Since 1972, the UN cosponsored special programme, HRP, has pursued a vision of sexual and reproductive health and rights (SRHR) for all. This is the second in a series of stories to share key moments from HRP’s history and the impact of its work on advancing the attainment of SRHR. Find out more about the Human Reproduction Programme here.
How a randomized controlled trial bolstered efforts to prevent perinatal transmission of HIV

As HIV spread across the African continent in the 1990s, women and children experienced high rates of new infection. In 2005 alone, 90% of the estimated 540,000 children newly infected with HIV were in sub-Saharan Africa. Fifteen percent of new infections each year were due to perinatal transmission of the virus, and at the time, only 9% of pregnant women living with HIV were receiving antiretroviral prophylaxis (ARV) to prevent perinatal transmission.

Women and girls living with HIV faced a difficult choice, either breastfeed their babies and risk transmitting the virus through their milk or give babies formula milk and miss out on the many benefits provided by breast milk – the latter was also more costly and dependent on access to regular supplies of formula as well as clean water, which could not be assured in areas with poor sanitation.

“About 80% of HIV transmissions to infants occurred from women with CD4 counts below 350 cells/μL. We knew that the risk of transmitting virus during breastfeeding was low for women with CD4 counts above 500 cells/μL but for women with CD4 counts of 200–500 cells/μL it was important to assess whether ARV during the breastfeeding period would be safe and reduce the risk of postnatal HIV transmission,” said Tim Farley, who led HIV prevention research at the Human Reproduction Programme (HRP) from 2000.

To address this, in 2005, HRP began a ground-breaking randomized controlled trial – the Kesho Bora (‘A Better Future’ in Swahili) study – to explore the safety and efficacy of triple ARV prophylaxis to prevent perinatal transmission of HIV during pregnancy and breastfeeding, in partnership with the French National Agency for Research on AIDS and Viral Hepatitis (ANRS), the US Centres for Disease Control and Prevention (CDC) and the Eunice
Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health.

The study included 824 pregnant women living with HIV with CD4 counts of 200-500 cells/μL attending antenatal clinics in Burkina Faso, Kenya and South Africa. Participants were randomly assigned to receive either triple ARV prophylaxis (zidovudine, lamivudine, and lopinavir/ritonavir twice daily) until cessation of breastfeeding or the standard regimen recommended by WHO at the time (zidovudine twice daily until delivery plus a single zidovudine plus nevirapine at the onset of labour).

The full findings, which were published in January 2011, were pivotal for women living with HIV and their babies. They showed that triple ARV prophylaxis given from the last trimester, through delivery and six months of breastfeeding reduced the risk of HIV transmission to babies by 43% at 12 months compared with standard treatment, with a greater risk reduction in women with CD4 counts below 350 cells per μL. Babies of mothers whose virus was fully suppressed by triple ARV prophylaxis at the time of delivery had a very low risk of infection – 2.7% were infected by age one year.

“These findings offered new hope for mothers living with HIV who could not safely feed their babies with formula milk and improved the chances of infants remaining healthy and HIV-free,” Farley said.

The interim results were considered during the development of updated WHO guidelines on antiretroviral therapy for pregnant women, which were published in July 2010, and recommended initiation of antiretroviral therapy for all pregnant women living with HIV with CD4 counts of 350 cells/μL or less and ARV prophylaxis during pregnancy and breastfeeding for women living with HIV not already on treatment.

The proven efficacy of this new approach also led WHO, UNAIDS, UNICEF and PEPFAR to launch the Global Plan towards the Elimination of New HIV Infections among Children and Keeping their Mothers Alive in 2011. One of the four prongs of its framework focused on ensuring access to ARV drugs for pregnant women living with HIV to prevent perinatal transmission during pregnancy, delivery and breastfeeding.

Since the start of the perinatal transmission prevention programmes, 2.8 million HIV infections have been averted among children born to women living with HIV.

Translating community research into action

In the ten years that followed publication of the 2006 WHO guidelines on the sexual and reproductive health of women living with HIV/AIDS, there were many significant changes in SRHR/HIV-related policies, research and practice, including rapid expansion of ART, prompting calls for an update.
To inform new guidance, in October 2013 HRP commissioned a group of women living with HIV to conduct a global community consultation on the sexual and reproductive health of women living with HIV. The result was the largest ever online survey, capturing the voices and perspectives of 945 women living with HIV, aged 15-72 years, from 94 countries and a wide range of backgrounds and experiences.

The most prominent finding of this global values and preferences survey, published in 2014, was that 422 women reported experiencing violence before, because of, or since HIV diagnosis – or all three, including within health facilities. Respondents also reported on the mental health impacts of HIV status, ongoing issues with ART side-effects, gaps in clinical care, practice, policy and research for women and girls outside of the reproductive years and women without children, challenges to achieving a pleasurable and satisfying sex life, and fear of onward transmission to a child or partner.

Accordingly, a revised consolidated guideline on sexual and reproductive health and rights of women living with HIV, published in 2017, gave prominence to safety, respect and support for women’s physical and mental well-being, ensuring a woman-centred and human rights-based approach across the life-course for all women living with HIV.

A woman-centred approach also calls for health services that see women as active participants in health systems, with care provided in ways that respect their autonomy. The new recommendations include provision of interventions on self-efficacy and empowerment around sexual and reproductive health and rights to improve outcomes for women living with HIV – a recommendation that was also included in the 2019 WHO consolidated guideline on self-care interventions for health.

“Bringing together the voices of women living with HIV and ensuring their meaningful participation represented a big shift in how WHO/HRP develops policy and recommendations. Values and preferences surveys are now a core component of WHO guideline development processes.” says Manjulaa Narasimhan, who led this work at HRP and WHO Department of Sexual and Reproductive Health and Research.

The success of this new approach led to the WHO Director General establishing WHO’s first, and so far only, community advisory group made up entirely of underserved communities in April 2019 – the WHO Advisory Group of Women Living with HIV – to advise WHO on key issues, such as sexual orientation and gender identities and experiences of discrimination.

HRP is currently providing technical support to a five-year, multi-country implementation research study on the SRHR of indigenous women, girls and gender diverse individuals living with HIV. The research, led by the Canadian Communities...
Alliances and Networks (CAAN), is being carried out with local indigenous organizations in Canada, Guatemala, India, Nepal, New Zealand, Nigeria and Peru, in the first partnership of its kind. It is envisaged that this will enhance engagement in research and equip indigenous women, girls and gender diverse people with the knowledge to make the best decisions about their sexual and reproductive health.

A series of seven webinars were held between January and March 2022 to establish national dialogues on the context specific challenges and opportunities to advance SRHR in the study countries, convened by WHO/HRP and hosted by the Implementing Best Practices (IBP) Network, in partnership with CAAN.

HRP has been hosting the IBP Network since 2000 to foster collaboration with civil society partners to support the identification, implementation and scale up of effective practices to improve sexual and reproductive health. Today, over 150 organisations and 20,000 individuals are members and participate in over 20 technical communities of practice worldwide.

Leveraging the IBP Network allows stakeholders to connect with civil society partners, reach local audiences, disseminate information and get feedback on the use of various guidelines, tools and approaches. Creating opportunities to promote local voices on a global platform illustrates the power and potential of a democratic approach to accessing and sharing knowledge and evidence, says Nandita Thatte, IBP Network Lead at HRP.
Supporting countries to strengthen research capacity

In addition to conducting innovative, practice-changing research in SRHR, another of HRP’s key activities since inception has been to support countries to strengthen their SRHR research capacities in ways that are relevant for their specific needs and contexts, empowering researchers and enhancing knowledge translation.

“Over the last five years, capacity building has been operationalized through the HRP Alliance, which encompasses a global network of expertise and centres of excellence in sexual and reproductive health and rights research. This work has contributed to researchers’ and institutions supporting research dissemination and policy translation at national level,” said Anna Thorson, former Unit Head (2020-2023), Research Leadership and Capacity Strengthening, HRP and WHO Department of Sexual and Reproductive Health and Research.

The HRP Alliance has been supporting and collaborating with seven regional research capacity strengthening hubs in Brazil, Burkina Faso, Ghana, Kenya, Pakistan, Thailand and Viet Nam, which provide research leadership in their respective regions. Since 2017, the HRP Alliance has supported 3 627 individuals from 86 countries through 110 short courses, 81 masters’ degree students and 48 doctoral students, helping to build a sustainable base of researchers with expertise in SRHR, some of whom have contributed to HRP multi-country studies.

Adama Baguiya, an HRP Alliance fellow affiliated with the HRP Alliance hub at the Institut de Recherche en Sciences de la Santé (IRSS) in Burkina Faso said, “My journey with the HRP Alliance started in 2013 during a discussion about ways to strengthen research capacity in LMICs, which led to me co-authoring my first research paper. I went on to receive a PhD scholarship from the HRP Alliance and be first author on papers from two HRP multi-country studies. The research collaboration has been a very good opportunity not only to learn new skills but to meet wonderful researchers.”

The HRP Alliance has brought together partners involved in research prioritization, protocol and study design, and project implementation in a
collaborative network that proved critical during the COVID-19 response. Published papers include protocols for mixed methods research on barriers to availability, utilization and readiness of sexual and reproductive health services in COVID-19-affected areas, qualitative research on issues related to pregnancy, pregnancy prevention and abortion in the context of the COVID-19 pandemic, and a prospective cohort study investigating pregnancy and neonatal outcomes for women and neonates infected with SARS-CoV-2.

Strengthening research capacity, including by providing training in statistical analysis, data management and curation, is closely linked to developing more equitable approaches to sharing data. As a specialist research entity within the WHO Science Division, HRP scientists provided technical input to the 2022 WHO policy and implementation guidance on the sharing and reuse of health-related data for research purposes, for data collected under WHO technical programmes.

HRP is currently providing input to the development of the WHO research meta-data repository, which will retain meta-data of WHO sponsored research studies and provide information on how to request datasets that are available for reuse – an effort led by the WHO Science Division and implemented by scientists at CERN.

Sharing data and the capacity to analyze data can advance SRHR outcomes by stimulating new understanding, new solutions and ensure that decisions are made based on the best available evidence. This guidance provides practical assistance for staff on how to achieve this, said Soe Soe Thwin, Quantitative Assessment and Data Manager, HRP and WHO Department of Sexual and Reproductive Health and Research.
Looking beyond shiny apps: HRP’s role in maximizing digital for SRH impact

As we look to the future, digital technologies are a salient field of practice to address SRHR needs. HRP has sought to bring rigour and a systematic approach to maximize the potential of digital interventions to advance SRHR and health system goals.

The huge increase in mobile phone use in the early 2000s spurred a profusion of mHealth pilot projects globally. In September 2015, HRP, in partnership with the United Nations Foundation and the Johns Hopkins University Global mHealth Initiative, launched the mHealth Assessment and Planning for Scale (MAPS) to help mHealth implementers successfully and sustainably scale-up their innovations.

The toolkit grew out of the UN Innovation Work Group’s mHealth catalytic grant mechanism,

“This mechanism was one of the first steps towards providing cohesion and served as the foundation for many of the nationally scaled digital systems in use today. As the technical assistance lead coordinating the investment, HRP was in a unique position to harness and disseminate the learnings emerging from these pioneers in the digital health space,” said Lale Say, Unit Head, HRP and WHO Department of Sexual and Reproductive Health and Research, who oversaw this work.

HRP was one of the technical departments involved in providing technical input on the World Health Assembly resolution on digital health, which was unanimously approved in May 2018, urging

“The classification document provided an accessible and bridging language for health programme planners to articulate the functionalities of digital health implementations. It has been used to standardize investments in digital health, as well as coordinate and map digital health implementations at national, regional and global levels,” said Tigest Tamrat, Scientist, HRP and WHO Department of Sexual and Reproductive Health and Research.
Ministries of Health to ‘prioritize, as appropriate, the development, evaluation, implementation, scale-up and greater use of digital technologies…’

Despite growing commitments, the diverse communities working in digital health lacked a shared vocabulary. Recognizing the need for a common nomenclature to improve alignment across disciplines, HRP convened a technical consultation to develop a classification document for digital health interventions. The document, published in 2018, offered simplified language to help support dialogues between public health practitioners and technology-oriented audiences, specifying digital capabilities applicable to clients, health workers, health system managers and data services.

In 2019, WHO’s first evidence-based guideline on digital health was published, following many years of critical evaluation of the evidence on the contribution of emerging digital health interventions to health systems improvements. The guideline, which was co-funded by HRP, provides nine recommendations on select digital health interventions that involve the use of a mobile phone or device, with information on implementation considerations, acceptability and feasibility, and gaps for future research.

To build on the growing expansion of digital tools, HRP spearheaded the SMART guidelines approach to distil WHO guideline content into operational components that can be easily used in a digital format and systematically incorporated into national digital systems. This approach, which aims to accelerate adoption and dissemination of SRH guidelines through digital channels and routine health information systems, is now being mainstreamed across WHO as an exemplar for other health programmes.

Tigest added, “By establishing this foundation, HRP seeks to realize a vision where everyone can fully benefit from the power of digital to improve their sexual and reproductive health.”