

HOUSE OF REPRESENTATIVES

Monday, 21 March 2011

World Tuberculosis Day

Debate resumed, on motion by **Mr Laurie Ferguson**:

That this House:

- (1) recognises that 24 March is World Tuberculosis Day, in observance of a disease that still claims the lives of 1.7 million people every year, and which:
 - (a) is currently the leading killer of people living with HIV and the third leading killer of women;
 - (b) has the highest growth in the South East Asian region, which accounted for the largest number of new Tuberculosis cases in 2008; and
 - (c) could be dramatically reduced by improved detection and diagnosis;
- (2) recognises that the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) currently provides more than two thirds of the global funding to combat Tuberculosis, and that:
 - (a) Australia could supplement its recent pledge to the Global Fund to ensure that the resources for Tuberculosis as well as AIDS and Malaria are sufficient to achieve the goal of significantly reducing the number of people suffering from these diseases; and
 - (b) action by Australia to supplement its pledge would influence other donor countries to increase their pledges;
- (3) acknowledges that the widespread adoption of the new Xpert diagnostic tool, which cuts the time for diagnosis from several weeks to two hours, would lead to significant improvements in the detection and treatment of Tuberculosis; and
- (4) requests the Government facilitate the adoption of Xpert in South East Asia.

Mr SIDEBOTTOM (Braddon) (7.35 pm)—I am very happy to support this motion moved by my good friend Laurie Ferguson. I remind everyone that one of the reasons that we are discussing it is that 24 March is World Tuberculosis Day. I would like to use this as an advertisement to remind us that together we can stop TB. We will be wearing our badges on 24 March, but we need to do more than wear a badge, I suggest. I was looking at the figures for tuberculosis around the world. Maybe I should not have been, but I was surprised to see that even in the United States TB is a killer. It is a very serious disease and health issue for many communities. In actual fact, it forms part of goal 6 of the Millennium Development Goals, which is to combat three of the most debilitating diseases across the globe: HIV-AIDS, tuberculosis and malaria.

Ms Saffin—The three Ds.

Mr SIDEBOTTOM—One of the foundation stones of the Global Fund to Fight AIDS, Tuberculosis and Malaria, which was established recently, was to make a difference by tackling head on three of the diseases that my colleague the member for Page quite rightly pointed out are called the three Ds. They condemn vast numbers of people to ill-health, discrimination and other human rights abuses, poverty and preventable early death. That is the sad thing about this: they are preventable. We, on our side of the economic ledger in the world, can do a hell of a lot more to help to combat these terrible preventable diseases.

TB kills someone approximately every 20 seconds. That is nearly 4,700 people every day or 1.8 million people alone, according to the latest estimates from the World Health Organisation. TB is second only to HIV-AIDS as the leading infectious killer of adults worldwide. It is among the three greatest causes of death in women aged 15 to 44 and is the leading infectious cause of death among people with HIV-AIDS. It is preventable. We can do something about it. We need to do something about it. On a global scale, although we are doing some things and there have been advances, we are not doing nearly enough. Tuberculosis is global. The World Health Organisation estimates that two billion people—that is, one-third of the world's population—are infected with TB. Mycobacterium tuberculosis is the official title of the bacillus that causes the disease. Mycobacterium TB's unique cell wall, which has a waxy

coating primarily composed of mycolic acids, allows the bacillus to lie dormant for many years. The body's immune system may restrain the disease but it does not destroy it.

While some people with this latent infection will never develop active TB, particularly in more advanced countries—and, in a discriminatory way, it develops in males more than females—five to 10 per cent of carriers will become sick in their lifetime. So, effectively, if 9.4 million new cases of TB per year are diagnosed, how many are not diagnosed? It is very sad. Once active, TB attacks the respiratory system and other organs, destroying body tissue. The disease is contagious, spreading through the air by coughing, sneezing or even talking.

Mr McCormack—Stop talking then!

Mr SIDEBOTTOM—Not about this, though, my good friend from Riverina. An estimated nine million new active cases develop each year, as I mentioned. At any given moment, more than 13 million people around the world are suffering from an active infection, and we know that there are many more millions with inactive, latent TB. As I also said, it is the third leading cause of death for women of reproductive age, from age 15 to 44, worldwide.

In 2008, for example, 3.6 million women developed TB and approximately another 500,000 died as a result.

Again, the sad thing is that it is preventable and we can do something about it, but we just do not do enough.

Despite enormous advances in the provision of services in recent years—and there have been—TB's deadly synergy with HIV-AIDS and a surge in drug-resistant strains are threatening to destabilise gains in TB control.

From my research, I understand that if you do not take the full suite of drugs and remedies that you are prescribed, if you miss any, then it is too late; it becomes worse. I note my good friend Dr Washer, who knows a lot more about this than I do, is agreeing. So not only must we have the proper medicines and the proper diagnostic tools on the job and in situ but also the treatment has to be carried out totally and comprehensively. Again, that is the great challenge that faces us.

While the incidence of TB is stable or falling in many regions of the world, global rates of new infections are still rising in many endemic areas where TB goes hand-in-hand with HIV-AIDS and the effects of poverty. There they are together, the triangle of poverty, disease and suffering. And, of course, without tackling health, which is concomitant with poverty, that leads unfortunately to very serious economic, social and political consequences, which we all know about. There are dreadful instances of communities suffering because there is no peace; where there is no peace, it is difficult to provide health care; without that health care, the poverty continues; and so the cycle goes on.

TB, I understand, will rob the world's poorest countries of an estimated \$1 trillion to \$3 trillion over the next decade. So, apart from the purely individual health, and social and political problems, there are economic implications.

These are the terrible consequences of not being able to tackle TB. In some countries, lost productivity attributable to TB approaches seven per cent of gross domestic product—seven per cent. I understand that there is a new test that can accurately diagnose tuberculosis in people within 90 minutes, compared to the six weeks needed for the current standard test—90 minutes compared to six weeks. It is called the Xpert MTB/RIF test, and I do not pretend to understand enough about it, but it can identify TB in 98 per cent of active cases. That is an improvement of more than 45 per cent on one of the current most commonly used techniques.

It also, I understand, detects whether the TB-causing bacteria are resistant to rifampicin, a first-line drug for TB in 98 per cent of cases. According to Richard Chaisson, Director of the John Hopkins Centre for Tuberculosis Research in Baltimore, Maryland, who was not involved in the work:

It has the potential to be revolutionary ...

So, on 24 March, I will join with all my colleagues in this place to remember World Tuberculosis Day and to do our part to ensure that we help tackle this preventable disease. Thank you.

Dr WASHER (Moore) (7.45 pm)—First, I would like to thank the member for Werriwa for moving this important motion, and I congratulate the member for Braddon: his pronunciation of the drug names was excellent!

World Tuberculosis Day is on 24 March, a couple of days from now. Tuberculosis—previously known as consumption, phthisis, scrofula, Pott's disease or the white plague—is an infection by the bacterium *Mycobacterium tuberculosis*. Tuberculosis primarily affects your lungs, and the bacteria that cause tuberculosis spread from person to person through tiny droplets released into the air via coughs, sneezes, laughter and speaking, making it a highly transmissible disease.

Historically, it is believed that *Mycobacterium bovis*, which is the cattle form, moved from cattle to humans approximately 20,000 years ago, coinciding with the domestication of animals. It is thought that it almost wiped out the human population at that time. The number of cases of TB has been increasing since 1985, partly due to the emergence of the Human Immunodeficiency Virus. HIV weakens a person's immune system so it cannot fight the TB bacteria.

The first antibiotics used to fight tuberculosis were developed 60 years ago. The *Mycobacterium* has since developed the ability to survive these antibiotics and that ability has been passed on to its descendants so that we now have drug-resistant strains of tuberculosis. These strains are known as multidrug resistant, or MDR, and extensively drug resistant, or XDR. In 2009, 1.7 million people died of TB, including 380,000 people with HIV. TB affects mostly young adults and occurs mainly in the developing world, with more than half of all cases in Asia.

TB is the leading killer amongst people with HIV. In 2009, 9.4 million cases were diagnosed, with 80 per cent coming from just 22 countries. It is a worldwide pandemic, with 13 African countries in the top 15 countries for TB incidence rates and a third of all new cases being found in India and China. According to the WHO *Global Tuberculosis Control Report 2009*, there may be more than 500,000 new MDR-TB cases diagnosed worldwide, with over 50 per cent coming from China, India and the Russian Federation. XDR-TB has been confirmed in more than 58 countries. Current testing for drug resistance can take more than four weeks, leading to higher mortality rates and the further spread of the disease.

Programs funded in 2009 by the Global Fund to Fight AIDS, Tuberculosis and Malaria have provided treatment for six million people with active TB. The global fund has provided nearly two-thirds of the external financing for TB and multidrug-resistant, or MDR, TB control efforts in low- and middle-income countries. TB programs supported by the global fund have also provided 1.8 million TB-HIV services. In many countries in which the global fund supports programs, TB prevalence is falling, as are TB mortality rates. To date, programs supported by the global fund have saved 6.5 million lives by providing AIDS treatment for three million people and antituberculosis treatment for 7.7 million people.

In October 2010, Australia announced a 55 per cent increase in its commitment to the Global Fund to Fight AIDS, Tuberculosis and Malaria, bringing its pledge to \$210 million over the next three calendar years. Imagine how many more lives could be saved if we could supplement this pledge to ensure that the resources for TB, AIDS and malaria were sufficient. In December 2010, the World Health Organisation endorsed a new rapid test for tuberculosis. This new test can provide an accurate diagnosis in about 100 minutes—

Mr Sidebottom—Ninety.

Dr WASHER—Ninety, as the member for Braddon said, to 100—compared to current tests that can take up to three months to provide results. The Xpert diagnostic tool is a fully automated nucleic acid amplification test for the early diagnosis of TB as well as multidrug-resistant TB and TB complicated by HIV infection, which are more difficult to diagnose. The system uses single-use disposable cartridges which are self-contained, eliminating cross contamination between samples. Many countries still rely principally on sputum smear microscopy, which was developed over a century ago. The company which has developed the new test, Cepheid, has granted a 75 per cent reduction in the price for countries most affected by TB, compared to the current market price. Preferential pricing will be given to 116 low- and middle-income countries where TB is endemic, with additional reduction in price once there is significant volume of demand. It is estimated the cost of each test in 2011 will be about \$16.86 with 0.6 million tests conducted, but this will reduce to approximately \$10.72 by 2014 when an estimated 3.7 million tests will be conducted.

I request the government to facilitate the adoption of Xpert in South-East Asia and call on its use as part of the Debt2Health agreement with Indonesia. Indonesia has the third-highest rate of tuberculosis

in the world, with more than 90,000 Indonesians dying from the disease each year. Despite tuberculosis being preventable and curable, the disease is on the rise in Indonesia and many other developing countries. Debt2Health is the financing initiative of the global fund and is helping to channel resources of developing countries away from debt repayment towards investment in health. Under the current Debt2Health arrangements, Australia will cancel \$75 million of Indonesia's debt and, in return, Indonesia will invest half of this amount into national programs to combat tuberculosis through the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Mr LAURIE FERGUSON (Werriwa—Parliamentary Secretary for Multicultural Affairs and Settlement Services)

(7.52 pm)—At the outset, I recognise RESULTS, the group that has approached the member for Forrest, the member for Braddon and me—and, I guess, many other members—on this issue. I admire their effort in lobbying members of parliament and working with the media—they have accomplished much in regard to microfinance and debt cancellation—as well as their interest in tuberculosis.

It is important to note that tuberculosis is very much related to poverty and, in particular, is gender based. The characteristics of women's circumstances around the world—cramped living conditions; poor ventilation when cooking; using biomass fuel when they cook; confined living spaces and the predominance of women in sex work, which is very closely interrelated with living in confined spaces—are all aspects that lead to a greater prevalence

amongst women. Throughout large parts of the world women with this disease suffer a degree of stigmatisation and often do not get the treatment that males receive. It is also important to note another example of how this affects poorer people. If we adjust the statistics to take account of differences in age structures between Indigenous and non-Indigenous populations in Australia, we see that the rate of tuberculosis amongst Indigenous Australians compared to other people in this country is 14 to one. It is very much a disease that is related to living conditions and to a person's circumstances in life.

The situation is that, around the world, a person dies from TB every 20 seconds. Many other speakers have mentioned the figure of 1.7 million people dying per year, with 9½ million people contracting active TB. One of the other problems is, despite the efforts of foreign aid and the efforts of doctors et cetera, population growth around the world is in some areas overwhelming our gains. We are making strenuous steps forward, occasioned by

the United Nations and other organisations, but in some parts of the world population growth means that, although the rates are going down, the number of people being affected is making the situation extremely serious. Another problem that has been identified with tuberculosis is the difficulty that many people have in completing their regime of medication, which is supposed to be at least six to 12 months in duration. The circumstances of some people around the world make that very difficult. Screening rates are lower in large parts of the developing world.

Self-medication is a problem when people do not have access to proper medical facilities et cetera.

The organisation referred to in the motion, which I take to be an organisation that does not have a commercial motivation, is advocating to move towards the Xpert diagnostic tool. The current test is very much affected by the circumstances in which the patient takes that test. But most particularly it takes too long to get the results back. On average, a person suffering from tuberculosis can infect 10 to 15 people. So if somebody is wandering around the streets undiagnosed, unknowing et cetera, that obviously becomes a major threat to the spread of the disease. It has been said that clinicians will now be able to obtain dependable test results in virtually any clinical setting, not only for detection of TB but for simultaneous determination of whether or not it is a drug-resistant strain.

As the previous opposition speaker noted, another significant issue around the world with tuberculosis is the growth of drug resistance because of self-medication and people not keeping to their regimes. Returning to the theme raised at the beginning, it is important to note that 17 of the 22 countries most affected by this problem, where 80 per cent of people are suffering from TB, have a per capita GDP of less than \$760 a year. So it is very much related to poverty and associated issues. I also associate myself with Senator Pratt's motion in the Senate, which, in addition, calls for Australia not to move backwards with foreign aid funding in this

area, calls for funding not to be affected by the Queensland floods and other catastrophes, and calls for Australia not to in any way walk away from commitments on foreign aid in this and other areas.

Mr McCORMACK (Riverina) (7.57 pm)—I rise to speak on the member for Werriwa's motion relating to World Tuberculosis Day and commend him for putting it before the House. This coming Thursday, 24 March, the world recognises World Tuberculosis Day. Tuberculosis is one of the oldest diseases which still causes a grave effect on humans. It is currently the leading killer of people living with HIV and the third-leading killer of women.

Besides people with low immunity, the disease is often found amongst lower socioeconomic communities and the homeless. It is a disease of the past and of the present, and if nothing changes it will continue into the future.

More than two billion people are currently infected with the TB bacterium, which is roughly a third of the world's population. Tuberculosis, commonly referred to as TB, is a chronic infectious disease caused by bacteria known as mycobacterium tuberculosis. It is an infectious and airborne disease. Tuberculosis predominantly attacks lungs; however, it will proceed to attack bones and joints, the circulatory system and the central nervous system.

First reference of a disease similar to TB in humans dates back to ancient Egypt. Examinations of mummies in tomb paintings reveal that tuberculosis was present at that time—around 5,000 BC. Ancient Egyptian paintings portray spinal tuberculosis, indicating the presence of the disease, and reference to the disease is evident in ancient Greek literature by Hippocrates as well as in literature by English playwright William Shakespeare.

Tuberculosis has been known by different names since ancient times. The ancient disease called phthisis has references to symptoms similar to that of TB. The recognised term 'tuberculosis' was first used in the 19th century.

It is believed to have originated from the word 'tubercle', meaning a protuberance, swelling or nodule. In the case of tuberculosis, such nodules are found in lungs or on bones.

In 2010, TB became one of the leading diseases in HIV related deaths. According to the World Health Organisation, prevention and treatment of TB in people living with HIV is an urgent priority for both HIV-AIDS and TB programs. It is sad to see the disease that for so long infected our ancient ancestors is still affecting many people today. Preventing TB is easy. Treatment is simple. However, it continues to navigate its deadly path, causing devastation amongst those less fortunate. Supporting further action to control tuberculosis is one way in which Australia can increase the impact of its aid. TB is in most cases a curable disease. The past 20 years has seen considerable success in eradicating the disease. However, TB still kills more than 1.75 million people a year internationally and has the highest growth rate in the South-East Asia region. The highest number of deaths occurs in the Asia-Pacific region in countries including China, India, Indonesia, the Philippines, Thailand and Vietnam. The World Health Organisation has announced an endorsement of a new rapid tuberculosis diagnostic tool, Xpert MTB/RIF. This tool allows patients to receive an analysis and begin suitable treatment faster than ever before.

Used widely, Xpert will prevent TB transmission on a massive scale. In recognising World Tuberculosis Day, it is important to acknowledge the implementation of this new Xpert diagnostic tool and particularly what it can do in South-East Asia. The member for Braddon spoke passionately about the cycle of poverty and tuberculosis and the spread of the disease. This is a sad state of affairs as it is extremely preventable. The implementation of this device will cut the time for diagnosis from several weeks to two hours and will eventually lead to significant improvements in the detection and treatment of tuberculosis. Awareness of what can and should be done is commendable and encouraged, particularly on such a significant day as this Thursday.

Dr LEIGH (Fraser) (8.01 pm)—Tuberculosis, as the previous speaker, the member for Riverina, has noted is a disease from the times of ancient Egypt. It inflicts upon the world 1.7 million deaths each year. Each untreated sufferer of tuberculosis can infect another 10 to 15 people around them. Our region is in a part of the world where many other countries have high tuberculosis rates. Indeed, almost half the world's tuberculosis fatalities occur in the Asia-Pacific region. The 10 countries with the highest tuberculosis rates include China, India, Indonesia, the Philippines, Thailand and Vietnam.

Tuberculosis is a curable disease and considerable progress has been made in its treatment and diagnosis in the last 20 years. What is required is more generosity and more leadership, which is why

the Labor government are committed to increasing our aid commitment to 0.5 per cent of GNI. I note at this stage that the UK government, despite having budget challenges that are far greater than our own, has continued its pledge to increase UK aid to 0.7 per cent of gross national income.

Seventy per cent of aid that targets tuberculosis comes via the Global Fund to Fight AIDS, Tuberculosis and Malaria. It is important in this context to acknowledge the role that the global fund has played. The role of the global fund and the role of foreign aid have at least been bipartisan policies in this parliament, and I hope that this continues to be the case.

Two reasons that are often cited for cutting back on foreign aid—and reasons which arose in the recent debate when the coalition suggested that they would find budget savings by reducing foreign aid to Indonesian schools—are national interest and corruption. It is true that the global fund has recently had disturbing revelations about corruption. There have been suggestions that global fund resources have been misused. As a result, the global fund's executive director, Michel Kazatchkine, announced a series of changes, including tougher controls and monitoring, a doubling of the budget of the independent inspector general and a panel of international experts to review procedures.

We should be rigorous about reducing corruption but the fact that we see corruption does not mean that we should shut down our support of the global fund. The global fund concept has been effective. The global fund makes countries compete for money based on their ability to implement programs—driving a race to the top among recipient countries. The global fund is also effective because it brings together resources from a range of different sources. These include government moneys, wealthy philanthropists, such as those who support the Bill & Melinda Gates Foundation, and businesses.

An interesting idea highlighted in a recent article in the *Economist* is RED, which was created by Bono and is a brand attached to products and services from firms such as Apple, Gap and Starbucks. This scheme has so far raised \$160 million to go to the global fund to help reduce the prevalence of tuberculosis in the world.

It is important, as we wrestle with the challenge of corruption, that we recognise that the main game is cutting poverty. The problem of corruption and aid is a bit like the challenge of a footy coach trying to reduce injuries. No footy coach wants the players to hurt themselves but neither does a footy coach go out and say to the players, 'Blokes, the main thing here is that we do not have any injuries at the end of the game.' A strategy which guarantees zero injuries is also a strategy that will earn you the wooden spoon. We should be rigorous in reducing corruption as we go through, and we should do in the global fund as we do in the Australian aid program: try and reduce corruption whenever we can. A generous foreign aid program is an expression of who we are as Australians. It is also a program that is in our national interest in bringing about a safer region and a region in which there is more trade. Of Australia's 20 nearest neighbours, 18 are developing countries. So our aid program needs to be a strong one if we are to invest in a richer and safer region. I want to thank my friend and colleague the honourable member for Werriwa for bringing this motion before the House for debate this evening.

Mr TEHAN (Wannon) (8.07 pm)—I rise to talk on this motion, in particular points 1 and 3, which recognise that 24 March is World Tuberculosis Day—an observance of a disease that still claims the lives of 1.7 million people every year. It also acknowledges that the widespread adoption of the new Xpert diagnostic tool, which cuts the time for diagnosis from several weeks to two hours, would lead to significant improvements in the detection and the treatment of tuberculosis.

This year marks the second year of a global two-year campaign by the World Health Organisation called 'On the move against tuberculosis'. The goal of this campaign is to inspire innovation in tuberculosis research and care. Today I would like to acknowledge the work and research that has been done on this important topic. Tuberculosis is an airborne infectious disease that is preventable and curable. The World Health Organisation is working to dramatically reduce the burden of tuberculosis and halve tuberculosis deaths and prevalence by 2015. The World Health Organisation is championing the ambitious new objective and targets of the Global Plan to Stop Tuberculosis 2011-15, which involves identifying all the research gaps that need to be filled to bring rapid tuberculosis

tests, faster treatment regimes and a fully effective vaccine to market.

In addition to this, the global plan shows public health programs how to drive universal access to TB care, including how to modernise diagnostic laboratories and adapt revolutionary TB tests that have recently become available. TB is a disease of poverty affecting mostly young adults in their most productive years. The vast majority of TB deaths are in the developing world and it is among the three greatest causes of death among women age 15 to 44. More than two billion people around the globe, one-third of the world's total population, are infected with TB bacilli, the microbes that cause TB. One in every 10 of those people will be become sick with active TB in his or her lifetime. People living with HIV are at much greater risk.

While Australia has one of the lowest rates of tuberculosis in the world, we are not immune and the disease remains a public health problem in our overseas born and Indigenous communities. In 2008, 1,228 TB notifications were received by both national notifiable diseases surveillance system corresponding to a rate of 5.7 notifications per 100,000 population. In 2007 there were 1,174 notifications or 5.6 per 100,000 population. The notification rate of TB was higher than the national average in the Northern Territory and New South Wales and also in my state of Victoria where the NNDSS reported 7.1 per 100,000 population.

As with many infectious diseases, time is of the essence with regard to treating tuberculosis. Whilst TB is an ancient disease, today it is curable and globally we should be working towards zero deaths from TB in the 21st century.

Two major goals that are set regarding the global fight against tuberculosis are the UN Millennium Development Goals and those of the Stop TB Partnership. The UN Millennium Development Goals aim to have halted and begun reverse incidence by 2015 in comparison with 1990. The Stop TB Partnership aims to have halved the deaths by 2015 in comparison with 1990.

It is heartening to hear that the Stop TB Department of WHO confirm they are currently on target globally to achieve both the goals set under the UN Millennium Development Goals and those set by the Stop TB Partnership.

I wish to acknowledge World Tuberculosis Day on 24 March and express my thoughts and sympathy for those who have lost family or loved ones to tuberculosis.

The DEPUTY SPEAKER (Ms S Bird)—Order! The time allotted for this debate has expired. The debate is adjourned and the resumption of the debate will be made an order of the day for the next sitting.

SENATE HANSARD

TUESDAY 22 MARCH 2011

Tuberculosis

Senator CAROL BROWN (Tasmania) (7.34 pm)—I rise to discuss the global epidemic of tuberculosis, TB, and particularly its effect on women. While I will share with you some of the key achievements that have been made in the fight against TB, AIDS and malaria, I also want to frame the challenges we will continue to face in the future.

It is timely that I deliver this speech in the lead-up to World Tuberculosis Day, this coming Thursday, 24 March. It is a day that marks the anniversary of the discovery of the cause of TB and the first steps taken towards diagnosing and curing the disease. The World Health Organisation uses the annual World TB Day as an opportunity to promote the global plan to stop TB by 2015. The theme for World TB Day 2011 is transforming the fight towards the elimination of TB, with the aim to inspire innovation in TB research and care. To consider how we might transform the fight it is first important to frame the challenge before us.

Tuberculosis is a curable and preventable disease. The TB infection is spread by coughing, sneezing, laughing and even singing. Alarming, TB kills around 1.8 million people each year, and almost half of those fatalities are in the Asia-Pacific region. The most recent estimates indicate approximately one-third of the world's population is infected with the bacteria that causes TB and there are 9.4 million new cases of TB each year. Additionally, TB is the leading cause of death for people with HIV-AIDS in developing countries. To compound that, only 4.1 per cent of people living with HIV-AIDS are screened for TB each year.

TB is the third-leading cause of death for women in developing countries. The disease is most prevalent in women in the 15 to 44 year age bracket—the time when they are economically and reproductively active. TB therefore disproportionately affects pregnant women. The prevalence of the disease heightens the risk of death during childbirth and infant mortality, and

it perpetuates the transmission of the disease from mother to child.

Due to a range of socioeconomic and cultural factors, TB is more likely to go undiagnosed in women. This is partly attributable to the gender bias of some physicians who view TB as a male disease and partly because women are less able to access qualified health services. There is also evidence which suggests biological differences in women may produce different immune responses, symptoms, signs and outcomes to men, which may complicate diagnosis and treatment.

A lack of education, particularly patient education, also complicates diagnosis and treatment of TB. One study in Pakistan, for example, found that some women did not understand it was necessary to provide mucus for a sample for TB screening and instead just used saliva. This distorted the diagnosis of TB and thwarted timely access to treatment. In developing communities, women's social role

places them at a higher risk of contracting TB than men. Evidence suggests that, as a result of indoor cooking in confined spaces with biomass fuel, a woman's respiratory system is weakened and they are therefore more susceptible to developing active TB. Women are further disadvantaged in the fight against TB by treatment options which are not gender sensitive. Women who are diagnosed with TB then face additional social and economic challenges as they battle to care for themselves and for infected and affected family and community members. As we continue to transform the fight towards the elimination of TB, it is vital that we work to support women in developing communities to combat this disease. We need to consider taking steps such as screening pregnant women for TB, improving patient education, investing in research on gender sensitive treatments and improving the diagnosis of TB in women. All of these form part of our future challenges.

Whilst there is always more that can be done, it is also important that we reflect on the significant progress that has been made in the fight against TB. In 2002, the Global Fund to Fight AIDS, TB and Malaria was established. The global fund operates as a partnership between governments, the private sector and affected communities to finance international health interventions to fight AIDS, TB and malaria, and in turn to reduce poverty and support sustainable development. Since the establishment of the fund we have seen significant progress in the fight against AIDS, TB and malaria. Recent data from the World Health Organisation's *Global tuberculosis control* report indicates that incidence rates of TB are falling globally in all regions except for South-East Asia, where the rate has stabilised. Mortality rates fell by around 35 per cent between 1990 and 2009, and current projections indicate that the mortality target could be achieved in all WHO regions except Africa—and even in Africa mortality rates are falling.

The prevalence of TB is falling globally in all six WHO regions. There is the potential to reach the target of halving the 1990 prevalence rate by 2015 in the region of the Americas, the Eastern Mediterranean region and the Western Pacific region. We have made progress in case detection and treatment success and in raising awareness amongst TB patients of their HIV status. According to the 2009 report *Scaling up for impact: results report* by the Global Fund to Fight AIDS, TB and Malaria, comprehensive prevention, treatment and care programs have been supported in 137 countries. The data indicates that, as at December 2008, 3.5 million people who would have died of AIDS, TB or malaria were still alive as a result of the intervention supported by the global fund. Through 2009, six million people with active TB were able to access treatment, and 1.8 million people were supported to access combined HIV and TB services. All this presents compelling evidence that we are making significant progress.

Notwithstanding the progress that has been made, we do face significant challenges into the future, not just in the fight against TB but in our effort to eradicate poverty and promote sustainable development. We know that drug resistant strains of TB are emerging due to inadequate treatment and that cases of multi-drug-resistant TB and extensive-drug-resistant TB have been found in almost every country in the world. We therefore need to find ways to resource research into TB treatment. New breakthroughs in diagnostic testing that we should embrace in the fight against TB have also emerged.

As I have mentioned, World TB Day is on Thursday, 24 March, and a motion will be moved by Senator Louise Pratt and me as part of World TB Day. The motion will call for Australia to increase overseas aid to 0.5 per cent of GNI to ensure that the resources for TB, as well as for AIDS and malaria, are sufficient to achieve the goal of significantly reducing the number of people suffering from these diseases. The motion also calls for Australia to facilitate adoption of the new Xpert TB diagnostic testing tool in South-East Asia. The Xpert diagnostic tool is the first new diagnostic strategy in over 100 years. It cuts the time for diagnosis of TB from several weeks to less than two hours and is highly accurate—recent field tests have increased the number of correctly diagnosed TB sufferers by 30 per cent. The tool is able to identify multi-drug-resistant strains of the disease earlier and will be a vital resource in rural areas that have been further disadvantaged by diagnosis and treatment delays. Xpert was endorsed by the WHO in December last year, and it follows that such a breakthrough in diagnostic testing will significantly assist in the fight against TB globally.

Most significantly, however, the new tool will assist with diagnosis in South-East Asia, which, as I outlined earlier, is the only one of the six WHO regions in which the incidence rate of TB is stable rather than falling. Given how far we have come in the fight against TB, we should feel confident about facing future challenges. I hope that colleagues across the chamber will support the motion on World TB Day and help us play our part in contributing to the political pull to transform the fight against TB.

SENATE HANSARD

Wednesday 23 March 2011

Tuberculosis

Senator BILYK (Tasmania) (1.15 pm)—I rise today to speak about tuberculosis, known as TB, and the impact that it has on society. World Tuberculosis Day is marked annually on 24 March, tomorrow, to commemorate the day in 1882 when Dr Robert Koch announced that he had discovered the cause of tuberculosis—a bacterium called *Mycobacterium tuberculosis*. World TB Day is intended to build public awareness that tuberculosis remains an epidemic in much of the world, with the World Health Organisation, WHO, declaring TB a global emergency in 1993.

The World Health Organisation estimates that in 2009 there were 9.4 million new infections and approximately 1.7 million deaths, occurring mostly in developing countries. For those who do not know much about TB, it is an infectious airborne disease. Only people who are sick with TB in their lungs are infectious or otherwise known as having active TB. When infectious people cough, sneeze, talk or spit they propel TB germs, known as bacilli, into the air. A person needs only to inhale a small number of these to be infected. The World Health Organisation estimates that if left untreated each person with active TB disease will infect, on average, between 10 and 15 people every year. People infected with TB bacilli will not necessarily become sick with the disease. The immune system walls off the TB bacilli, which, protected by a thick waxy coat, can lie dormant for years. This is known as latent TB infection. However, when someone's immune system is weakened, as in HIV-positive individuals, this may progress to active TB.

According to the National Foundation for Infectious Diseases, one-third of the world's population is infected with TB and five to 10 per cent of these people will develop the disease at some time in their life. The sad thing about this is that TB is preventable and curable. Its effects on both morbidity and mortality can be significantly reduced with appropriate action. For example, as a result of improved TB control efforts between 1995 and 2009 a total of 41 million TB patients were successfully treated in directly observed treatment short-courses, or DOTS programs, and up to six million lives were saved, including two million women and children. This highlights the need for continued support and funding for TB programs worldwide.

According to the Centres for Disease Control and Prevention, intervention options to control TB include preventing infection by means of vaccination—that is, a live vaccine, but it is not always effective—and treating latent infections and active disease. DOTS refers to the short-course chemotherapy available to treat and cure TB and is the internationally recommended strategy for TB control that has been recognised as a highly efficient and cost-effective strategy.

A course of drugs for standard TB can cost as little as \$20. Multidrug-resistant TB, or MDR-TB, poses further problems for TB control as this fails to respond to standard first-line drugs. While generally treatable, it requires extensive chemotherapy—that can be up to two years of treatment—with second-line anti-TB drugs, which are more costly than first-line drugs. The adverse drug

reactions produced by second-line anti-TB drugs are more severe but are manageable. The cost of drugs alone for treating the average MDR-TB patient is 50 to 200 times higher than for treating a patient with drug susceptible TB. The overall costs for care have been found to be 10 times higher or more. Extensively drug resistant TB, which is known as XDR-TB, occurs when resistance to second-line drugs develops on top of MDR-TB. Because XDR-TB is resistant to first- and second-line drugs, treatment options are seriously limited, thus posing a serious threat to TB control, particularly in settings where people are also infected with HIV.

The serious nature of XDR-TB in those infected by HIV was displayed by the mortality rates in a cluster of individuals diagnosed with XDR-TB in Natal, South Africa, in 2006. Of the 544 patients studied, 221 had MDR-TB with 53 of these cases defined as XDR-TB. Of these 53 patients, 44 had been tested for HIV and all were HIV-positive. Fifty-two of the 53 patients died within an average of 25 days, including those benefiting from antiretroviral drugs. The emergence of both MDR-TB and XDR-TB highlights the potential consequences of failure to adequately diagnose and provide effective initial treatment of TB, thereby confirming the urgent need to strengthen basic TB control.

According to the World Health Organisation, an estimated 1.7 million people died from TB in 2009, including 380,000 women. The highest number of deaths was in the African region. The World Health Organisation estimates that the largest number of new TB cases in 2008 occurred in the South-East Asia region, which accounted for 35 per cent of incident cases globally. However, the estimated incidence in sub-Saharan Africa is nearly twice that of the South-East Asia region.

The estimates of the global burden of disease caused by TB in 2009 are as follows: 9.4 million incident cases—that is, new infections; 14 million prevalent cases; 1.3 million deaths among HIV-negative people; and 380,000 deaths among HIV-positive people. Most cases were in the South-East Asian, African and western Pacific regions—35 per cent, 30 per cent and 20 per cent respectively. An estimated 11 to 13 per cent of incident cases were HIV-positive. The African region accounted for approximately 80 per cent of these cases.

HIV and TB form a lethal combination, each speeding the other's progress. HIV weakens the immune system. TB is a leading cause of death among people who are HIV-positive, as I have already mentioned. In

Africa, HIV is the single most important factor contributing to the increase in the incidence of TB since 1990. TB is the leading cause of death in people who are HIV-positive, with one in four affected by HIV-AIDS dying from TB. Without proper treatment, 90 per cent of people living with HIV-AIDS who with access to antiretroviral therapy could otherwise lead relatively healthy lives die within months of developing TB. Despite this, only 4.1 per cent of people living with HIV-AIDS are regularly screened for TB. There is a dual epidemic of TB and HIV. Therefore, collaboration between TB and HIV-AIDS programs is necessary in order to reduce the burden of TB among people living with HIV-AIDS and to reduce the burden of HIV among TB patients.

TB is now the third leading cause of death among women aged 15 to 44, killing some 700,000 women

every year and causing illness in millions more. In 2008, 700,000 women died of TB, including 200,000 women living with HIV, while 3.6 million women fell sick with active TB. TB is a leading cause of 'healthy years lost' for women of reproductive age. Gender roles and norms in many societies affect a woman's ability to access health information and services and to obtain appropriate treatment. These statistics clearly show that TB is a major women's health issue, with particularly serious implications for women living with HIV.

The Gillard government's \$210 million pledge to the Global Fund to Fight AIDS, Tuberculosis and Malaria represents a 55 per cent increase on Australia's previous commitment. This shows that the government is committed to this important global health issue. I am pleased to be part of the Gillard government, which has initiated an innovative funding arrangement to combat TB in Indonesia—that is, the Debt2Health swap through the global fund. The Debt2Health swap with the government of Indonesia will cancel debt owed by Indonesia to Australia in parallel with increased Indonesian government investment in programs combating tuberculosis.

The reduction and control of tuberculosis is an international health priority under Millennium Development Goal 6. It is also a national health priority for the Indonesian government, with tuberculosis one of Indonesia's leading health burdens. The initiative will cancel up to \$75 million in debt over six years owed by Indonesia to Australia. At the same time, the Indonesian government is expected to invest \$37.5 million in the Global Fund to Fight AIDS, Tuberculosis and Malaria for approved tuberculosis programs.

There is an important new weapon in the fight against TB, and that is the Xpert diagnostic technology. It is fast, accurate, easy to use and has been endorsed by the World Health Organisation. This test could revolutionise TB care and control by providing an accurate

diagnosis for many patients in about 100 minutes, compared to current tests that can take up to three months to have results. Many countries still rely principally on sputum smear microscopy, a diagnostic method that was developed over a century ago. But this new 'while you wait' test incorporates modern DNA technology that can be used outside of conventional laboratories. It also benefits from being fully automated and therefore easy and safe to use. Evidence to date indicates that implementation of this test could result in a threefold increase in the diagnosis of patients with drug-resistant TB and a doubling in the number of HIV associated TB cases diagnosed in areas with high rates of TB and HIV.

Dr Giorgio Roscigno, the Chief Executive Officer of the Foundation for Innovative New Diagnostics, has said of this test:

For the first time in TB control, we are enabling access to state-of-the-art technology simultaneously in low, middle and high income countries. The technology also allows testing of other diseases, which should further increase efficiency.

While testing methods are improving, there is currently no effective vaccine for TB. The TuBerculosis Vaccine Initiative, TBVI, is an independent non-profit foundation that facilitates the

development of new vaccines to protect future generations against tuberculosis. Research conducted by the mostly European based network has already resulted in promising vaccine discoveries.

New vaccines are urgently needed to stop tuberculosis. Every year around nine million new cases of this infectious disease are recorded. Investment in more effective tuberculosis vaccines is predicted to result in cost savings and a reduction in TB related deaths. Collaboration and funding are some of the major requirements for delivering new, more effective and safer vaccines against tuberculosis. Research shows that the introduction of a new vaccine could reduce the number of new TB cases by 90 per cent within 30 to 40 years. This makes the development of vaccines an essential part of the global strategy to stop TB.

The Gillard government are committed to health on an international level. We are committed to working with other nations to help those countries most at risk of terrible diseases such as TB. I would urge all members of the Senate and the House to recognise that 24 March is World Tuberculosis Day, as I mentioned in the beginning, in observance of the disease that still unfortunately claims the lives of 1.7 million people every year.

SENATE HANSARD

SENATE MOTION 24 MARCH 2011

WORLD TUBERCULOSIS DAY

Senator PRATT (Western Australia) (1.26 pm)—

I, and also on behalf of **Senator Carol Brown**, move:

That the Senate—

(a) recognises that 24 March 2011 is World Tuberculosis Day, in observance of a disease that still claims the lives of 1.7 million people every year and which:

(i) is currently the leading killer of people living with HIV and the third leading killer of women,

(ii) has the highest growth in the southeast Asian region, which accounted for the largest number of new tuberculosis (TB) cases in 2008, and

(iii) could be dramatically reduced by improved detection and diagnosis;

(b) recognises that the Global Fund to Fight AIDS, TB and Malaria currently provides more than two-thirds of the global funding to combat TB and that:

(i) Australia should increase aid to 0.5 per cent of gross national income to ensure the resources for TB as well as AIDS and malaria are sufficient to achieve the goal of significantly reducing the number of people suffering from these diseases, and

(ii) action by Australia to increase its commitment may influence other donor countries to also increase their support; and

(c) acknowledges that the widespread adoption of the new Xpert diagnostic tool, which cuts the time for diagnosis from several weeks to less than 2 hours, would lead to significant improvements in detection and treatment of TB and requests the Government to facilitate the adoption of Xpert in southeast Asia.

Question agreed to.