richly funded and many countries' economies are bolstered by jobs produced by the industry and taxes collected from it.

To counterbalance those forces, the ITC Project provides tobacco-control advocates with evidence to press their governments to take action, says Deborah Arnott, Chief Executive of the United Kingdom's Action on Smoking & Health (ASH). Again, the fact that the evidence spans several countries gives it additional weight.

"The UK does a lot of good research on what happens in the UK," says Ms. Arnott, "but what ITC Project does – which adds great value – is comparable research, looking at how the UK compares to other countries. We know, for example, that Canada is in advance of us in a lot of areas of tobacco control. For example, health warnings. Canada has had health warnings (on cigarette packs) in place longer than we have and has graphic warnings in place. It helps in the argument to get graphic warnings here."

EVIDENCE IN ACTION: **FINDINGS KEY TO TOBACCO-CONTROL POLICY DECISIONS**

ITC NATIONAL REPORTS PLAY A CRITICAL ROLE IN PRESENTING AND EVALUATING A GIVEN COUNTRY'S ROLE IN TOBACCO REGULATION. SO FAR, THE ITC HAS PRODUCED NINE NATIONAL REPORTS, AND THE WORK HAS EARNED HIGH PRAISE FROM POLICY MAKERS, WHO CONSIDER THE REPORTS CRITICAL TO THEIR EFFORTS AT TOBACCO CONTROL. IN THE FOREWORD TO THE FRANCE NATIONAL REPORT BY DR. FONG'S INTERNATIONAL TOBACCO CONTROL EVALUATION PROJECT, XAVIER BERTRAND, FRENCH MINISTER OF LABOUR, EMPLOYMENT AND HEALTH, EXPRESSES GRATITUDE FOR THE "INVALUABLE EVIDENCE TO GUIDE US IN OUR EFFORTS TO FIGHT THE NUMBER ONE PREVENTABLE CAUSE OF DEATH AND ILLNESS IN THE WORLD."

A TOBACCO FREE WORLD

The ITC has also provided evidence that policies in some countries are not effective. For example, in China the ITC Project has demonstrated that three critical policies – warning labels, smoke-free laws and taxation – have had virtually no effect because of poor implementation. In May 2009, the Chinese government raised tobacco taxes in accordance with their obligations under the FCTC. However, to date, prices have not increased, so there has been no impact on reducing tobacco use. Also, the government issued larger warning labels on both sides of the pack in 2008, but printed the warning on the back of the pack in English.

The ITC Project has also called attention to ineffective policies in the Netherlands. "We saw ourselves as very advanced in tobacco control," says professor Marc Willemsen of Maastricht University's School for Public Health and Primary Care, "because we have spent quite a few Euros on smoking cessation campaigns. It was shocking to find out Dutch smokers were lagging in awareness of health risks compared to most other ITC countries."

Professor Willemsen says the ITC findings have "helped us look differently at the whole problem of tackling tobacco in the Netherlands. It was instrumental in putting tobacco control on the agenda of the Dutch Cancer Foundation. They are now planning a mass media campaign for awareness of the health consequences of smoking. This all came from ITC data."

The globetrotting Dr. Fong also takes the ITC research directly to policy makers and politicians, recently appearing before British Parliamentarians who were preparing a report on whether smoking in cars in which children are passengers should be banned.

"He was able to tell them about the levels of support from smokers in Canada and how that compared to support among smokers in the UK," says Ms. Arnott. That went in the cross-party report, which has been sent to the Minister of Health and the Prime Minister. His presentation was absolutely essential to getting Parliamentarians to believe that this is something we should be taking action on."

CIHR was one of the earliest supporters of Dr. Fong's ambitious ITC Project when it began in 2002. "It has been extraordinary in supporting the international work," says Dr. Fong. "Thanks to CIHR we've had funding since 2009 to produce our national reports." More recently, Dr. Fong's team was awarded $7.4 million – the largest operating grant ever issued by CIHR – to carry on the ITC Project's work in evaluating the impact of the FCTC, especially in low- and middle-income countries.

1 WHO Tobacco Free Initiative, www.who.int/tobacco/en/.

2 Email correspondence Nov. 17, 2011, with Dr. Lorraine V. Craig, ITC Europe Project Manager and Dissemination Manager.

3 World Health Organization. *WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments.* Geneva, 2009. www.who.int/tobacco/mpower/2009/gtcr_download/en/index.html.

4 World Health Organization. *WHO Report on the Global Tobacco Epidemic, 2008: The MPOWER package.* Geneva, 2008. www.who.int/tobacco/mpower/gtcr_download/en/index.html.

WORLD HEALTH ORGANIZATION CONSIDERS ITC PROJECT ESSENTIAL TO ITS EFFORTS

THE ITC PROJECT'S RESEARCH IS VITAL TO THE WORLD HEALTH ORGANIZATION'S INITIATIVE TO REDUCE SMOKING AROUND THE WORLD, SAYS DR. DOUGLAS BETTCHER, THE GENEVA-BASED DIRECTOR OF THE ORGANIZATION'S TOBACCO FREE INITIATIVE. "THE ITC PROJECT, INITIATED BY DR. FONG, PROVIDES TIMELY EVIDENCE AND INSPIRATION TO COUNTRIES COMMITTED TO EFFECTIVE IMPLEMENTATION OF THE WORLD HEALTH ORGANIZATION FCTC. I AM LOOKING FORWARD TO HIS ONGOING CONTRIBUTION TOWARDS A TOBACCO-FREE WORLD."

FOR MORE INFORMATION:

Knowledge to Action: An End-of-Grant Knowledge Translation Casebook: www.cihr-irsc.gc.ca/e/41594.html

ITC Project Website: www.itcproject.org

WHO Framework Convention on Tobacco Control (2003): www.who.int/fctc/text_download/en/index.html

TELEPHONE-BASED MENTAL HEALTH CARE GETS HELP QUICKLY TO TROUBLED KIDS AND FAMILIES

Home-centred program proves more effective than usual care

AT A GLANCE

WHO: DR. PATRICK J. MCGRATH, IWK HEALTH CENTRE, DALHOUSIE UNIVERSITY.

ISSUE: AN ESTIMATED 18% OF CHILDREN HAVE MENTAL HEALTH PROBLEMS BUT ONLY 15–30% OF THEM RECEIVE TIMELY TREATMENT DUE TO LIMITED HEALTH CARE RESOURCES. AMONG FAMILIES WHO DO GET CARE, DROPOUT RATES DURING THE PROCESS ARE HIGH.

PROJECT: AS AN ALTERNATIVE DELIVERY MODEL, DR. MCGRATH DEVELOPED THE STRONGEST FAMILIES PROGRAM TO PROVIDE AN INTERVENTION SERVICE TO FAMILIES WITH CHILDREN DIAGNOSED WITH DISRUPTIVE BEHAVIOUR DISORDERS, ATTENTION-DEFICIT/HYPERACTIVITY DISORDER AND ANXIETY. THE 11- TO 12-WEEK INTERVENTION INVOLVES THE USE OF VIDEO MATERIALS, WORKBOOKS AND WEEKLY TELEPHONE SESSIONS WITH TRAINED COACHES.

RESEARCH EVIDENCE: THREE CIHR-FUNDED CLINICAL TRIALS CONDUCTED FROM 2003 TO 2007 CONCLUDED THAT THE STRONGEST FAMILIES PROGRAM IS EFFECTIVE IN TREATING MILD TO MODERATE PEDIATRIC MENTAL HEALTH DISORDERS. STRONGEST FAMILIES WAS FOUND TO BE MORE EFFECTIVE THAN USUAL CARE AND PRODUCE SUSTAINED BENEFITS.

EVIDENCE IN ACTION: STRONGEST FAMILIES OPERATES IN FOUR OF NOVA SCOTIA'S NINE DISTRICT HEALTH AUTHORITIES. ALMOST 300 CHILDREN WERE TREATED IN 2010, WITH 1,000 CHILDREN AND FAMILIES HELPED SO FAR. THE PROGRAM IS ALSO OFFERED IN CALGARY THROUGH ALBERTA HEALTH SERVICES AND HAS BEEN OPERATIONAL IN THUNDER BAY, ONTARIO FOR SEVERAL YEARS. THROUGH A PARTNERSHIP WITH THE CANADIAN MENTAL HEALTH ASSOCIATION, STRONGEST FAMILIES IS BECOMING AVAILABLE TO 100 CHILDREN ACROSS BRITISH COLUMBIA.

SOURCES: TELEPHONE-BASED MENTAL HEALTH INTERVENTIONS FOR CHILD DISRUPTIVE BEHAVIOUR AND ANXIETY DISORDERS: RANDOMIZED TRIALS AND OVERALL ANALYSIS. *JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY* 50, 11 (NOVEMBER 2011): 1162–1172.

EVIDENCE IN ACTION: FASTER ACCESS TO CARE

THE PROGRAM PROVIDES TREATMENT TO THOSE WITH MORE MODERATE BEHAVIOUR PROBLEMS WHO MAY HAVE REMAINED ON WAIT LISTS FOR MONTHS OR MUCH LONGER BEFORE THEY SEE A COUNSELLOR. ACCESS TO SERVICES FROM THE STRONGEST FAMILIES TEAM CAN BEGIN IN WEEKS.

Nine-year-old Calvin is having difficulty sitting still during class, affecting his ability to focus. Gathered together on the carpet for a group lesson, he thinks it's time for wrestling with his classmates. He's impulsive, often interrupting his teacher or simply acting silly to get attention. His daycare provider describes his energy level as equal to two boys in the body of one. With his unpredictable behaviour, he has trouble making and maintaining friends. At home, he argues and throws tantrums when he doesn't get his way. Calvin's teachers and parents struggle to manage his behaviour. They are worried, frustrated and concerned about what to do next.

Calvin is fictional, but many real children share his difficulties. At any given time, about one in five Canadian children and adolescents are experiencing some form of mental disorder.[1] But the supply of professionals who can provide pediatric mental health care is limited, while the demand is overwhelming. As a result, many troubled children languish on waiting lists. In Ontario, for example, 90% of children and youth with an identified mental disorder wait an average of six months for treatment.[2]

Dr. Patrick J. McGrath has seen this problem first hand. "It bothered me back when I was a clinician in Ottawa at the Children's Hospital of Eastern Ontario. Too many parents were being told, 'When your kid gets worse we can give them treatment.' I've heard that so many times that it's discouraging."

When he saw the system wasn't working for families with children like Calvin, Dr. McGrath, now a clinician/researcher and Canada Research Chair at Dalhousie University and the IWK Health Centre in Halifax, began devising an entirely different program. Called Strongest Families, the telephone-based intervention helps families deal with their child's mild to moderate mental health problems before they morph into major ones.

"In almost every health region we work with, they give us kids from their waiting lists who meet the criteria of having either disruptive behaviour or anxiety but are not an immediate danger to themselves or anybody else," says Dr. McGrath. "We get the kid who will likely sit on a waiting list for a long time because they don't have a knife to their own throat or a knife to someone else's throat."

Typically running 11-12 weeks, the program incorporates cognitive behavior therapies such as "belly breathing" to allay anxiety and teaches problem-solving techniques. Families receive handbooks and instructional videos and take part in weekly telephone sessions with trained coaches. They can also email their coaches to seek advice or share concerns between the weekly meetings.

Begun in 2006, Strongest Families operates in four of Nova Scotia's nine district health authorities. Almost 300 children were treated in 2010, with 1,000 children and families helped so far, says Dr. Patricia Lingley-Pottie, co-investigator with Dr. McGrath and President/COO of the non-profit Strongest Families Institute. The goal is to eventually have the program available across Nova Scotia.

A review of three randomized clinical trials found that compared with usual care, the Strongest Families intervention "resulted in significant diagnosis decreases among children with disruptive behaviour or anxiety."[3] The results indicate Strongest Families is generally more effective than usual care, with benefits sustained one year after treatment.

In Cape Breton, 146 children received Strongest Families treatment in 2010, with an 87% "problem resolved" rate, says Dr. Julie MacDonald, the health authority's Manager of Child and Adolescent Mental Health Services. She says that Strongest Families can significantly cut the time families spend on waiting lists – an impact that other health authorities also cite. "If you are a candidate for Strongest Families, you start treatment within about two weeks, as opposed to a four-month wait for face-to-face counselling."

As well, the dropout rate for Strongest Families hovers below 10% compared to an attrition rate for standard pediatric mental health counselling that Dr. McGrath estimates to be at least 40%.[4]

Dr. Lingley-Pottie credits "non-stigmatization" as a key reason why parents and children stay with the program. Children and parents don't have to arrange to excuse themselves from school and work to get counselling at an office or a clinic.[5] "If a child can sit in his or her own home and talk with a coach, they are able to be open without worrying about being judged. They feel comfortable. They are not in a strange environment."

The program is also offered in Calgary through Alberta Health Services and has been operational in Thunder Bay, Ontario for several years. "We saw it as a good supplement to maximize the use of our professionals," says Tom Walters, Executive Director of the Children's Centre of Thunder Bay. "The primary focus has been in the rural parts of the district, because it doesn't really matter if the coach is in Nova Scotia talking to someone in Northern Ontario – it still works."

Through a partnership with the Canadian Mental Health Association (CMHA), Strongest Families is becoming available to 100 children across British Columbia, says Lynn Spence, Provincial Programs Director for CMHA's BC Division.

"A lot of kids and families who need support for relatively minor mental health concerns don't get that help," says Ms. Spence. "The result is much greater difficulties later in life. This allows us to address things early enough that there can be changes made so that these families and children will not have to enter the mental health system. Or, if they do, they will be identified early and get referrals for appropriate care."

1 Mental Health Commission of Canada Annual Report 2010–2011: www.mentalhealthcommission.ca/annualreport/MHCC-Annual-Report-2011.pdf.

2 Children's Mental Health Ontario Pre-Budget Submission 2011.

3 Telephone-Based Mental Health Interventions for Child Disruptive Behaviour and Anxiety Disorders: Randomized Trials and Overall Analysis. *Journal of the American Academy of Child & Adolescent Psychiatry* 50, 11 (November 2011): 1162–1172.

4 Attrition in the treatment of childhood anxiety disorders. *Journal of Consulting and Clinical Psychology* 65, 5 (October 1997): 883–888.

5 Distance therapeutic alliance: the participant's experience. *Advances in Nursing Science* 30, 3 (October/December 2007): 353–366.

FOR MORE INFORMATION:

Telephone-Based Mental Health Interventions for Child Disruptive Behaviour and Anxiety Disorders: Randomized Trials and Overall Analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*: www.jaacap.com/article/S0890-8567(11)00643-5/abstract

Integrated Knowledge Translation in Mental Health: Family Help as an Example. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*: www.ncbi.nlm.nih.gov/pmc/articles/PMC2651209/

Strongest Families Website: www.bringinghealthhome.com

PROGRAM MAKES 'HUGE DIFFERENCE' TO FAMILIES

BRENDA WILLIAMS (NOT HER REAL NAME) AND HER HUSBAND ENROLLED IN STRONGEST FAMILIES AFTER THEIR EIGHT-YEAR-OLD DAUGHTER'S ANXIETY AND TROUBLE FOCUSING AND PAYING ATTENTION CREATED BEHAVIOURAL DIFFICULTIES. AT ONE POINT, THEIR DAUGHTER REFUSED TO EAT FOR ALMOST A WEEK. AFTER CONTACTING A MENTAL HEALTH AGENCY, THE FAMILY WAS TOLD THEY WOULD HAVE TO WAIT SIX MONTHS TO A YEAR TO SEE A COUNSELLOR, AND APPOINTMENTS WOULD REQUIRE TRAVEL. AFTER 11 WEEKS IN THE PROGRAM, THE WILLIAMS' DAUGHTER HAS NO SIGN OF HER ORIGINAL ANXIETY PROBLEMS. "THE PROGRAM CHANGES THE PARENTS, WHO IN TURN CHANGE THE CHILD," SAYS WILLIAMS. "IT'S MADE A HUGE DIFFERENCE."

GATHERING MORE EVIDENCE

FUTURE RESEARCH INITIATIVES RELATED TO THE MANAGEMENT AND TREATMENT OF CHRONIC DISEASE
PROMOTING HEALTH AND REDUCING THE BURDEN OF CHRONIC DISEASE AND MENTAL ILLNESS IS AN IMPORTANT PRIORITY FOR CIHR. TO BETTER FOCUS INVESTMENTS, THE ORGANIZATION HAS RECENTLY LAUNCHED A NUMBER OF MAJOR RESEARCH INITIATIVES TO INCREASE RESEARCH ACTIVITY IN THIS AREA. KNOWN AS CIHR ROADMAP SIGNATURE INITIATIVES,[1] THESE NEW INVESTMENTS WILL HELP CIHR ALLOCATE ITS RESOURCES TO MAKE THE STRONGEST POSSIBLE IMPACT ON HEALTH AND HEALTH CARE – TODAY, TOMORROW AND WELL INTO THE FUTURE.

ROADMAP SIGNATURE INITIATIVE – INFLAMMATION IN CHRONIC DISEASE
THIS INITIATIVE AIMS TO DEVELOP A UNIFIED CANADIAN STRATEGY ON INFLAMMATION RESEARCH THAT WILL SUPPORT THE DISCOVERY AND VALIDATION OF COMMON BIOMARKERS, THERAPEUTIC TARGETS AND INFLAMMATORY MECHANISMS AMONGST CHRONIC DISEASES, AS WELL AS DEVELOP PREVENTION AND TREATMENT APPROACHES.

ROADMAP SIGNATURE INITIATIVE – CANADIAN EPIGENETICS, ENVIRONMENT AND HEALTH RESEARCH CONSORTIUM
THIS INITIATIVE WILL ENSURE THAT CANADA PLAYS A LEADERSHIP ROLE IN THE FIELD OF EPIGENETICS, WHICH HAS THE POTENTIAL TO TRANSFORM OUR ABILITY TO 'READ' AND SUBSEQUENTLY MANIPULATE FUNCTIONAL STATES OF A GENOME WITHIN SPECIFIC CELL TYPES.

ROADMAP SIGNATURE INITIATIVE – INTERNATIONAL COLLABORATIVE RESEARCH STRATEGY FOR ALZHEIMER'S DISEASE
THIS INITIATIVE WILL HELP CANADIAN RESEARCHERS ENGAGE IN LARGE-SCALE INTERNATIONAL ALZHEIMER'S RESEARCH AND PROVIDE CANADIANS WITH RAPID ACCESS TO THE LATEST PREVENTIVE, DIAGNOSTIC AND TREATMENT APPROACHES TO ALZHEIMER'S DISEASE AND RELATED DEMENTIAS.

FOR MORE INFORMATION:

Roadmap Signature Initiatives: www.cihr-irsc.gc.ca/e/43567.html

CIHR Research Profiles – A Swelling Problem: www.cihr-irsc.gc.ca/e/42376.html

CIHR Research Profiles – Epigenetics: Filling in the missing details: www.cihr-irsc.gc.ca/e/44481.html

Research in the Pipeline: www.cihr-irsc.gc.ca/e/44921.html

1 The name Roadmap Signature Initiatives is linked to CIHR's five-year strategic plan, Health Research Roadmap: *Creating innovative research for better health and health care.*

NEED MORE EVIDENCE?

Thank you for reading **Issue No. 2** of *Show me the Evidence*. We hope that you enjoyed learning more about the impact of Canadian health researchers and encourage you to visit CIHR's website **www.cihr-irsc.gc.ca** and social media sites **www.cihr-irsc.gc.ca/e/42402.html** to learn about other CIHR-funded success stories.

IN ISSUE NO. 3 OF *SHOW ME THE EVIDENCE* WE WILL BE LOOKING AT RESEARCH EFFORTS STUDYING HOW TO SUPPORT A HIGH-QUALITY, ACCESSIBLE AND SUSTAINABLE HEALTH CARE SYSTEM.

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