UWC SCHOOL OF PUBLIC HEALTH
2011 GRADUATES

POST GRADUATE DIPLOMA IN PUBLIC HEALTH

CHISHIMBA Paul,
KWESABA Samkelo,
SIPELITI Nomvelo,

MASTER OF PUBLIC HEALTH

CAMPBELL, Penelope
Thesis: Assessing the Knowledge, Attitudes and Practices of Street Food Vendors in the City of Johannesburg regarding Food Hygiene and Safety.
Supervisor: Prof. T. Puoane

CHOKA, Constance
Supervisor: Ms. S. Mohamed

My name is Constance Ndlovu Choka and I recently graduated with a Masters degree in Public Health at UWC. Taking into consideration that I was a full time worker and that my work involved extensive travelling I registered to study as a part-time student. Studying as a long distance student was not as smooth sailing as I had anticipated especially when the project I was working for phased out in the third year of my studies and the new project I joined had no provision for staff development. Setting up a new community-based project called for a lot of workshops and travelling in rural communities where internet facilities and electricity were nonexistent. This greatly affected my pace of study. As a long distance student you study in isolation and hence sometimes got overwhelmed with the heavy workload and the sense of loneliness. Despite the challenges of studying as a long distance student, I drew a lot of strength from the support I got from the school. The prompt feedback especially from my supervisor was a huge motivation for me. Her patience, valuable input and encouragement helped me forge ahead and I was very excited when I finally got to meet her at the graduation.

My research was on Teenage Girls’ Access to and Utilization of Adolescent Reproductive Health (ARH) Services in Mpika District, Zambia. Teenage pregnancy is one of the major public health problems facing teenage girls in Zambia including Mpika district the focus of the study despite the availability of ARH services. Therefore using the qualitative approach an assessment of the accessibility and utilization of the ARH services was done to explore the factors affecting teenage girls’ access to and utilization of ARH services. It was assumed that by exploring the perceptions and experiences of the teenage girls and the service providers appropriate interventions to improve accessibility to and utilization of ARH services will be designed that would reduce the incidence of teenage pregnancy.

Having shared the study findings with my organization, the findings will be taken into consideration in the planning of our programs which are aimed at supporting and strengthening the capacity of our communities to take positive health action and promote the change of harmful social norms. The study findings will also be shared with the district stakeholders in anticipation that the findings will contribute to the designing of appropriate ARH programs which will ultimately contribute to the reduction of teenage pregnancies in our district especially that the recommendations were made by the users and the providers of these services.
I thought I would struggle when I started with the MPH because it was distance learning. However this did not happen as support was always at hand from the admin staff as well as from the supervisors and co-supervisors. Sometimes it was a struggle to get hold of someone to ask your questions to but it always worked out in the end. Distance learning allowed me to pace myself to deliver within the set timeframes. What was important for me to remember through this was that I was doing this for personal development first and then to enhance my career outputs. The contact weeks helped to build relationships with fellow students and engage actively with SoPH staff.

The undisputed benefit of exclusive breastfeeding for both the mother and child has led to the global prioritisation of the promotion, protection and support of breastfeeding with the adoption of the Baby Friendly Hospital Initiative (BFHI) strategy. Baby Friendly Hospital (BFH) status is awarded to a maternity unit when they are found to be complying with set criteria (“Ten Steps to successful Breastfeeding”). South Africa has implemented a re-evaluation system for retention of accreditation status, by reassessing accredited facilities every three years.

Formal (internal) assessments by trained BFHI assessors are routinely completed in the year preceding national reassessment by the South African National Department Of Health (NDoH) and form part of the monitoring and evaluation plan of the BFHI strategy. The results of the internal assessments done in the past indicate that erosion of steps four to nine occurred; also referred to as the implementation steps which ensure that practices are adopted to promote and support breastfeeding. Lack of maintenance of the foundation steps (Steps 1-3) is also reflected in these reports.

The aim of this study was to describe the experiences, success and challenges associated with the implementation of BFHI in accredited facilities in the Cape Town Metropole Health District.

I chose to do research which would assist me in my current position an Assistant Director working in the Sub-directorate Nutrition of the Western Cape Provincial Department of Health. I will be able to utilize the skills to assist me in completing situational analyses to inform the development of strategies and fulfill my monitoring role in my current position.

TSABEDZE, Lindiwe
Supervisor: Prof. T. Puoane

SAHAY, Sundeep
Thesis: Assessment of the Ability of the Health Management Information System in India to Use Information for Action
Supervisor: Dr. G. Reagon

Sundeep Sahay obtained his MPH degree, under the supervision of Dr Gavin Reagon. His thesis was empirically based within the Indian health system, and examined issues around use of health information for action - the reasons why this aspect is a weak link, and what are some of the strategies to address this. Sundeep benefitted greatly from Dr Gavin's inputs to the thesis, and feels his thesis quality was significantly enhanced as a result. The experience as a "distant" student was positive, but would have been even more so if he could have had more face to face interactions.
NSIBANDE, Duduzile  
Thesis: Assessment of the Uptake of Referrals by Community Health Workers to Public Health Facilities in Umlazi, KwaZulu-Natal.  
Supervisor: Dr. T. Doherty

Studying MPH part-time at the UWC has really changed my view of distance learning. The anticipated ‘long and lonely journey’ was changed into an exciting learning experience. I really appreciate the endless support and friendliness of the lecturing and administrative staff. I also benefitted a lot from being given an opportunity to send draft assignments and to attend the mini-thesis week. The Comprehensive Primary Health Care, Measuring Health and Disease and Research modules gave me a broader understanding of key public health issues such as PHC re-engineering such that the acquired knowledge and skills are already useful in my professional work.

MUTHIGA, Caroline Njeri  
Thesis: Assessment of Knowledge and Attitudes on HIV and Sexual Risk Behaviour amongst 15 to 19 year olds in Ngong sub – district, Kenya  
Supervisor: Ms. V. Mathews  
Co-Supervisor: Dr. B. Van Wyk

My research was on HIV among youth, which remains a challenge in Africa. I chose this topic because very little is known about why young people are becoming the largest group with newly affected HIV cases. The impact on the country is also significant with many young people starting their career life already infected.

It takes discipline and commitment to be a distant learning student. Once you build in that discipline into your life, you are able to discipline yourself to do even more.

I will use my experience to research most in my professional work/career. As a nutritionist, there are many circumstances when we need to do further research either when conducting a rapid assessment, survey or just when trying to understand trends among communities.

PhD (honoris causa)

Professor Marleen Temmerman  
Prof Temmerman has been working with the Faculty of Community and Health Sciences, and specifically with the SOPH, for the past ten years. She helped conceive and drive the partnership between UWC and the association of Flemish universities in Belgium (VLIR) – particularly the Dynamics of Building a Better Society (DBBS) programme which aims at transforming health and education policies and practices related to HIV in South Africa.

Despite her many commitments and punishing schedule as academic, gynaecologist and senator in the Belgian parliament, she always finds time to seek, find and build common ground to further the work of this project through students supervision, jointly planned conferences and the development of VLIR project activities more generally. Engagements with her are not always easy, as she demands a lot of herself and her colleagues – but they are invariably immensely enriching. She has and continues to make an important contribution to building capacity in the School and the University.
An interactive resource, *How to be a health activist*, has recently been released. This is a joint production developed by SOPH, SANBI and the eLearning Division at UWC. The resource consists of a 158 page book for learners in grades 7-9, and an interactive DVD. The focus is on TB prevention and care, with an emphasis on the associated life skills necessary for long-term TB prevention.

Professor Trish Struthers of the Physiotherapy Department urges learners to become health promoters and activists and to spread the message. Her project schools have been involved in the conception of the book since 2009 and have regularly given their input and feedback. Learners and teachers played an integral role in the development of the resource.

The Western Cape Education Department (WCED) as well as various other stakeholders in health and education were consulted during the process of creating this resource. In addition, many Life Orientation teachers gave feedback during the various developmental phases of the resource. The new schools curriculum was consulted to ensure that the resource aligns with the curriculum. This will enable teachers to incorporate this supportive material with ease.

As Professor Alan Christoffels (DST/NRF Research Chair in Bioinformatics), says, TB is a disease that is treatable and we can beat this disease if we are adequately informed. This resource aims to inform and inspire learners and their teachers to take action. Hence chapters in the attractively illustrated *how-to* book include:

- How to be confident,
- How to relate to others,
- How to prevent TB and HIV,
- How to apply your Human Rights,
- How to make decisions and solve problems,
- How to manage depression and stress,
- How to know more about careers and
- How to be a health activist.

It also has an extensive list of contact details for further TB support.

Professor O’Connell, in his foreword, points out that this book is not only about the science of disease, but also about ... “how we lead our youth to become hopeful, thinking, caring and hardworking citizens capable of change and of creating a viable nation that can fend for itself.” This is indeed a resource that is going to help our communities deal with TB.
Health Minister Dr Aaron Motsoaledi and the European Union Commissioner for Development, Andris Piebalgs, have jointly launched a R1.2 billion Primary Health Care Sector Policy Support Programme, which will contribute to the government’s key objectives for the South African health sector.

Source: http://www.sagoodnews.co.za/health_and_hiv_aids/primary_health_care_gets_an_eu_boost.html

Support to strengthen maternal and child health service delivery
19 September 2011
The South African Ministry of Health has secured an additional R198 million from the Department for International Development (DFID) in the UK to help the country strengthen maternal and child health service delivery. This comes after a visit by Health Minister Dr Aaron Motsoaledi to the UK on September 15 - 16, where he met with representatives from the DFID.


Non-communicable Diseases (NCDs)

NCDs: celebrating success, moving forward
Robert Beaglehole, Ruth Bonita, George Alleyne, Richard Horton

A milestone in the global response to non-communicable diseases (NCDs) was achieved in New York, USA with the adoption of the Political Declaration of the High-Level Meeting of the General Assembly of the UN on the Prevention and Control of Non-communicable Diseases.

The level of participation by heads of state and government, and the number of interventions by countries and other stakeholders, were indicators of the interest in the issues and a measure of the success of the meeting. The Declaration recognises the enormous health and economic burdens imposed by NCDs on all countries and especially low-income and middle-income ones. It firmly positions NCDs as a development, and not just a health, issue. This is an essential reframing for the discussions in the run up to the post-Millennium Development Goals era beginning in 2015 and is to be celebrated. Although it would have been ideal for the Declaration to have included time-bound goals and targets, it incorporates many of the recommendations made by civil society and also stresses research and development and international cooperation, including access to medicines under the flexibilities of the trade-related aspects of intellectual property rights agreement. The Declaration opens up new opportunities to move the NCD agenda forward.

Two tasks are urgent. The first is to ensure the widest possible distribution of the Declaration. It must be known by the public, academia, media, and, especially, at all levels of government. Non-governmental organisations, led by the NCD Alliance, have a key role in dissemination and ensuring that NCDs remain firmly on both the health and development agendas.

The second task is to encourage the successful delivery of the four key short-term commitments agreed in the Declaration by member states and global institutions, including WHO: the development of a comprehensive global monitoring framework, including voluntary global targets and national indicators by the end of 2012; the preparation of options by the end of 2012 for an effective partnership to carry forward multisectoral actions; the strengthening of multisectoral national policies and plans for the prevention and treatment of NCDs by 2013 and their implementation; and the preparation of a report on the commitments in the Declaration as the basis of a comprehensive review by 2014.
WHO has proposed a global monitoring framework and a set of targets to monitor progress in reducing the burden of NCDs. This is a useful beginning but should be enhanced by the contributions of academia and civil society as well as member states. The monitoring framework needs to be part of a larger accountability mechanism approved by the UN Secretary-General and should include three components: global goals and national targets and indicators; an independent review of national progress towards these targets; and a mechanism for offering advice and support to countries to help them maintain progress. The Information and Accountability Commission on Women’s and Children’s Health provides an excellent model for NCDs and ideally there will be one accountability framework for all global health priorities. The data component of the monitoring framework should include the collection of key data attuned to the needs and capabilities of low-income and middle-income countries. The core items should relate to trends in mortality and the major shared risk factors and be integrated with the goals and targets. Time-bound, ambitious, measurable, and achievable goals and targets are essential to encourage accountability.

The proposed WHO overall goal of a 25% reduction in preventable NCD mortality by 2025 is readily achievable with a few priority cost-effective interventions. The major indicator should be tobacco reduction—and here we should be ambitious, aiming for an essentially tobacco-free world by 2040 with an interim target of a global adult daily smoking prevalence of less than 15% by 2025, down from the current 22%. The second major indicator should be reduction in population salt intake to the WHO-recommended level of 5 g per person per day by 2025. Achieving this target will have a major impact on reducing population blood pressure and would reduce the need for mass blood pressure medication, which is beyond the resources of many low-income countries.

There are lessons from other health partnerships that will be useful for the development of the NCD partnership. Data and evidence must be at the centre of the NCD partnership and the partnership should include all key stakeholders—civil society, UN agencies, including WHO, the World Bank, and the private sector—with transparent rules of engagement for all partners. The goal is a partnership based on a clear action agenda; the formal structures are of secondary importance. The UN Declaration implies that the establishment of a partnership may not occur until 2013, but an operational partnership should be in place by early 2012. In addition, existing mechanisms should be strengthened to assure cooperation within the UN system itself; the active involvement of the UN Development Programme, the Food and Agriculture Organization, UNICEF, and the International Labour Organization in the multisectoral approach to NCDs is vital.

Most countries already have national policies and plans for the prevention and treatment of NCDs. Often missing, however, are the resources to implement and evaluate programmes. The development of innovative national funding schemes is critical. Lack of funding should not be an excuse for lack of action, since there are positive experiences from low-income and middle-income countries for raising funds from additional taxes on tobacco and alcohol for health promotion. In addition, countries must include NCDs in their development agendas and thus assure the cooperation of the development agencies as was promised in the Paris Declaration.

Evaluation of the progress on global and national commitments will be central to the report in 2014 to the Secretary-General. The maintenance of the momentum generated by the UN Declaration will depend in part on a streamlined, inclusive, and democratic civil society movement that is proactive, politically focused, and able to work cooperatively with global and national institutions. Sustained political momentum will keep NCDs prominent on the agendas of the major global meetings, such as the G20 and Rio+20 UN Conference on Sustainable Development in 2012; the association between NCDs and the challenges to be addressed in Rio is clear. Finally, the overarching goal is to reduce the huge health and economic burdens of NCDs, especially on the poor, by ensuring that NCDs remain central to global development. It is time for us all to move forward.

Source: The Lancet, Volume 378, Issue 9799, Pages 1283 - 1284, 8 October 2011
doi:10.1016/S0140-6736(11)61559-6
**PhD title:** An assessment of the factors influencing the development of health promoting schools: A case study of three secondary schools in a historically disadvantaged community in Cape Town

The World Health Organisation advocates for the development of health promoting schools (HPS). HPS is a holistic approach which aims to create and maintain healthy, supportive environments where healthy choices can be made by addressing the determinants of health in a multi-sectoral way. The University of the Western Cape (UWC) is involved in a project which is developing three secondary schools in a community in Cape Town as HPS in an attempt to reduce the spread of HIV and tuberculosis. Unemployment, gangsterism, drug and alcohol abuse, teenage pregnancy and single-parent household are just some of the problems that the school children in this community face. Tuberculosis is also very common.

There is a paucity of information on the process of developing HPS in South Africa and more specifically in secondary schools. Therefore the aim of this context-sensitive, practice-based study is to explore the factors (enabling as well as challenging) that influence the development of secondary schools as HPS in a historically disadvantaged community in Cape Town. It is a challenge to do health promotion in a setting that has a different focus i.e. for schools, their focus is teaching and learning and they do not necessarily see the link between health and education. I am undertaking a qualitative multiple case study design.

My data collection in the three schools started in July this year. The study sample includes learners and teachers directly involved with the HPS project as well as the principals of the three schools. It will also include the project team and other stakeholders involved with the three schools. Data collection to date has been in the form of individual interviews and focus group discussions. I have also done some observations of meetings and the school environment. I still need to do some document reviews and more interviews with key people to get a complete picture of people’s involvement and experiences with the project.

I especially like working with adolescents and therefore enjoyed my data collection. It is not always easy doing research in schools and gaining the cooperation of the school when it is not part of their school agenda. I was only allowed to do interviews after school hours which meant that the participants had to stay on after their classes had ended. However, I think because of the relationship that the UWC HPS project had built with the participating schools since 2008, a certain level of trust was developed, which made it easy for me to gain their cooperation, as I was known to them already being a team member of the project. The participants were very open and willing to share their experiences with the project with me. I have now completed the bulk of my data collection in the schools, which was the easy part for me. The more difficult task of interviewing other stakeholders is going to be more of a challenge. For example, the schools complain that they have minimal parental involvement in the school, so I am anticipating that I might also have a problem in getting a response from parents. It is also difficult to access the Education District officials because of their busy schedules and health might not be a priority for them.

I have found that perseverance and flexibility are two characteristics I need as a researcher, especially in working directly with people. We have to face the realities of people’s lives and have to build that into our research process. For example, I had developed a template for when, where and how I was going to collect my data, but in the end I had to compromise because I had to work according to the participants’ availability and the schools’ functioning and timetables. At times I had two interviews in one day at different schools and at other times schools cancelled their appointments due to other pressing issues. I have started some preliminary analysis which will inform further data collection.

I hope to start writing up my research early 2012 which will be the real challenge for me!
WHO REPORT 2011 GLOBAL TUBERCULOSIS
CONTROL

Executive summary

This is the sixteenth global report on tuberculosis (TB) published by WHO in a series that started in 1997. It provides a comprehensive and up-to-date assessment of the TB epidemic and progress in implementing and financing TB prevention, care and control at global, regional and country levels using data reported by 198 countries that account for over 99% of the world’s TB cases.

The introductory chapter (Chapter 1) provides general background on TB as well as an explanation of global targets for TB control, the WHO’s Stop TB Strategy and the Stop TB Partnership’s Global Plan to Stop TB 2011–2015. The main findings and messages about the six major themes covered in the rest of the report are provided below.

The burden of disease caused by TB (Chapter 2)

In 2010, there were 8.8 million (range, 8.5–9.2 million) incident cases of TB, 1.1 million (range, 0.9–1.2 million) deaths from TB among HIV-negative people and an additional 0.35 million (range, 0.32–0.39 million) deaths from HIV-associated TB. Important new findings at the global level are:

- The absolute number of TB cases has been falling since 2006 (rather than rising slowly as indicated in previous global reports);
- TB incidence rates have been falling since 2002 (two years earlier than previously suggested);
- Estimates of the number of deaths from TB each year have been revised downwards;
- In 2009 there were almost 10 million children who were orphans as a result of parental deaths caused by TB.

Updates to estimates of disease burden follow the completion of a series of consultations with 96 countries between 2009 and 2011, including China, India and 17 African countries in the past year, and much greater availability and use of direct measurements of TB mortality. Ongoing efforts to further improve measurement of TB cases and deaths under the umbrella of the WHO Global Task Force on TB Impact Measurement, including impressive progress on TB prevalence surveys and innovative work to strengthen surveillance, are summarized. At country level, dramatic reductions in TB cases and deaths have been achieved in China. Between 1990 and 2010, prevalence rates were halved, mortality rates fell by almost 80% and TB incidence rates fell by 3.4% per year. Methods used to measure trends in disease burden in China – nationwide prevalence surveys, a sample vital registration system and a web-based case notification system – provide a model for many other countries. Other results reinforce the findings of previous global reports:

- The world and all of WHO’s six regions are on track to achieve the Millennium Development Goal target that TB incidence rates should be falling by 2015;
- TB mortality rates have fallen by just over a third since 1990, and the world as well as five of six WHO regions (the exception being the African Region) are on track to achieve the Stop TB Partnership target of halving 1990 mortality rates by 2015;
- The Stop TB Partnership target of halving TB prevalence rates by 2015 compared with 1990 is unlikely to be achieved globally, although the target has already been reached in the Region of the Americas and the Western Pacific Region is very close to reaching the target;
- There were 3.2 million (range, 3.0–3.5 million) incident cases of TB and 0.32 million (range, 0.20–0.44 million) deaths from TB among women in 2010;
- About 13% of TB cases occur among people living with HIV.
Case notifications and treatment outcomes (Chapter 3)
In 2010, there were 5.7 million notifications of new and recurrent cases of TB, equivalent to 65% (range 63–68%) of the estimated number of incident cases in 2010. India and China accounted for 40% of the world’s notified cases of TB in 2010, Africa for a further 24% and the 22 high-TB burden countries (HBCs) for 82%. At global level, the treatment success rate among new cases of smear positive pulmonary TB was 87% in 2009. Between 1995 and 2010, 55 million TB patients were treated in programmes that had adopted the DOTS/Stop TB Strategy, and 46 million were successfully treated. These treatments saved almost 7 million lives. Alongside these achievements, diagnosis and appropriate treatment of multidrug-resistant TB (MDR-TB) remain major challenges. Less than 5% of new and previously treated TB patients were tested for MDR-TB in 2010. The reported number of patients enrolled on treatment has increased, reaching 46 000 in 2010. However, this was equivalent to only 16% of the 290 000 cases of MDR-TB estimated to exist among notified TB patients in 2010.

Financing TB care and control (Chapter 4)
In 97 countries with 92% of the world’s TB cases for which trends can be assessed, funding from domestic and donor sources is expected to amount to US$ 4.4 billion in 2012, up from US$ 3.5 billion in 2006. Most of this funding is being used to support diagnosis and treatment of drug-susceptible TB, although funding for MDR-TB is growing and expected to reach US$ 0.6 billion in 2012. Countries report funding gaps amounting to almost US$ 1 billion in 2012. Overall, domestic funding accounts for 86% of total funding, with the Global Fund accounting for 12% (82% of all international funding) and grants from other agencies for 2%, but striking contrasts between BRICS (Brazil, the Russian Federation, India, China and South Africa) and other countries are highlighted:

- BRICS invested US$ 2.1 billion in TB control in 2010, 95% of which was from domestic sources;
- In the other 17 HBCs, total expenditures were much lower (US$ 0.6 billion) and only 51% of funding was from domestic sources.

Most of the funding needed to scale up the treatment of MDR-TB towards the goal of universal access is needed in BRICS and other middle-income countries (MICs). If BRICS and other MICs fully finance the scale-up of treatment for MDR-TB from domestic sources, current levels of donor financing for MDR-TB would be almost sufficient to fund the scale-up of MDR-TB treatment in low-income countries. Donor funding for TB is expected to reach US$ 0.6 billion in 2012, a 50% increase compared with US$ 0.4 billion in 2006, but far short of donor funding for malaria (US$ 1.8 billion in 2010) and HIV (US$ 6.9 billion in 2010).

New diagnostics and laboratory strengthening (Chapter 5)
The first data on the roll-out of Xpert MTB/RIF, a new rapid molecular test that has the potential to substantially improve and accelerate the diagnosis of TB and drug resistant TB, are presented. By 30 June 2011, six months after the endorsement of Xpert MTB/RIF by WHO in December 2010, 26 of the 145 countries eligible to purchase GeneXpert instruments and Xpert MTB/RIF cartridges at concessional prices had done so. This shows that the transfer of technology to developing countries can be fast. The continued inadequacy of conventional laboratory capacity is also illustrated: - In 2010, 8 of the 22 HBCs did not meet the benchmark of 1 microscopy centre per 100 000 population;
- Among the 36 countries in the combined list of 22 HBCs and 27 high MDR-TB burden countries, 20 had less than the benchmark of 1 laboratory capable of performing culture and drug susceptibility testing per 5 million population.

Overall, laboratory strengthening needs to be accelerated, as is currently happening in 27 countries through the EXPAND-TB project supported by UNITAID.

Addressing the co-epidemics of TB and HIV (Chapter 6)
Progress in scaling up interventions to address the co-epidemics of TB and HIV has continued:

- In 2010, HIV testing among TB patients reached 34% globally, 59% in the African Region and 75% in 68 countries;
- Almost 80% of TB patients known to be living with HIV were started on cotrimoxazole preventive therapy (CPT) and 46% were on antiretroviral therapy (ART) in 2010;
A large increase in screening for TB among people living with HIV and provision of isoniazid preventive therapy to those without active TB disease occurred in 2010, especially in South Africa.

Impressive improvements in recent years notwithstanding, much more needs to be done to reach the Global Plan targets that all TB patients should be tested for HIV and that all TB patients living with HIV should be provided with CPT and ART.
Research and development (Chapter 7)

The topic of research and development is discussed for the first time in the global report. There has been considerable progress in diagnostics in recent years, including the endorsement of Xpert MTB/RIF at the end of 2010; other tests including point-of-care tests are in the pipeline. There are 10 new or repurposed TB drugs in clinical trials that have the potential to shorten the treatment of drug-susceptible TB and improve the treatment of MDR-TB. Results from three Phase III trials of 4-month regimens for the treatment of drug-susceptible TB are expected between 2012 and 2013, and results from two Phase II trials of new drugs for the treatment of MDR-TB are expected in 2012. There are 10 vaccine candidates in Phase I or Phase II trials. It is hoped that one or both of the candidates currently in a Phase II trial will enter a Phase III trial in the next 2–3 years, with the possibility of licensing at least one new vaccine by 2018.