German HIV Practice Collection

Regions of expertise

How Knowledge Hubs are boosting HIV prevention, treatment and care across whole regions

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Coverphoto: Epidemiologists and other public health professionals from Ethiopia, Kenya, Rwanda, Sierra Leone, Uganda and United Republic of Tanzania attending a workshop of the Knowledge Hub for Capacity Development in HIV Surveillance, Zagreb 2009.

Contents

German HIV Practice Collection . . . 4
Executive Summary . . . 5
Introduction: Answering an emergency . . . 7
- Epidemics, technology and a wave . . . 7
- Regional barriers demand regional solutions . . . 8

Concept: coordinated regional approach . . . 9
- Designed for excellence, dovetailed with GFATM . . . 9
- Structures and activities: form follows function . . . 10

Knowledge Hubs: Five years of innovation . . . 12
- Knowledge Hub for Capacity Development in HIV Surveillance . . . 12
- Harm Reduction Knowledge Hub for Europe and Central Asia . . . 17
- Regional Knowledge Hub for HIV Care and Treatment in Eurasia . . . 22

Lessons learnt . . . 29
- Proximity, sensitivity to regional and local needs . . . 29
- Partnerships, communities and cooperation . . . 29
- Independence enables evidence-based services . . . 30
- Flawed business model . . . 30
- Global agencies can help Hubs reach their potential . . . 30

Peer review . . . 31
References . . . 33
Contacts and credits . . . 34

Abbreviations

AIHA	American International Health Alliance
ART	antiretroviral therapy
ASSPH	Andrija Štampar School of Public Health
CCM	Country coordinating mechanism (GFATM grants)
EMRO	WHO Regional Office for the Eastern Mediterranean
EHRN	Eurasian Harm Reduction Network
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German Technical Cooperation)
HIV	human immunodeficiency virus
IDU	injecting drug use (or user)
JCRC	Joint Clinical Research Centre (Uganda)
MARP	most-at-risk population
NMAPE	National Medical Academy of Post-Graduate Education (Ukraine)
MSM	men who have sex with men
NGO	nongovernmental organization
OST	opioid substitution therapy
PLHIV	people (or person) living with HIV
RDS	respondent-driven sampling
STI	sexually transmitted infection
TA	technical assistance
TB	tuberculosis
UCSF	University of California, San Francisco (Global Health Sciences)
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development
WHO	World Health Organization

German HIV Practice Collection

Peer-reviewed

Objective
In 2004, HIV experts working for German development agencies and their partner institutions worldwide launched the German HIV Practice Collection. From the start, the objective has been to share good practices and lessons learnt from HIV programmes supported by German Development Cooperation. The actual process of jointly defining good practice, documenting it and learning from its peer review is considered as important as the resulting publications.

Process
Managers of German-backed programmes propose successful programmes to the Secretariat of the German HIV Practice Collection at ghpc@gtz.de. An advisory board of HIV experts representing German development organizations and the Ministry of Economic Cooperation and Development (BMZ) select the most promising proposals for documentation and peer review. Professional writers then visit selected programme sites and work closely with relevant agencies in the partner countries and German experts to document the promising practice that they have jointly developed.

Independent, international peer-reviewers with expertise in the particular field then assess whether the documented approach represents "good or promising practice", based on eight criteria (see text box). Only reports about practices that meet this standard are approved for publication.

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Publications
All reports in the Collection describe approaches in sufficient detail to allow for their replication and adaptation in different contexts. They have a standard structure and are presented in plain, compelling language that aims to appeal to a wide range of readers, as well as specialists in the field. Publications also direct readers to useful tools and appear in full-length and in short versions that can be read online, downloaded or ordered as printed copies.

Get involved
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Selection Criteria

- Effectiveness
- Transferability
- Participatory and empowering approach
- Gender awareness
- Quality of monitoring and evaluation
- Innovation
- Comparative cost-effectiveness
- Sustainability

Executive Summary

Many saw it coming – an unprecedented wave of new funding – but few countries, in the first years of the new millennium, had the capacity to channel it effectively into badly needed services for HIV prevention, treatment and care. In response, in 2003, German Technical Cooperation's (GTZ) BACKUP Initiative launched a two-year, €4.2 million initiative in partnership with the World Health Organization (WHO) that would provide seed money and technical support to rapidly boost capacity for health services in Africa and eastern Europe and central Asia with a bold new regional model known as Knowledge Hubs.

Three Hubs were established at respected institutions to serve eastern Europe and central Asia, the focus of this report: the Knowledge Hub on HIV/AIDS Surveillance at the Andrija Štampar School of Public Health, in Zagreb; the Harm Reduction Knowledge Hub for Europe and Central Asia, hosted by the Eurasian Harm Reduction Network in Vilnius; and the Regional Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia, based originally at Ukraine's National Medical Academy of Post Graduate Education in Kiev (now in St Petersburg). Though different, they all turned the prevailing model for technical assistance on its head: by establishing regional pools of experts to train thousands of health workers, epidemiologists, and health managers (often in multi-country sessions), provide direct technical assistance and support networking, and the adaptation of generic WHO guidelines to local needs. The results were impressive.

On a modest budget, and no more than 3.5 full-time staff, the HIV Surveillance Hub conducted first-ever surveys of HIV among most-at-risk populations in eastern Europe and the Eastern Mediterranean and helped develop and deliver 42 training courses for 1006 participants from 70 countries in second generation surveillance methods, promoted by WHO. Its training of trainers has also developed the skills of hundreds of other epidemiologists and health managers in south-east Europe, Ukraine and elsewhere.

In some countries, the Hub helped establish HIV surveillance systems; in others, it boosted their quality, strengthening prevention. Thanks to Hub assistance, according to the vice-chair of Montenegro's Country Coordinating Mechanism his country's "HIV surveillance system was raised from the dust and now is at the level comparable to those in developed countries."

The Harm Reduction Hub, by contrast, has just 1.2 full-time staff (and equally modest budget) but it is respected for its advocacy and networking throughout Eurasia, as well for its training and technical assistance. As of early 2009, it had given 35 training courses, reaching more than 600 participants in 19 countries. These were based on WHO-certified curricula developed by the Hub with leading clinicians in the region. Topics include services for female drug users, opioid substitution therapy and needle exchange programmes and overdose. An evaluation in 2009 concluded that the Hub "has a unique regional perspective: it knows where the best-practice sites are … about changing tendencies in the region [and] …who can contribute to which issue."

Beginning in Ukraine in 2004, then fanning outwards, the HIV Care and Treatment Hub has become, according to evaluation of its first five-years, an established regional resource for building clinical capacity that has enabled countries that arose from the dissolution of the USSR to scale up effective, high-quality care and treatment for people living with HIV. With no more than five full-time staff, 2004 – 2009, the Hub helped ministries of health develop effective capacity building strategies and trained more than 5000 providers of HIV care and treatment from 10 countries. As a result, its graduate practitioners are providing treatment to more than 50 000 people, region-wide. Some of the Hub's training curricula have also been certified by medical-training institutions in the Russian and Ukraine, promising to sustain the capacity built. It has also mobilized strong regional networks of

service providers. “Through the Knowledge Hub we speedily disseminate comprehensive and – this is very important – correct, evidence-based information about HIV infection and antiretroviral treatment,” according to a distinguished Russian clinician/trainer.

Common challenges faced by the Hubs include a lack of stable, long-term financing, the tendency of governments to underestimate capacity-building needs and the Hub’s lack of profile.

The first six years of the Hubs have provided important lessons. Chief among these is that regional agencies have a vital role to play in helping countries swiftly build capacity towards the global goal of universal access to services for HIV prevention, care, treatment and support. This is particularly true in eastern Europe and central Asia, given the similarity of many countries in the region. The Hubs have demonstrated the value of building regional *communities of practice* through joint-training and technical assistance.

It has also been shown that the independence of Knowledge Hubs, and WHO backing, allows them to promote controversial evidence-based practices (e.g., harm reduction and HIV surveillance among men who have sex with men) in ways that most national agencies cannot. A major lesson is that the business model on which the Hubs are based is flawed, as they have not succeeded in tapping into grant monies of the Global Fund to Fight AIDS, Tuberculosis and Malaria on the scale expected and are unable to cover administration costs through service fees. Only stable, long-term funding for core operations will allow the Hubs to overcome these challenges.

Finally, experience indicates that the Global Fund to Fight AIDS, Tuberculosis and Malaria should allow strong regional proposals for capacity building to compete for grants on a more even footing with national proposals. Likewise, the Joint United Nations Programme on HIV/AIDS (UNAIDS) should do more to recognize the value of the Knowledge Hubs, by working more closely with them and actively supporting their activities.

Introduction: Answering an emergency

Epidemics, technology and a wave

In November 2002, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH (German Technical Cooperation) launched a major initiative to help countries in eastern Europe, central Asia and Africa scale-up comprehensive health-sector responses to HIV. Over the next two years, therefore, GTZ's German BACKUP[1] Initiative provided €4.2 million of support to the World Health Organization (WHO) for innovative work in this area – part of the €25 million earmarked for bilateral and multilateral initiatives to help countries fully exploit an unprecedented wave of funding expected from the Global Fund to Fight HIV, Tuberculosis and Malaria (GFATM) and other major donors.

The agreement, which gave rise to the HIV Knowledge Hubs, was timely. The global public health emergency posed by HIV was at its height and low- and middle-income countries were in desperate need of the technologies, tools and training that high-income countries had used to address HIV with some success. High prices for the new antiretroviral medicines were an obstacle. Feeble systems of procurement and supply were another. There was also a dire lack of human capacity in many health-care systems to address HIV: epidemiologists to conduct surveillance; nurses and social workers to provide counselling and testing, and advise on the use of condoms; teams of doctors, nurses, social workers and people living with HIV to manage patients on antiretroviral therapy and ensure good adherence and outcomes. As worrying – at least in eastern Europe, central Asia and other regions – public health authorities had no tools to reduce the spread of HIV via injecting drug use, which was fuelling explosive epidemics – though *harm-reduction* measures (needle-syringe programmes, opioid substitution therapy, outreach and antiretroviral therapy for drug users, etc.) had demonstrated their worth in western Europe and elsewhere.

There was cause for hope, however. Governments now recognized that unprecedented action was needed to overcome this appalling inequity, and they articulated this fresh perspective in the 2001 Declaration of Commitment by members of the United Nations General Assembly Special Session (UNGASS). The GFATM, which grew out of UNGASS, was to fund the counter-attack on HIV, worldwide. Through grants, and related processes, this innovative, public-private partnership would channel billions of dollars to country-led programmes and projects driven by local realities and priorities. In this way, it aimed to build on regional competence and needs.

The promise of this wave of new funding, however, set off alarms among many public health experts. Above all, they understood the immediate need to develop technical capacity of national health systems to mount comprehensive responses to HIV. And owing to the need to move swiftly, while sustaining progress made, many believed that regional mechanisms were required: networks or agencies that could share information rapidly, mobilize resources and provide quality training and technical assistance (TA) to the tens of thousands of health professionals and people living with HIV who needed it.

This was a bold new model, as the prevailing approach to TA at the time was hardly regional. Instead, bilateral and multilateral health agencies relied heavily on bringing in foreign consultants to provide training and TA. Some of these consultants promoted WHO guidelines and tools; many did not. Some collaborated effectively with ministries of health and other development partners; many did not. After the consultant's week- or month-long mission, therefore, local trainees often had limited contact with their trainers, sub-standard tools, and nobody to turn to for ongoing technical support. As a result, newly acquired skills and capacity were often squandered.

During much of the 1990s, HIV had largely slipped under the radar in eastern Europe and central Asia (regions which this report will consider as one, owing to similarities in their history, HIV epidemics and health systems). Now, as WHO had warned, severe outbreaks and epidemics of HIV were emerging, most notably in Ukraine but also throughout the region

[1] Building Alliances – Creating Knowledge – Updating Partners

(WHO Regional Office for Europe/Council of Europe, 1998). Injecting drug use was the main mode of transmission here and, in many countries drug users were often engaged in sex work. Prevalence of hepatitis C (another blood-borne disease that is lethal if untreated) and tuberculosis among injecting drug users (IDUs) were also reaching epidemic levels. Efforts to address these major public health threats were also hampered by severe and widespread stigmatization of, and discrimination against, injecting drug users and people with HIV disease, as well as the standard practice of authorities to prosecute and emprison drug users (without reducing harms or attending to the health needs of this troubled sub-population).

Regional barriers demand regional solutions

These problems were not insurmountable, but countries in eastern Europe and central Asia were reluctant to address them. In prevention, this called for a comprehensive package of harm-reduction services, but most governments in the region rejected these, favouring ineffective, largely political responses. Drug users were not the only neglected group, however. Male and female sex workers and their clients, men who have sex with men and prisoners were also ignored as authorities relied on weak surveillance systems with no capacity to track disease in these most-at-risk populations (MARPs), other than through basic case-reporting (an inadequate measure, when not combined with other data).

Structural barriers also threatened efforts to build capacity for HIV services – as they still do. Many countries in eastern Europe, for example, have vertical health and education systems. AIDS centres (and services for tuberculosis (TB)) are often isolated, therefore, from other health-care facilities, their main functions limited to epidemiological surveillance and data registry of people living with HIV. These centres have historically not provided treatment and they were often seen by the public and those they were supposed to serve as places where one's HIV status would be publicly disclosed. The isolation of the AIDS centres from the health-care system, including clinics for TB, sexually transmitted infections (STI) and forms of disease prevention and related nongovernmental organizations (NGOs) undermines capacity to provide comprehensive HIV prevention, care and treatment. It also hampers efforts to conduct HIV epidemiological surveillance.

Traditional education systems created another major barrier to progress. To this day, these rely heavily on didactic training methods, and seldom engage people living with HIV as expert trainers. Postgraduate education and continuous education of health professionals in many countries that arose from the dissolution of the USSR, for example, fail to integrate clinical training, and proven forms of adult learning in training programmes of physicians and nurses. As a result graduates do not learn needed clinical skills and team-based approaches critical to the success of treatment programmes. Effective prevention as well as care and support for people living with HIV also require an integration of health and social services, which is helped by the engagement of local NGOs, communities of drug users and people living with HIV. Vertical health-care systems and institution-based services, however, are limited in their ability to engage with these unconventional stakeholders, and as a result, have trouble reaching out to MARPs.

These barriers are common throughout eastern European countries. In 2002, WHO and the German BACKUP Initiative of GTZ were keen, therefore, to develop mechanisms of capacity building that would be culturally sensitive and flexible enough to address these common obstacles and benefit many countries. Above all, they saw a need to develop expertise at the regional and local levels in a collaborative and sensitive manner. Services could then be offered on demand as requested by ministries of health, practitioners, academic institutions and other national and local stakeholders and tailored to advance national strategies and plans, and strengthen existing health systems.

Concept: coordinated regional approach

Designed for excellence, dovetailed with GFATM

The November 2002 agreement of WHO and GTZ was only a starting point, as the shape of the new Knowledge Hubs only became clear over the ensuing 18 months, after a series of regional missions, and discussions with partners, government ministries and other stakeholders. From its inception, however, the project covered part of the salaries of staff dedicated to development of the Hubs at WHO headquarters in Geneva and its regional offices. As well, it provided limited funding for Hubs in the African, eastern Mediterranean and European regions.

Under the agreement, WHO/GTZ provided technical and financial support for the development and use of the Hubs through the start-up period, ending 2004. This technical assistance and seed money was to establish the new institutions so that they would be able to sustain themselves, by offering training and technical services to recipients of large Global Fund to fight AIDS, Tuberculosis and Malaria, World Bank and bilateral grants.

As well, staff at WHO headquarters and regional offices agreed to do normative work in support of the new Hubs, by gathering and providing up-to-date guidance on all aspects of HIV health-sector programme development and implementation.

A WHO project management group, drawing on existing staff from headquarters in Geneva, and the regional offices for Africa, Europe and the Eastern Mediterranean, identified thematic and geographic priorities based on detailed work-plans developed at the regional level. It oversaw the development of management tools for Hub accounting and quality assurance. As well, the group identified regional institutions that might host the Knowledge Hubs, did assessment missions and began drawing up contracts (WHO, 2003).

Institutions in Africa and eastern Europe with a record of (or potential for) excellence in HIV prevention and care were then chosen to be developed into regional hubs of expertise that would provide systematic training, TA and networking to countries who requested this support.

Several institutions were chosen for Hubs in (mainly francophone) West Africa and (mainly anglophone) East Africa.

This report focuses on the three Hubs that serve eastern Europe and central Asia: the Knowledge Hub on HIV/AIDS Surveillance at the Andrija Štampar School of Public Health (ASSPH), part of the Faculty of Medicine at the University of Zagreb, Croatia; the Harm Reduction Knowledge Hub for Europe and Central Asia, hosted by the Eurasian Harm Reduction Network (EHRN, formerly known as the Central and Eastern Europe Harm Reduction Network), in Vilnius, Lithuania; and the Regional Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia, based in Kiev, Ukraine (in 2009, this moved to St Petersburg, Russian Federation) and managed by the non-profit American International Health Alliance (AIHA).

Above all, the Hubs were designed to assist countries in strengthening health-sector responses to HIV, swiftly and sustainably, by tapping rich new sources of support from the GFATM and elsewhere. They were therefore, expected to be demand-driven (by GFATM Country coordinating mechanisms and principal recipients) and geared to help implement resulting grants and programmes. Their conceptual framework – structure, systems of support, guiding principles and primary activities – reflect this aim, and continue to distinguish the Hubs from other approaches to capacity development.

Structures and activities: form follows function

The three European Knowledge Hubs were designed to be leaders in building, coordinating and maintaining robust, regional networks of health-care providers, governmental and nongovernmental agencies, academic institutions, people living with HIV, expert consultants and others engaged in scaling up HIV services in three distinct areas: surveillance, harm reduction and care and treatment.

For all Hubs, structure followed function, providing flexibility to respond to different needs and opportunities. While the Care and Treatment Hub is geared to work with ministries of health and medical institutions to deliver training and TA on a large scale, the Harm Reduction Hub needs to do extensive advocacy work to create demand for training, thus its work is linked with the networking and advocacy of the Eurasian Harm Reduction Network.

As well, the Hubs were all structured for efficiency, with defined roles and responsibilities. Offices are, therefore, small with fewer than six staff, some working part-time. This might include a director, or coordinator, curriculum developers, trainers, administrators and an accountant. Each also has an advisory board of experts and donors to provide strategic guidance and assist in assuring the quality of services. Perhaps most important, existing agencies or institutions with significant capacity were chosen to host the Knowledge Hubs. This helped the new entities develop more stable financing, sound management and accountability, without compromising their legal autonomy.

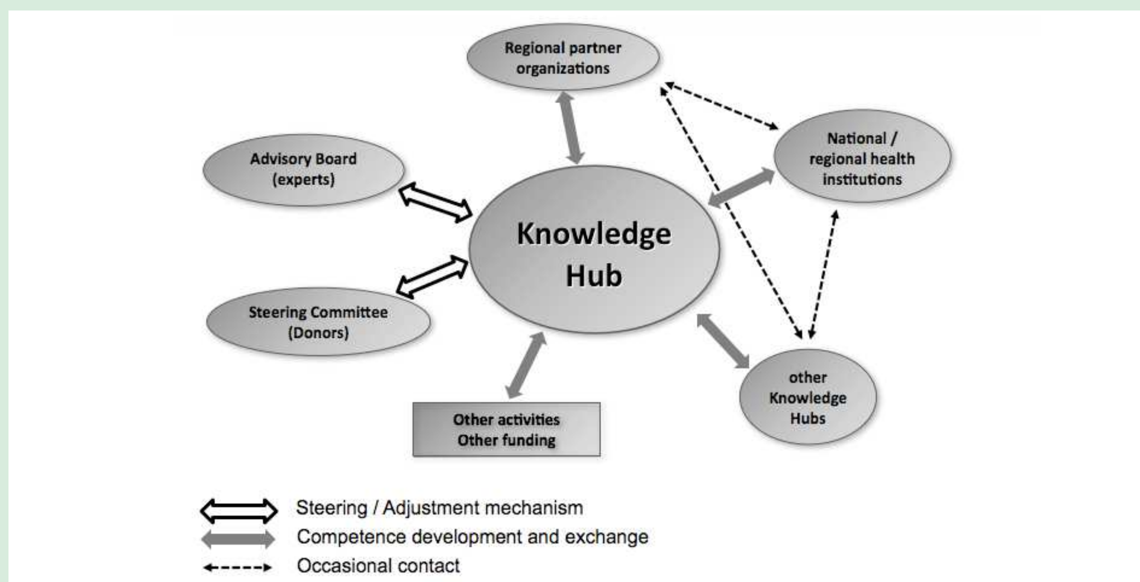


Figure 1: **General structure and relationships of European Knowledge Hubs.**
Source: German BACKUP Initiative (GTZ), Jörg Longmuss (fhochx)

With the German BACKUP Initiative, among others, WHO has supported the Hubs in three ways: technically, financially and as partners. WHO regional offices provide tools and guidelines; and, together with WHO headquarters, help in the organizational development of the Hubs. WHO also provides seed money to establish the Hubs and develop their technical and managerial functions. Through partnerships, WHO and GTZ guarantee the quality of Hub capacity building by accrediting training courses and collaborating with them in securing funding and pooling resources.

Six basic principles guide the regional approach of the HIV Knowledge Hubs:

- Build on existing local and regional expertise and structures;
- Work with key governmental and nongovernmental agencies;
- Align with national policies and programmes;
- Support comprehensive HIV prevention and treatment;
- Encourage sustainability through local or regional ownership; and
- Promote excellence, including use of WHO and UNAIDS guidelines.

Hub activities, therefore, fall into four broad categories.

Technical training: The Knowledge Hubs work closely with officials, practitioners and other stakeholders to develop curricula and provide training for health-sector planners and HIV service-providers. Capacity building also aims to empower those who are preparing major grant applications and allow for the training of regional and national trainers.

Direct technical assistance: Training alone is often not enough to ensure the adoption of new health practice. The Hubs, therefore, back up training with ongoing TA and mentorship.

Supporting technical networks: The Hubs strive to be focal points in networks of individuals, agencies and institutions covering whole regions and connected with leading institutions, donors and other nodes of knowledge worldwide. This promotes rapid exchanges of information, innovation and problem-solving and communities of best practice.

Adapting normative guidance to local conditions: WHO and partners provide a wealth of normative tools and guidelines, but these are only effective when translated and adapted to local conditions (languages and legal frameworks, etc.) and made easily accessible. Hub training and TA are, therefore, informed by the latest WHO and UNAIDS guidelines (and new research) and Hubs adapt tools and guidelines to make them widely accessible.

Knowledge Hubs: Five years of innovation

Knowledge Hub for Capacity Development in HIV Surveillance

Context and structure: Excellence generates strong demand

"The basic initial idea was modest: we would start in Croatia and cover as much as possible south-east Europe, mostly the former Yugoslavia," recalls Stipe Orešković, founder and first Director of the Knowledge Hub for Capacity Development in HIV Surveillance. "That is the key reason that the Hub began with a narrow scope subject-wise and territorially. When people came to the (Zagreb-based training) courses, however, word-of-mouth (advertising) started to work … we continued to accept people from outside, they left satisfied and simply came back with two friends the next year. So at the moment we have over 70 countries participating (in Hub training or TA)."

This demand was driven by urgent needs. Most countries had inadequate tools for understanding the epidemics of HIV (and TB) fast emerging in the region. Many had functioning systems for reporting cases of HIV. Some had reasonably reliable data on levels of injecting drug use. Few, however, had tools widely used in other parts of the world to chart the progress of the disease and understand risky behaviour and other modes of transmission among injecting drug users (IDUs), sex workers, men who have sex with men and other high-risk groups. These tools include population-based surveys using advanced methods of sampling, HIV and STI sentinel surveillance, and methods for integrating the behavioural and biological data generated by such studies – so-called second generation surveillance (SGS), the gold standard of WHO/UNAIDS.

Given the problem and epidemiological expertise required, in 2003 WHO and GTZ were keen to locate the new surveillance hub in an established centre of excellence. They were delighted, therefore, when a talented nucleus of young researchers at the Andrija Stampar School of Public Health (ASSPH) in Zagreb, Croatia, answered their call. The first public health school in eastern Europe, it is named after a pioneering Croatian public health physician who served as a founding organizer of WHO.

HIV Surveillance Hub Team: (front row, from left) founding Director Stjepan Orešković, Executive Director Ivana Božičević, Jurja-Ivana Čakalo; (second row, from left) Adriana Andrić, Danijela Lešo, Patricija Janković.

The resulting Hub has built on a solid base. Founded in late 2003, it draws some of its expert trainers from faculty at the School of Public Health and the University of Zagreb's School of Medicine, benefits from its strong connections with academic institutions worldwide and received critical budgetary and professional support that has helped the small Hub to survive budgetary shortfalls in its first years. Today, the Hub has just 3.5 full-time staff: an epidemiologist executive director, who does training, TA and fundraising; an administrator, who develops and organizes courses; a research assistant; and a part-time physician-lecturer. From 2003 to 2008, WHO/GTZ provided about US$ 491 000 (via ASSPH and United Nations Development Programme Croatia) in support of Hub staffing, training and other activities. The 2009 budget for core operations was less than US$ 134 000. Other sources of funding include scholarship fees and the European Commission and WHO (regional offices for Europe and the Eastern Mediterranean). The Hub has an active advisory board (with academics from the United Kingdom and United States). Its strength may owe as much, however to its approach: demand-driven, enterprising, committed.

"People who ask for our help see some genuine commitment from our side and also we are very much working to give them tools which they need," says Ivana Božičević, Executive Director of the Hub, and Research Fellow with the London School of Hygiene and Tropical Medicine. "So we don't philosophize or make our work area very mystical – we just give them what they need."

Objectives, strategies: Excellence in research informs assistance

The mission of the Knowledge Hub (which, since 2008, has also been a WHO Collaborating Centre for Capacity Building in HIV Surveillance) is to disseminate knowledge and best practice tools that increase the capacity of countries to identify the scale and distribution of HIV epidemics in populations most at risk. As in the other Hubs, this is done through training, TA, networking and adaptation of tools and guidelines.

Most courses are designed for HIV surveillance officers and epidemiologists and address practical, detailed and specific issues: the design and methodology of surveys, sampling in clinic-based and community-based surveillance, HIV-testing algorithms, monitoring resistance to anti-retroviral (ARV) drugs, quality assurance in surveillance and laboratory work, and so on.

Like its counterparts, the HIV surveillance Hub has developed different strategies to achieve its goals. Unlike the other Hubs, it devotes a part of its time to research, and the income from this supports other activities. To this end it collaborates with leading researchers at Global Health Sciences (University of California at San Francisco (UCSF)), the London School of Hygiene and Tropical Medicine and elsewhere (and these researchers also serve as faculty for training). Among other research, the WHO Regional Office for Europe commissioned the Hub to conduct a major review of HIV surveillance among men who have sex with men in 27 countries in eastern Europe and central Asia, the results of which were published as a report and as an article in the journal *Sexually Transmitted Infections* (Božičević et al, 2009). This study found major variations in surveillance of this population and botched surveys, together with evidence of under-reporting.

This 5-day November 2009 Knowledge Hub workshop in Zagreb, on protocols for population-based and clinic-based HIV surveillance, attracted epidemiologists and other public health professionals from Ethiopia, Kenya, Rwanda, Sierra Leone, Uganda and United Republic of Tanzania – some on scholarships.

Since 2006, the Hub has also offered scholarships to professionals who could not otherwise afford training. Supported by GTZ, and more recently the Croatian government, these scholarships allowed, for example, a number of African candidates to participate in a training session in Zagreb in November 2009.

The Hub has also ventured far beyond the borders of Europe. With the support of the WHO Regional Office for the Eastern Mediterranean it has done multi-country training sessions in Cairo, as well as Zagreb, for participants from throughout the region, (which includes the Middle East) and sub-Saharan Africa. These have included heads of National AIDS Programmes, as these senior officials often need training in HIV surveillance. The Hub also provides continued technical support to a new Knowledge Hub for HIV surveillance at Kerman University in Iran, established with the support of the WHO Regional Office for the Eastern Mediterranean.

"HIV surveillance is a high priority in the region, because there was, and is still, very limited knowledge

about HIV in most countries," says Gabriele Riedner, Regional Advisor HIV/AIDS/STD at the WHO Regional Office for the Eastern Mediterranean, based in Cairo. "It has improved a bit but five years ago it was really a black hole."

WHO has responded by sponsoring the training of surveillance professionals at the Zagreb Hub and elsewhere. It has also paid for TA by Hub experts. Riedner says, "They know the region, adapt well to special situations and have helped ministries overcome their fears of working with most at-risk populations."

She adds, however, that the Hub does not have the capacity to meet the TA needs of her region. Hence the need for new Knowledge Hubs, though on a smaller scale and focused on sub-regions.

Box 1: Support leads to first-ever advanced survey of sex workers
The Zagreb Hub's technical support for surveillance professionals in Yemen, one of the most conservative countries in the Middle East, began in 2007 with a one-week mission. Over the next two years, other missions, a three-day training session in Aden and field-work allowed the National AIDS Program to conduct the first HIV bio-behavioural study of female sex workers in the region. In the final stage, this required that Hub experts organize multidisciplinary teams (including police, local researchers and community representatives) to do state-of-the-art respondent-driven sampling (RDS) among 240 women. This produced the first data for this population on levels of syphilis, HIV and condom use. While the Yemeni government had yet to publish the results in early 2010, the data are informing new prevention strategies. Recently the Hub helped to conduct similar studies among sex workers in Somalia and Afghanistan.

Results: Benefits for Eurasia and beyond

Trainees receive certificates on completion of an HIV Surveillance Knowledge Hub workshop on Time-Location Sampling, May 2008.

Training: About 30% of the Hubs time has been devoted to this and, in the five years ending March 2010, 1006 participants from 70 countries had undergone training provided by the Hub. Seven training modules had also been translated into Russian and the first courses in Russian, presented in Russian-speaking countries, had been organized in 2009. Overall, since 2004, 42 training courses had been given: 27 in Croatia and 15 in other countries: Azerbaijan, Bosnia and Herzegovina, Egypt, the tormer Yugoslav Republic of Macedonia, the Islamic Republic of Iran, Montenegro, Pakistan, Serbia, Sudan, Turkmenistan, Ukraine, the United Kingdom and Yemen. "Respondent Driven Sampling" and "HIV Surveillance in Hard-to-Reach Populations" had the highest attendance. Course evaluations show that participants are generally satisfied with the lectures and find the content and approach useful, in particular the emphasis on practical work. The formal evaluation in 2008 (Buttner & Partners, 2009) found that participants felt a strong need for more training. It also noted that only a small number reported having access to funding for training courses.

Technical assistance: As of mid 2009, TA – 30% of Hub activities – had been provided in 18 countries. This consisted of design and implementation of

HIV bio-behavioural surveys in most-at-risk groups (men who have sex with men (MSM), IDUs, sex workers, young people and male migrants) and was often accompanied by training for the principal investigators and field staff. As with the MSM study for WHO Regional Office for Europe, TA has been closely linked to the Hub's research.

Networking: Again, about 30% of the Hub's work has focused on developing partnerships and collaborative networks with national and international institutions, bringing together a wide range of expertise, and ongoing exchange with participants of the training courses. Strategic partnerships with WHO, United Nations Development Programme (UNDP), UNAIDS, the European Centre for Disease Prevention and Control, the United Kingdom Health Protection Agency, the University of California, San Francisco, and others have further strengthened research and teaching capacities.

Adaptation of tools and guidelines: About 10% of the Hub's work in first five years involved integrating findings from surveillance practice and research into guidelines, development of tools and data collection instruments and the incorporation of these into training manuals.

Challenges

Long-term funding: While the Zagreb-based Hub has done a lot with short-term funding, it has had difficulty securing support for the long term. This has undermined its efforts to do strategic planning, to recruit qualified staff and to fully exploit opportunities. This shortcoming also adds to the stress on members of staff, who occasionally feel overburdened with work.

Impact: Hundreds of professionals have undergone Hub training, learning the latest techniques of surveillance, but this knowledge does not always translate into strengthened surveillance systems back home, where lack of resources and the ignorance or indifference of decision-makers can hamper progress.

Russian-language training: The Hub has not entirely fulfilled expectations in this area, though recently it offered its first courses in Russian, and is poised to build on this precedent if resources are available to do so.

Concept in action: Networks boost research and surveillance

Networks of strong agencies and skilled individuals can be highly effective: complex (working on numerous levels) yet low-cost, nimble yet broad-based, quick in problem-solving and disseminating new knowledge. A *raison d'être* of the Knowledge Hubs was to build regional networks of technical support for HIV programmes, and the Zagreb-based surveillance Hub has demonstrated the merits of this connectivity.

The Hub sees itself as a node in overlapping networks of researchers, funding agencies, individuals and organizations building capacity in health systems. Thanks to its connections in research, participants in Hub training sessions are taught by leading epidemiologists from University of California, San Francisco, and the United Kingdom's Health Protection Agency, as well as the University of Zagreb's School of Medicine. Day One of its five-day courses is usually devoted to presentations by participants on HIV surveillance in their native countries, and efforts are made to encourage trainees to stay in touch after they return home and, above all, share information.

A recent case study found that 225 professionals from government agencies and NGOs in Bosnia and Herzegovina, Montenegro, the former Yugoslav Republic of Macedonia and Serbia who received Hub training used the Hub's regionally tailored course materials and slide sets to train another 100 professionals in aspects of second generation HIV surveillance when they returned home (GTZ/WHO Collaborating Centre Knowledge Hub, 2009).

According to Boban Mugoša, Director of the National Institute of Public Health in Montenegro

and Vice-Chair of its GFATM Country Coordinating Mechanism, the Knowledge Hub's technical network also assisted the development of HIV surveillance by providing easy access to up-to-date knowledge and the sharing of information among surveillance teams, health facilities and NGOs. Mugoša says that as a result "the HIV surveillance system in Montenegro was raised up from the dust and now is at the level comparable to those in developed countries."

Training and networking have also triggered a cascade of benefits in Ukraine: building further capacity, fostering research and creating opportunities. This all began at multi-country HIV surveillance training sessions in Zagreb, in which 32 Ukrainians took part between 2004 and 2009. On returning home these trainees used Hub curricula to train another 200 colleagues. This capacity development caused nothing less than a "shift in ideology", as Ukrainian epidemiologists and social researchers began to collaborate in implementing their surveys and combining their serological and behavioural data, a major step forward for HIV surveillance (GTZ/WHO Collaborating Centre Knowledge Hub, 2009).

Hub training also included staff members with the International HIV/AIDS Alliance (AIDS Alliance, Ukraine), which went on to become the Principal Recipient of a GFATM grant. Since then, the AIDS Alliance has been instrumental in helping the Hub deliver its first Russian-language training courses: beginning in Yalta, southern Ukraine, and St Petersburg, Russian Federation, in 2009. Networks nurtured by the Hub's research acumen are also helping the Zagreb team to collaborate in a major triangulation study. The first study of a concentrated epidemic in eastern Europe, this will merge data from biological, behavioural and other sources and likely provide a clearer picture of the factors fuelling Ukraine's complex HIV epidemic and how to address it.

"We are contributing to this project … with UCSF, the United States Centers for Disease Control and Prevention and the Ministry of Health … because of our technical expertise and the previous work with colleagues in Ukraine," says Ivana Božičević, Executive Director of the Zagreb-based Knowledge Hub.

Added value: Connected, informed capacity builder

Training and TA by the HIV surveillance Hub appears to have helped eastern European and central Asian, Mediterranean and Middle Eastern and African countries to strengthen HIV surveillance. Their networks have also advanced relevant HIV research in many countries, including Azerbaijan, Bosnia and Herzegovina, Serbia, Somalia, Ukraine and Yemen. Members of the Hub also note that they have learnt a great deal from participants attending their training sessions and collaboration with members of their Advisory Board, including leading researchers at University of California, San Francisco (Global Health Sciences).

Participants at regional HIV Surveillance Hub workshops often learn a great deal from each other, as well as from distinguished trainers. Here three African epidemiologists discuss population-based and clinic-based HIV surveillance at the School of Public Health, Zagreb, November 2009.

Harm Reduction Knowledge Hub for Europe and Central Asia

Context and structure: Small structure, big voice

As noted, injecting drug use with unsterile needles, syringes and other equipment is the primary driver of HIV (and hepatitis C) epidemics in eastern European and central Asian countries, and indirectly fuels the spread of tuberculosis, including multi drug resistant TB. Solid scientific evidence indicates that targeted *harm-reduction* measures, including opioid substitution therapy and needle and syringe programmes, reduces HIV transmission significantly; however, many countries in this region cling to ineffective measures, which criminalize drug users and limit access to services for prevention and care.

Every day, injecting drug users in Vilnius, Lithuania, such as those pictured here, come to a Blue Bus for clean needles and syringes. This is part of a programme run by a pioneering clinic that works closely with the Harm Reduction Knowledge Hub.

The Harm Reduction Knowledge Hub for Europe and Central Asia (HRKH) was established in 2004 to address this issue. A consortium of non-governmental organizations led by the Central and Eastern Europe Harm Reduction Network (now known as the Eurasian Harm Reduction Network, EHRN), AIDS Foundation East-West (AFEW), and the International Harm Reduction Development Programme (IHRD) of the Open Society Institute (OSI), were the prime movers.

WHO-certified training curricula offered by the Harm Reduction Knowledge Hub cover outreach and needle-syringe programmes, such as those offered by social workers to sex workers via this Blue Bus in Vilnius, Lithuania.

The Hub is based in Vilnius, Lithuania, at the office of the EHRN, which maintains a network including 300 institutional and individual members in 29 countries. WHO chose EHRN to host the Hub owing to the Network's strong capacity for advocacy, research and organizing. As well, Lithuania was the first country in eastern Europe to introduce OST (in 1995) and has a solid reputation for high-quality OST programming. Since 2007 EHRN has formally taken responsibility for supporting and operating the Hub, on its own.

The Hub is small with the equivalent of just 1.2 staff: a coordinator supervised by EHRN's Program Director. Its work and that of the EHRN are complementary with the Network secretariat responsible for networking, advocacy, documentation and research, while the Hub focuses on developing and delivering training courses, other TA and adaptation of tools and guidelines. In the first two years of the Hub, WHO provided CEEHRN (EHRN) and AFEW with about US$ 228 400 for Hub organization, training courses, development and adaptation of curricula and its web site. In 2007, GTZ provided direct funding worth US$ 70 000 for capacity building. In recent years the Hub has attracted greater funding with about US$ 400 000 raised in 2009 from different donors and clients.

Objectives, strategies: Training and networking region-wide

Four objectives were stated in the first memorandum of understanding between the Knowledge Hub consortium and the WHO Regional Office for Europe: direct TA (developing a pool of experts from the (sub-)region that can assume consultancy functions); systematic training for national staff involved in health-sector planning and HIV prevention and treatment services; support for technical resource networks (catalyzing linkages between individuals and institutions involved in HIV prevention and care); and adaptation of normative guidance to local conditions.

Sex workers who inject drugs, such as these young Lithuanians, obtain sterile equipment, condoms and prevention education thanks to strengthening of health services supported by the Harm Reduction Knowledge Hub.

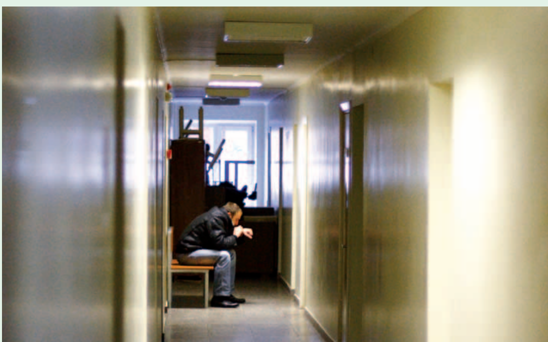
As well as members of the EHRN network (Russian- and English-speaking), target groups include all organizations working on harm reduction in eastern Europe and central Asia, civil society organizations, drug-user community organizations, individuals, governmental organizations, United Nations agencies, and Principal (and sub-)Recipients of GFATM grants. As few governments in the region provide harm-reduction services on a major scale, most trainees come from civil society organizations (though health workers and government officials participate in smaller numbers) and tend to be nominated by clients of the Hub.

The Harm Reduction Knowledge Hub commissioned Emilis Subata (pictured here), Director of the pioneering Vilnius Centre for Addictive Disorders, to develop a WHO-certified training course on opioid substitution treatment for Eastern Europe and Central Asia.

Though evidence of its effectiveness is clear, harm reduction continues to face political opposition, so supporting advocacy, sharing information and networking are a major part of the Hub's work. Two advanced seminars recently offered on contemporary issues – beyond the usual package of services – attracted paying participants and scholarship holders from the Global Fund to fight AIDS, Tuberculosis and Malaria, United Nations agencies and NGOs. Speakers included international and regional experts: for example, Anya Sarang, president of the Andrey Rylkov Foundation and winner of the International Rollesten Award for Leadership in Harm Reduction; Jean-Paul Grund, Researcher at the Center for Addiction Research, Utrecht; and Neil Hunt, Founding Director of the United Kingdom Harm Reduction Alliance and Director of Research for the British drug treatment and services agency. In 2009, the Hub also organized successful opioid substitution therapy (OST) study visits to a leading Lithuanian clinic for delegations of physicians and health officials from Belarus and clinicians, academics and decision-makers from Tajikistan. During these visits, participants learnt about the clinic's outreach services, including its mobile needle and syringe programme (Blue Bus, see below for details).

Young injecting drug user drinks his daily dose of methadone under surveillance of dispensing nurse at Vilnius Centre for Addictive Disorders. The Harm Reduction Knowledge Hub is helping to disseminate the best practice of this clinic (among others) regionally.

The Hub has invested in developing course curricula informed by local knowledge as well as WHO guidelines. Its nine WHO-certified training modules, therefore, promote evidence-based practice in ways that address the specific needs of service providers in the region. Via EHRN's extensive regional network, the Hub identifies the most relevant topics, and its pool of expert consultants – many of whom are from the region and graduates of Hub training – help in developing and delivering curricula. Topics include programme management, services for female drug users, monitoring and evaluation, opioid substitution therapy, needle exchange programmes, overdose, advocacy and outreach.



Knowledge Hub training and technical support strengthen harm reduction programmes such as those at the Vilnius Centre for Addictive Disorders, pictured here, which give most-at-risk populations better access to basic health services.

Securing financing has also been part of the Hub strategy – and it has had to be entrepreneurial. The Hub charges for its training courses, but these fees cannot cover the full cost of the hub administration, including accountancy, office costs, contact with clients and funders. EHRN has, therefore, often had to bridge gaps in financing of the Hub or subsidize the activities of the Hub in other ways.

Results: Extensive training, strong networks

Training: About 70% of the work of the Harm Reduction Knowledge Hub is devoted to training and it is known for the quality of its curricula, planning, organization and delivery of courses. Courses are provided at the request of clients and curricula tailored to the needs of trainees. Some include study visits to leading regional institutions. As of October 2009, the Hub had delivered 35 training courses, reaching more than 600 participants in 19 countries: Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, FYR Macedonia, Moldova, Poland, Romania, the Russian Federation, Ukraine, Uzbekistan and Tajikistan.

Technical assistance: Kyrgyzstan, Uzbekistan, Tajikistan, Russia, Slovakia, Latvia, Belarus and Ukraine are among the countries that have paid for the Hub's TA, mostly in the form of evaluations, including service assessments, meeting facilitation and reporting.

Networking and advocacy: The Hubs work is closely linked to the networking and advocacy activities of its host, EHRN. The network secretariat, for example, fosters contacts with its member organizations, and gives added profile to the Hub through its web site and internet links. With partners, the Hub has supported the establishment of a new Hub serving Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan.

Adaptation: This work took more of the Hub's time during the first years in operation; but it has kept tools up to date, continues to seek support for the development of new instruments in response to changing regional demand (few funding agencies support this critical work).

Challenges: Financing and profile

Financing: The expectation was that the Hub would sustain itself through its provision of services. As for the other Hubs, fees from training courses are not sufficient; and Principal Recipients of major grants from the GFATM and other agencies (national government bodies, civil society organizations, United Nations bodies etc.) are often reluctant to invest in agencies based outside their national boundaries. Vigorous promotion of services and cooperation with national agencies can help to overcome this barrier, and the Hub has had some success in this area, but financing has yet to allow the Hub to realize its full potential.

Profile: Promotion of the Harm Reduction Knowledge Hub could be more effective. Participants in training sessions, for example, are sometimes not aware that their training was provided by the Hub. This problem is related to the need to more strategically promote the Hub as a distinct entity. Also there is the constant risk that the Hub will be unable to promote its training and TA in ministries of health, when it is also a vocal advocate for harm reduction (and criticizing governments). This danger should not be overstated, though, as the Hub's advocacy has occasionally changed the attitudes of governments, and increased their receptiveness to TA.

Concept in action: Building on regional expertise

Though small the Harm Reduction Hub exerts considerable influence throughout eastern Europe and central Asia – especially through training and TA. To do this it draws on a pool of trainers, who are often also clinicians or other experienced health workers at distinguished regional institutions. In 2005, for example, the Hub asked the psychiatrist-director and social workers at the Vilnius Centre for Addictive Disorders (Vilnius Centre) to develop a training module on opioid substitution therapy (OST) for practitioners in eastern Europe and central Asia. Since 1995, the Centre has pioneered harm reduction and drug treatment programmes, informed by WHO guidelines, and has conducted important research (see, for example, Lawrinson 2008).

The resulting course is now the gold standard for OST training in the region, and is also used for training organized by United Nations Office on Drugs and Crime (UNODC), WHO and UNDP. Physicians in Belarus, Estonia, Kazakhstan Kyrgyzstan, Latvia, the Republic of Moldova, Tajikistan and Uzbekistan are among those who have done the course and countries are also institutionalizing it to further expand OST. For example, this Hub module has now been adapted to train Lithuanian physicians and is used by the Faculty of Medicine at Vilnius University.

Contemporary teaching methods, suited to adult learning, are also used to deliver the modules – lectures are balanced with case-based, problem solving and clinical visits. As well, the Hub often arranges study visits for decision-makers, doctors and academics. On one visit in 2009, the Hub took a delegation of central Asian health officials to Portugal, to learn about its successful approaches to harm reduction and enabling legislation. The Hub has also brought delegations of doctors and decision-makers to the Vilnius Centre to learn how to provide OST, and how this is best complemented by a package of health and social services.

"They see the units in the Centre first: methadone, detoxification, psychosocial rehabilitation," says psychiatrist and Director Emilis Subata. "And they meet with social workers and patients. They also go to the Blue Bus (needle-syringe exchange). The goal is to show that different kinds of services are needed."

The Vilnius Centre was one of the first in eastern Europe to introduce needle-syringe programmes, in 1997. It has also pioneered a system that shifts most responsibility for patient case management from physicians to social workers. In eastern Europe, where doctors often preside over rigid medical hierarchies, this is a departure from the norm. With WHO support, the Harm Reduction Knowledge Hub is able to demonstrate the strengths and help disseminate such best practice.

"We did two trainings for the Hub in 2009," says Subata. "One for a group from Tajikistan (10 health professionals and decision-makers); another in Minsk, Belarus, for 40 practitioners. The Tajiks plan to start methadone soon. And after our training in Minsk, in April, Belarus opened its second methadone programme." As a result of the training, Subata's clinic also had a request from Belarus to host four physicians from other soon-to-be launched methadone programmes for the oblasts (regions) of Svetlagorsk and Minsk.

"The Hub provides training and technical assistance of quality because they have developed different modules, and have good national and regional trainers and specialists, who understand the different countries," says Dr. Subata. "The Hub is an important part of the Eurasian Harm Reduction Network, which is very active in advocacy with governments and other international NGOs – very active and very needed."

Box 2: Hub marshals regional support for evidence-based practice
Some countries remain abjectly opposed to harm reduction. The Russian Federation, for example, has prohibited opioid substitution therapy and the country's few needle-syringe programmes are beginning to close down. Even in Lithuania, in 2005, newly elected parliamentarians declared methadone a "poison" and tried to shut down the countries highly successful clinics, which now treat some 600 patients. It was advocacy, supported by EHRN and the Knowledge Hub's robust networks of supporters, that helped to keep harm reduction services open. In this situation, the broad regional scope of the Knowledge Hub and its networks proved critical to success, as decision-makers in Lithuania heard not only from local supporters of services, but also WHO, UNODC and other respected global agencies.

Added value: Communities of evidence-based practice

An independent evaluation of the Hub completed in 2009, concluded that Hub's strength owed much to its regional scope and keen local knowledge: "The Harm Reduction Knowledge Hub has a unique regional perspective; …it knows where the best-practice sites are; …it knows about changing tendencies in the region, for example, growing amphetamine use and the need for harm reduction services to adapt … accordingly; and [it knows] the people in the region as well – who can contribute to which issue (Buttner & Partners, June 2009)."

The reluctance of governments to invest in harm reduction forces the Hub to do more advocacy than other Hubs. This is disappointing as it is in a unique position, as a regional agency able to address issues that are often "out of bounds" for national entities. With EHRN's distinguished membership (leading experts and activists throughout the region) and WHO's backing, the Hub commands respect in this area.

Regional Knowledge Hub for HIV Care and Treatment in Eurasia

Context and structure: answering an emergency

The Regional Knowledge Hub for HIV Care and Treatment in Eurasia opened in January 2004 based on a memorandum of understanding between AIHA, Ukraine's Ministry of Health, the National Medical Academy of Post Graduate Education (NMAPE) and the Ukrainian National AIDS Centre. And, until June 2009, it was based in Kiev, Ukraine, at NMAPE. Some training is still done at the Lavra Clinic and other locations in Ukraine, but the Hub is now based at the St Petersburg AIDS Training and Education Center in St Petersburg, with an administrative arm at AIHA's offices in Moscow.

How did this happen? In 2003, Ukraine was in the eye of a storm that threatened not only the lives of thousands of Ukrainians in need of HIV treatment, but also the nascent Global Fund to Fight AIDS, Tuberculosis and Malaria. Two years earlier, the GFATM had awarded the country a Round 1 grant worth US$ 100 million, much of it earmarked for antiretroviral therapy, yet the procurement of drugs had been delayed and little of the money had been spent. Something had to give. Ukraine had the most firmly established HIV epidemic – and the largest percentage of people needing immediate treatment – in the region. People with HIV were demanding care, yet the health system did not have the capacity to provide it. With all eyes on what it would do, the GFATM took action to trigger the use of funds and the Ukraine government gave notice that it planned to distribute the new medicines immediately upon their procurement to any doctor who requested them, through pharmaceutical dispensaries.

This set off alarms. Representatives of the WHO Regional Office for Europe and other international agencies argued against this approach, noting that it could have disastrous effects, as physicians lacked adequate training to provide HIV treatment and outcomes would be disappointing, even dangerous. Among the strongest advocates of this controversial position was AIHA, the Washington-D.C.-based non-profit agency that had been providing training and TA for primary health care and prevention of mother-to-child transmission in Ukraine over the previous decade.

They agreed to work together in advocating with the Ministry of Health and national stakeholders for this measured approach. At the same time, the WHO Regional Office for Europe and GTZ chose AIHA as host of the new HIV Care and Treatment Knowledge Hub for Eurasia and convinced the Ministry of Health and other stakeholders to use the new regional mechanism to build the country's capacity.

Courses offered by the HIV Care and Treatment Hub use adult-learning techniques and mobilize multi-disciplinary teams of specialist physicians, nurses and social workers, as seen here at a 5-day palliative care course in St Petersburg, 2006.

"The Ukrainian government had been taking so much criticism for the delays in acquiring and distributing the ARVs; so, rather than risk further delays, it said 'Well if everybody says it can be done through the primary care system then let's do it,'" recalls James Smith, Executive Director of AIHA. "Of course, those of us who had been working in the field said 'This doesn't make sense – If you just push the drugs out, you're going to end up with bad results – including HIV drug resistance – and if we get bad results that'll be the end of GFATM money for everybody'. So there were much larger implications to be considered."

With the support of GTZ and WHO, the Hub and its partners helped Ukraine develop a multi-disciplinary model of care, of international standard, that was based on the country's existing network of local HIV/AIDS centres and a related human-resource capacity-building plan to provide practitioners with the skills necessary to implement and sustain that care model effectively. In the next five years the Hub received funding via the AIDS Alliance (Ukraine), Principal Recipient of the GFATM grant, to train teams of Ukrainian physicians, nurses and NGO counsellors working in the HIV clinics. Nearly 300 physicians completed the certified WHO/Knowledge Hub course on anti-retroviral therapy (ART), and hundreds of nurses, social workers, and lab technicians received specialized training, together with a course (also provided to doctors) on multi-disciplinary teamwork. This allowed Ukraine to scale up treatment from less than 100 in 2003, to 3000 by the end of 2005 (WHO 2006), 7657 by the end of 2007, and 10 700 by end of the 2008 (UNICEF/UNAIDS/WHO, 2009). From the beginning, the quality of training was high, and other countries soon came asking for it. Initially, multi-country sessions were held in Kiev, but increasingly the Hub began to provide training on-site in different countries with faculty drawn from the Hub's Ukrainian affiliate (Lavra Clinic) and, from 2006, its Russian affiliate (St Petersburg AIDS Training and Education Center).

Training offered by the HIV Care and Treatment Hub stresses effective case management. Here, former nurse-trainee Olga Fyodorova, standing, and colleague talk to patient at the Engels Mental Disease Hospital in Saratov Oblast, Russian Federation, 2006.

When the GFATM grant ended, the Hub helped Ukrainian stakeholders prepare a successful application for renewal. By now, however, Ukrainian institutions including a new National Training Center organized at the Hub's affiliated Lavra Clinic site had become strong enough to conduct training on their own. Constraints on the part of the new GFATM Principal Recipients in funding non-Ukrainian entities and concern that some of the money received by the Hub went as overhead costs to the headquarters of AIHA in Washington, D.C., resulted in the new round of training grants being awarded to the National Training Center instead of the Hub. The significant reduction in Ukrainian funding forced the Hub to cut its Ukrainian staff and reduce operations. By 2009, with funding largely from grants from WHO for curricula development and smaller training and faculty development agreements with the GFATM Principal Recipients in other countries, it was decided to move the Hub's administrative functions to Moscow, where it could be more economically supported by AIHA's local office, and to organize the majority of training out of the Hub's affiliated sites in leading HIV clinics and hospitals in St Petersburg.

James Smith says the Kiev-based Hub was partly a victim of its own success: "Every country wants to have its own training capacity; so, after the Hub helped to successfully develop that capability at its Ukraine based affiliates, it's understandable that the GFATM Principal Recipient and the Country Coordinating Mechanism (CCM) would use their funding to support the National Center directly instead of the Hub. It's important to bear in mind that, the Hub's first priority was to serve as an emergency stop-gap for training health professionals to treat patients – and we were really successful in addressing that priority." As well, he notes that the Hub continues to support Ukraine's national training centre, a Hub affiliate that now provides training in countries throughout the region.

Objective and strategies: communities of best practice

The first memorandum of understanding on the Regional Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia between AIHA and the WHO Regional Office for Europe outlined these objectives: establishing a Hub in an appropriate sustainable, institutional setting; systematic capacity building; providing direct TA; supporting technical resource networks; and adapting normative guidance to local conditions.

The initial focus was in Ukraine, the country with the greatest need. The Hub took pains to help Ukraine establish a solid basis for the roll-out of HIV care and treatment and showed a similar zeal for quality in the development and presentation of its courses (see Innovations, below), and the creation of a pool of regional experts able to train teams of ART practitioners and sustain the new capacity of health systems. These traits soon distinguished the Hub's work throughout the region. In 2005, it provided the first multi-country training course in Tajikistan, followed later that year by on-site sessions in Moldova and the Russian Federation.

"In each country (Belarus, the Republic of Moldovia, the Russian Federation and Ukraine, and all four central Asian countries), we have a core group of master trainers who are really good – really expert as practical physicians and as faculty," says Inna Jurkevich, Country Director for AIHA in the Russian Federation, and coordinator of the Hub. "We focused on physicians who treat patients on a day-in and day-out basis, because a lot of academicians in post-graduate medical training academies don't see many patients on a regular basis."

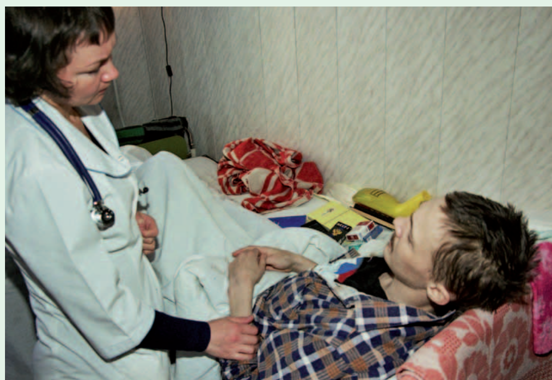
"We helped good clinicians to become great faculty, great teachers – this is very important," says Inna Jurkevich. "We get feedback from trainees that the faculty are very knowledgeable, they know how to present information, they use interactive approaches and show by example, and talk to patients in ways that respect their rights. Also they contribute to curriculum development."

Vladimir Mousatov, Deputy Chief (Medical Affairs) at the Bodkin Infectious Diseases Hospital, St Petersburg, is an example. The Bodkin is a big place, treating 40 000 inpatients each year, including 3500 HIV patients. This includes many HIV/TB co-infected individuals, and the hospital is a national leader in providing ART. Mousatov was known as a talented clinician when the Hub invited him to help with its training; but he gives the Hub great credit. While he didn't undergo formal training with the Hub, he says he benefited greatly from the comprehensive slide sets provided to him, the Hub's promotion of multidisciplinary approaches ("unfortunately Russian medical tradition puts doctors and nurses on different floors," he notes) and his distinguished fellow trainers. These included HIV specialists such as Benjamin Young, Assistant Clinical Professor of Medicine at the University of Colorado, Denver and Jay Dobkin, Associate Professor of Clinical Medicine at Columbia University, New York. For the last three years, he has delivered several courses per year on HIV care and treatment (mostly for clinicians, including pediatricians and TB specialists) in the Russian Federation and central Asia. Mousatov innovates in other ways, too. Separate from Hub training, he uses an open access internet chat room to present up to 20 HIV cases per year to practitioners and others in town and cities throughout the country. Sometimes he fields questions from people living with HIV; other times he seeks advice on the content of a new training course offered by the Hub. He is grateful to the Hub for expanding the pool of HIV knowledge.

"Through the Knowledge Hub we speedily disseminate comprehensive and – this is very important – correct, evidence-based information about HIV infection, treatment, antiretroviral treatment. It's really a pleasure for me…I started in infectious disease 15 years ago, and it was a dark jungle for ordinary physicians dealing with problems of HIV infection, but now (there are) a lot of young, very highly educated young doctors (with whom I can discuss HIV care and treatment) on a similar platform."

Box 3: Institutional recognition sustains Hub capacity development
Maintaining capacity for HIV services is a challenge in many countries. The Care and Treatment Hub has, therefore, encouraged medical training institutions (and ministries of health) to either adopt or formerly recognize its course curricula. This is now paying dividends. In Russia, the international collegial network of technical experts known as Monitoring the AIDS Pandemic (MAP) awards continuing education certificates in association with the Knowledge Hub's affiliated St Petersburg AIDS Training and Education Centre (ATEC). In Ukraine, from 2005 to 2008, nearly 300 Ukrainian physicians were awarded certificates by NMAPE after completing the three standard ART courses offered by the Knowledge Hub. Under an arrangement struck with the Ministry of Health, no Ukrainian practitioner was allowed to provide ART without this certificate. Hub curricula are now also recognized throughout eastern Europe and central Asia, sustaining the benefits of training.

Results: care and treatment expand region-wide
Training: Since 2004, the Knowledge Hub has trained more than 5000 providers of HIV care and treatment from 10 countries in eastern Europe and central Asia: Azerbaijan, Belarus, Estonia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Ukraine and Uzbekistan. These practitioners are responsible for providing treatment to more than 50 000 people living with HIV.



Infectious diseases specialist Natalia Fomenkova examines patient as trainees look on during palliative care course offered by HIV Care and Treatment Hub at St Petersburg City AIDS Centre, 2006.

This has entailed developing or adapting curricula for 40 different training courses, in Russian and English. Using the different curricula, the Hub has provided more than 200 training courses, including a series for aspiring trainers. The vast majority of the participants have undergone training in ART, though courses cover a wide range of relevant topics: TB and HIV: management strategies for co-infected patients; HIV/ HIV and AIDS in IDUs: treatment and care; and laboratory monitoring of HIV and ART.

Not all courses were of the clinical quality of those offered in Ukraine (see below). As the 2008 evaluation noted, a large number of Russian courses, for example, focused on the basics of palliative care and prevention of mother-to-child transmission (PMTCT) and were presented in a largely didactic manner to 50-80 persons as required by donors such as the Russian Health Care Foundation and UNICEF (Buttner & Partners, 2009).

Technical assistance: According to the five-year formal evaluation, this accounted for 20% of the work done by the Care and Treatment Hub. Assistance has included the high-level negotiations in 2004, which laid the basis of Ukraine's strategy for rolling-out multidisciplinary care in local HIV clinics and the country's related capacity-building strategy and subsequent meetings on quality of care in 2005, 2006 and 2007. Other TA was provided in a series of sub-regional consultations to assess the status of scale-up of ART and capacity building needs of countries in 2005 and 2006 (in Tbilisi, Almaty and Kiev); via country consultations on specific care and treatment issues including Belarus (2006) and Estonia (2007); and in 2008 and 2009, during a series of consultations in Tashkent and Almaty to define and harmonize the care and treatment capacity-building strategy for the central Asian republics.

Networking: As well as collaborating with WHO/GTZ and national stakeholders, the Knowledge Hub has developed a pool of expert consultants from countries within the region who now offer TA throughout the region.

Moscow meeting of Care and Treatment Hub, WHO and GTZ, Nov. 2009: (left to right) Pavlo Khaikyn (Germany); Kristina Kloss (German BACKUP Initiative, GTZ); Aza Rakhmanova (St Petersburg Medical Academy of Postgraduate Studies); Vladim Rassokhin (Baltic Medical Educational Centre); James Smith (AIHA); Anne Petitgirard (Department of HIV/AIDS, World Health Organization); Inna Jurkevich (AIHA); and Peter Weis (German BACKUP Initiative, GTZ).

The Hub also publishes a newsletter and maintains a well-developed and current web site. This supports a growing emphasis on electronic communications to allow easy access to course curricula, tools and documents and, as described below, to support new distance-learning initiatives.

Adaptation: The Knowledge Hub continuously develops courses and translates and adapts training materials consistent with WHO protocols, national requirements and evidence-based training manuals in Russian and English.

Challenges

Rigid health systems: Stratified health-care systems, and the pressing need for more qualified health workers to help scale up services for HIV, TB and other diseases are among the chief challenges faced by the Hub.

Unresponsive training institutions: Developing national clinical training capacity is also hampered by the general weakness and lack of response of most traditional national training institutions to meeting clinical training needs with modern adult-learning methods.

Waning demand: Despite continuing and urgent needs – including poor quality care and inadequate coverage of HIV treatment in many countries – concrete demand for a regional source of capacity building is not always evident. National agencies and international donors alike often give low priority to human resource capacity building in budgets. Many countries get GFATM money, which includes funds for capacity building for health personnel; but persistent advocacy is required to attract these sources of funding to services provided by the Knowledge Hub. Efforts to strengthen financing have also been undermined by the economic downturn in 2008 – 2009.

Concept in action: Putting quality before quantity, with success

"We really felt it was critically important to get it right in Ukraine, the first time. Because we knew that if we put together a good practice and training model in one place that other countries (soon to win Global Fund Round 2 and 3 grants) would emulate it, provided we made a conscious effort to disseminate it across the region." says James Smith, Executive Director of AIHA.

The Regional Knowledge Hub for HIV Care and Treatment in Eurasia did not have the capacity to train all HIV practitioners, but it was convinced that it could significantly raise the standard of training and TA across the region, and it did: first in Ukraine, then other countries.

The epicenter of training was the 20-bed Lavra AIDS Clinic, associated with the Institute of Epidemiology in Kiev. The clinic was perhaps the only health

facility providing antiretroviral therapy to patients, often using medicines brought in by visiting North American and European physicians. As supplies were unpredictable, patients frequently changed regimens, but the clinic was recognized for providing compassionate care and having the best and most experienced HIV clinicians in Ukraine. For pragmatic reasons – including the aim of institutionalizing Hub curricula in the national medical training system – the offices of the Hub were located at NMAPE. The singular focus of the Hub's training, however, was to build the skills of doctors, nurses and social workers who dealt with patients, rather than university faculty, many of whom had little relevant clinical experience.

Training provided by the HIV Care and Treatment Hub armed clinicians throughout Ukraine with the knowledge and practical skills they need to provide high-quality services, as seen here at a community-based HIV clinic at Odessa Oblast Hospital.

AIHA looked after the financial and managerial aspects of the Hub, though at the peak of its activity in 2007-2008, no more than five AIHA staff devoted a significant amount of their time to Hub activities. From 2006 – 2008, AIHA also allocated the equivalent of one full-time employee at its Washington, DC, office to manage the Hub's curricula development and provide administrative and procurement support.

Before training began, however, the Hub worked with national stakeholders to develop innovative training curricula consistent with the national strategy and supportable by the GFATM and other major donors. It also sought advice in selecting teams of capable physicians, nurses and social workers (including people living with HIV) in five priority regions for training.

Whereas training in Ukraine had been didactic and perfunctory – three to five days of lectures by academics without case studies or clinical training – Hub trainees now underwent a three-part, 72-hour training course spread over six to eight months, parts of which were initially led by expert European and North American providers of ART. The courses were highly interactive, using adult-learning techniques, group work and open discussion. The first five-day course, Initiation of Antiretroviral Therapy (ART) for Adults, offered at the Lavra Clinic and other sites, taught the basics through presentations, work in small groups, role-playing and bedside training. This was followed several months later by two days of Adult Antiretroviral Therapy (ART) Onsite Mentoring at the trainee's facility with emphasis on patient examination and bedside training. Finally, practitioners did a five-day course Advanced Antiretroviral Therapy (ART) for Adults and Opportunistic Infections Management. During this period, trainees learnt by doing. Teams took on first ten, then 20 or 50 HIV patients and only expanded their practice when ready to do so. More ART teams were then trained and coverage expanded to other regions.

The strategy worked. And as expected, other countries came to the Hub to ask for similar courses. At first the Knowledge Hub invited practitioners to attend sessions in Kiev; but as demand grew and the faculty in Ukraine and the Russian Federation became increasingly capable, the Hub began to offer training in different countries. "One of the cornerstones of our concept is to teach people how

to provide quality care," says Zoya Shabarova, who coordinated the work of the Hub, 2004-2009. "We don't just teach in the classroom setting, there is a heavy emphasis on bedside training and (clinical) skills. We also provide a continuum of courses to meet the changing needs of practitioners as they develop."

Added value: regional mechanism for boosting care and treatment

According to the formal evaluation, the Knowledge Hub has become a regional resource for building clinical capacity – and has enabled countries that emerged from the USSR, in particular, to initiate and scale up effective, high-quality care and treatment for people living with HIV (Buttner & Partners, 2009). The Hub's investment is also credited with significantly improving the quality of clinical care at Ukraine's pioneering Lavra Clinic and the ability of the clinic to serve as a national training institution. Similar investments in the Hub's affiliated centres in St Petersburg and related training of trainers have also strengthened clinical training capacity in the Russian Federation. Furthermore, with the support of the World Bank and the Ministry of Health of Uzbekistan, the Hub is now involved in training faculty for the central Asian republics and developing a similar affiliated clinical training centre in Tashkent, Uzbekistan, as part of a coordinated effort to boost regional training capacity in a sustainable manner. The resulting human and organizational capacity has become a key component of the region's ability to translate international assistance and scarce national resources into effective, high-quality treatment programmes.

Lessons learnt

Proximity, sensitivity to regional and local needs

The emphasis on developing expertise at the regional and local levels, in a collaborative and keenly informed manner, is what most distinguishes the Knowledge Hubs. Other approaches to capacity building often bring in outside consultants, with only cursory knowledge of a region or country, and fail to either train local trainers or offer sustained technical support after the initial mission. By contrast, the Hubs are keenly familiar with the regions they serve, tailor their training and assistance to the needs of ministries of health, practitioners, academic institutions and other national and local stakeholders, and to the best of their ability provide sustained assistance for the strengthening existing health systems. In this, they draw on the expertise of faculty and staff of their host institutions or agencies and existing regional and global centres of excellence. As focal points they are, therefore, able to harness the power and creativity of technical networks to develop regional solutions to regional problems. Proximity and a regional approach is, arguably, more important in eastern Europe and central Asia than any other region of the world, as many countries share similar health and education systems and a common language. They also face similar epidemics. Multi-country training can, therefore, be done efficiently at the regional level.

Experience worldwide also shows that policy-makers are more inclined to introduce new laws and practices if these have been shown to work in neighbouring countries. This is particularly true in this region, where many small countries lack strong health and academic infrastructure, and often look to their neighbours (and regional centres of excellence) for guidance.

Partnerships, communities and cooperation

The three Knowledge Hubs themselves constitute a small but influential partnership of HIV epidemiologists, researchers, prevention specialists and clinicians, and their flexible structures and international backing allow them to collaborate in advancing comprehensive, evidence-based responses to HIV and associated diseases. Through training and TA, the Hubs also provide organized, regular opportunities for decision-makers, health-care professionals, harm-reduction practitioners and civil society organizations (including networks of people living with HIV and representatives of most-at-risk populations) to communicate with one another and international experts. “This is better than cooking in your soup,” says Gabriele Riedner of the WHO Regional Office for the Eastern Mediterranean, who notes that epidemiologists and other HIV surveillance staff in many countries in the Mediterranean and Middle East have few colleagues with similar knowledge and experience. The Hubs also promote forms of horizontal *(east-east and south-south)* cooperation. Trainees, for example, adapt Hub training curricula to train practitioners in their own countries or countries, in Russian – efficiently disseminating best practices informed by WHO guidelines. These regional communities of experts facing a common epidemic – consultant trainers, national decision-makers, leading practitioners and other stakeholders – can be an important force in scaling up, and sustaining, comprehensive HIV services of high quality.

Independence enables evidence-based services

As noted, major barriers continue to inhibit efforts to expand coverage of – let alone provide universal access to – evidence-based HIV services in eastern Europe and central Asia. These include vertical (command-oriented) health and education systems, overly didactic training methods, inadequate involvement of people living with HIV and injecting drug users and, occasionally, political resistance. Backed by WHO, GTZ and other global agencies, the regional Hubs work with governmental and nongovernmental agencies known for (or, with the potential to achieve) excellence; so they are able to use modern teaching methods to advance current evidence-based practice. Where political resistance is impeding progress, the Hubs provide a respected *supranational* basis for training, networking and advocacy based on WHO guidelines that addresses the needs of most-at-risk groups and wider populations in countries with shared languages, overlapping histories and similar health systems. As noted, the Harm Reduction Hub used its independence (and networks) to help advocate for the protection of Lithuania's evidence-based methadone maintenance programmes.

Flawed business model

The Hubs were designed on the premise that they would tap into Global Fund to fight AIDS, Tuberculosis and Malaria grant monies to pay for their services and that this and other new funding would allow them to largely sustain their own operations. Experience shows this is not the case. Countries often underestimate capacity-development needs and penny-pinch when budgeting for training and TA. Many proposals for grants, therefore, do not allow for services provided by the Hubs. GFATM grants also tend to go to national agencies and organizations -- proposals for regional mechanisms must clearly demonstrate added value over national ones – and Principal Recipients are more inclined to allocate funding to NGOs and other partners, within their borders. This forced the Care and Treatment Hub to relocate from Ukraine to the Russian Federation in 2009. As well, a Round 5 GFATM proposal prepared by all three Hubs in support of regional capacity building was rejected by the Fund, with little encouragement. Fees for training, meanwhile, seldom cover the broad range of work required: curriculum development, adaptation and translation, accounting and reporting, for example. The Hubs, therefore, frequently struggle to make ends meet. Their host organizations subsidize their activities. They take on research to pay administrative costs of training. They cut staff or lower their ambitions. Without stable, core funding, they are also unable to recruit the best personnel. Only stable, long-term funding for core operations will allow the Hubs to overcome these challenges.

Global agencies can help Hubs reach their potential

Regional mechanisms of capacity building have demonstrated their worth, and have a critical role to play in helping countries scale up services towards the global goal of universal access to HIV prevention, care, treatment and support. The Global Fund to fight AIDS, Tuberculosis and Malaria can strengthen this promising regional practice model by allowing strong regional proposals for capacity building to compete for grants on a more even footing with national proposals. Furthermore, the Knowledge Hubs have the potential to become strong partners for UNAIDS and its efforts to strengthen HIV-related regional capacity development.

Peer review

The German HIV Practice Collection has established criteria that initiatives must meet to qualify for documentation in the HIV Practice Collection. The approach to capacity building represented by the regional HIV Knowledge Hubs for eastern Europe and central Asia qualify as a "promising practice" to the extent that they demonstrate the following strengths:

Effectiveness: The three Knowledge Hubs have been effective in developing capacity in surveillance, harm reduction, and care and treatment in a region burdened with the world's growing HIV epidemics, economic uncertainty and considerable political upheaval. Their regional approach is well-suited to the political and public health context – for example, the similar education and health systems and common needs and language of most of the countries emerging from the former USSR – and the emphasis on multi-country training and networking has allowed for swift capacity building. While they have yet to be placed on a sustainable footing, experience suggests that it is unreasonable to expect them to be entirely self-sufficient, or to adhere to a "business model", as they are not businesses but rather more akin to providers of "public goods". Many would also agree that given their context, the valuable technical support they provide should be subsidized.

Transferability: The Knowledge Hub model is flexible, and its six principles and four broad areas of activity (technical training, direct technical assistance, supporting technical networks and adapting normative guidance to local conditions) are transferable to other regions and technical areas, although approaches will differ by region and technical area.

Participation and empowerment: A founding principle of the Hubs is that they will "build on existing local and regional expertise and structures," and they have demonstrated their commitment to training of trainers with a participatory and empowering approach to build capacity. The major success of the Care and Treatment Hub in empowering local health professionals, authorities and NGOs to take over responsibility for training and technical assistance in Ukraine, for example, is helping the country address arguably the most severe HIV epidemic in the region. And while this success prompted the Hub to relocate to the Russian Federation, it has already demonstrated its ability to engage with national institutions and strengthen their ability to train and retain the skilled cadres they need to deal with this country's major HIV epidemic. Furthermore, beneficiaries of training have also included many people living with HIV, and representatives of most-at-risk populations (including injecting drug users).

Gender sensitivity: This document does not specifically address gender issues, but the Hubs have contributed significantly to gender-sensitive programming: for example, special training curricula on the provision of services for female drug users, and methods of conducting accurate surveys of men who have sex with men and male migrants using powerful respondent-driven sampling (RDS), which is a relatively new method used to sample hard-to-reach populations.

Monitoring and evaluation: The Hubs were developed based on expert analyses, and baseline assessments of the capacity of candidate institutions to host the new agencies and regional needs. Original memoranda of understanding called for regular progress reports, and WHO was particularly active in evaluating progress of the Hubs in their first few years and helping them work with national authorities to build influence. All Hubs were also subject to a comprehensive independent evaluation after five years (2003-2008), with shared indicators.

Innovation: As this report argues, the HIV Knowledge Hubs represent “a radical departure from conventional practice” of capacity building. They are also innovative in how they both build on existing capacity and seek to develop new capacity.

Cost effectiveness: When compared to many other agencies engaged in capacity building at different levels and across large regions, the Knowledge Hubs are “lean and mean” and have generated significant results with little investment. The backing of WHO and other global agencies has helped them operate in this efficient way; so too has their use of extensive networks of technical experts, researchers, health authorities, civil society organizations and others.

Sustainability: A guiding principle of the Hubs is to encourage “sustainability through local or regional ownership.” The Hubs have achieved much in this area: for example, by developing pools of regional experts able to conduct training and provide technical assistance and by encouraging the institutionalization of care and treatment training curricula by major Russian medical training institutions. As noted, the long-term financial sustainability of the Knowledge Hubs remains in question, though the Hubs have been resourceful and creative in maintaining themselves through a diversity of activities and income.

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