



Public health research: reflections from the CDC

A high-level roundtable discussion with Dr Tom Frieden, Director of the US Center for Disease Control and Prevention held in September 2012

The Academy of Medical Sciences

The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

Contents

Summary	4
1 Introduction	6
2 Improving interfaces with public health research	7
3 Importance of data	10
4 Working with the food and beverage industry	12
5 Engaging with the public	13
6 Strengthening public health in developing countries	15
7 Conclusions - Implementing change	16
Annex I List of participants	18
Annex II Biography of Dr Tom Frieden	19

Summary

Major changes to the UK public health system and the continuing importance of public health in developing countries offer substantial opportunities to strengthen and harness public health research. As Director of the US Centers for Disease Control and Prevention (CDC), Dr Tom Frieden is in a strong position to offer advice on how these goals can be achieved. To harness his experiences the Academy of Medical Sciences convened a high-level roundtable of some of the UK and Europe's most eminent public health experts and this is the report of that meeting.

One of the biggest challenges facing public health research is the need to improve its relationship with other parts of the health sector and related disciplines. Cultural differences, such as the intrinsically political nature of public health and the timelines over which different groups expect to see results, are a significant cause of the tension between public health research and practitioners. For public health research to succeed it must better integrate with public health practice; clinical medicine; other academic disciplines such as social science and bioinformatics; and sectors of government beyond those immediately concerned with health such as transport and education.

Standardisation of treatment and the scaling up of interventions using health care professionals other than clinicians are two important public health tools that have been shown to deliver substantial gains in the US and the UK.

High quality data lies at the heart of good public health research and practice. This is illustrated by the important role data played in helping to control tuberculosis in New York City and in India. The NHS offers the UK a huge potential data resource for research but the focus must be on health data as well data about healthcare provision.

Much can be achieved by working with the food and beverage industry to make their products healthier. Systems of accountability such as the Access To Nutrition Index (ATNI) and standards in advertising can help in this regard. Another important stakeholder group for public health researchers is the public, particularly children. While public health faces the challenge of trying to improve the health of millions of people, but each by only a little, it has achieved huge social changes such as to attitudes toward smoking and toward drunk driving.

In order for staff from developed countries to help improve public health in developing countries they need to be embedded within their public health systems, rather than trying to assist from a distance. Good laboratories, training in interventional epidemiology and public health institutes and institutions linked to government are also needed to provide the data required for good public health decision-making.

A great strength of public health is that it can define the unacceptable and so set the public agenda. Based on his experience, Dr Frieden proposed five measures to improve the impact of public health initiatives and the underpinning evidence base:

- Improving the interface between public health and public health research, practitioners and related fields.

- Ensuring political will and external support (including from NGOs).
- Focusing primarily on health benefits, where researchers and practitioners have most credibility), with economic gains being a secondary factor.
- Agreeing achievable goals, communicating them and being accountable (underpinned by a robust evidence base, including surveillance and other data).
- Strengthening laboratories.

1 Introduction

This is a report of a high-level roundtable discussion on public health research hosted by Professor Robert Souhami CBE FMedSci, the Foreign Secretary of the Academy of Medical Sciences, in London on 12 September 2012. The guest speaker was Dr Tom Frieden, Director of the US Centers for Disease Control and Prevention (CDC). The event was chaired by Professor David Heymann CBE FMedSci, Chair of the Health Protection Agency (HPA) and Professor George Griffin FMedSci, Vice Principal (Research) at St George's, provided an initial response to Dr Frieden's opening remarks. The participants (listed at Annex 1) included eminent experts in public health from the UK, Europe and elsewhere.

Dr Tom Frieden's wealth of experience working with public health makes him well placed to reflect on the challenges to public health in the UK, Europe and beyond. Prior to his role as Director of the CDC, Dr Frieden was Commissioner of the New York City (NYC) Health Department and had worked with the World Health Organisation (WHO) in India on secondment from CDC. He has a track record of tackling a wide range of public health issues, in particular tuberculosis (TB) and tobacco. His biography is outlined in Annex II.

This discussion on research in public health comes at a timely moment for the UK whilst it is restructuring its public health system. On 1 April 2013 Public Health England (PHE) will formally start operating as an expert provider in public health. It will need to address Non-Communicable Diseases (NCDs) such as hypertension which make up the largest proportion of the disease burden in the UK, the risk factors for non-communicable diseases such as smoking, obesity and high salt and alcohol intake, infectious diseases such as TB and hospital acquired infections, and those diseases that are the interface between the two such as cancers with an infectious disease association such as hepatic and cervical cancers.

Participants discussed some of the opportunities and challenges presented by the current changes to the UK public health system, particularly improving the relationships between public health research, public health service delivery and clinical practice. Other topics discussed included: the importance of data; effective ways of working with the food and beverage industry, engaging the public, and strengthening public health in developing countries.

2 Improving interfaces with public health research

A major theme of discussion at the roundtable was the need to improve the interfaces between public health research and other areas, particularly public health service delivery, clinical medicine, other disciplines and other sectors of government not immediately concerned with health.

Public health research and public health service delivery

Many participants were concerned about the divergence between academic medicine and public health, and the challenges they have had interacting in the past, described as 'a tradition of mutual disrespect'. Cultural differences lie at the heart of this divergence. It will be essential for PHE to have access to an underpinning evidence base that can be given without censure. Two factors were noted as reinforcing this gap and possible solutions were discussed:

- a **disconnect between the timelines** of public health service delivery, which often operates over weeks or months, and the timelines of public health researchers, whose work often takes many years. Here, jointly agreeing the biggest burdens and 'winnable battles', as well a mutual aspiration towards excellence could help.
- the **proximity of public health to politics**, which is of particular concern to independent researchers. The ways in which the CDC maintains the independence of scientific and technical recommendations are discussed further in Section 5.

At the CDC, public health research is embedded within the provision of public health through Boards of Science Counsellors who help provide intellectual rigour and bring together those involved in research and those involved in implementation.

Attracting the best researchers

There was discussion about whether the best scientists could be attracted to work at the CDC if they were unable to apply for competitive funding from grant bodies such as the National Institute for Health (NIH). Dr Frieden felt that the CDC was attractive as it provided long-term security for scientists rather than the insecurity of grant funding, even if the level of CDC funding is not of the same magnitude of that provided by the NIH. Public health researchers can also be funded through the CDC Foundation (see Box 2.1) and there are collaborative arrangements with others such as the US Department of Defence and universities. The CDC is keen that the research that it funds supports new activity in areas of strategic importance for them rather than projects that would have progressed without its support.

Box 2.1 CDC Foundation

The CDC Foundation is an independent non-profit organisation that was founded by an Act of the US Congress to connect the CDC with private sector organisations and individuals to build public health programmes to improve health. The CDC Foundation increases the flexibility of the CDC allowing it to fund public health activities in local government, state government and abroad (see Section 6). This system allows funding to be spent transparently, quickly and in novel ways.

It also increases funding opportunities for academics such as supporting the development of a system of global tobacco surveillance. The CDC Foundation is a type of fiscal intermediary that is proving to be a useful tool for public health organisations. Other similar bodies include The Fund for Public Health New York that was established by Dr Frieden when he was Health Commissioner and health societies in India such as those supported by the UK Department for International Development (DfID).¹ Further details of the CDC Foundation are available from: <http://www.cdcfoundation.org/>

Linking clinical medicine to public health

Dr Frieden stressed the importance of building bridges between public health and clinical medicine. Public health is about helping millions of people at a time and its approaches can be usefully applied to clinical medicine. One example of success in this area was collaboration between public health officials and societies of medical professionals to create clinical guidelines to improve the treatment of those with TB in the United States, see Box 3.1. Such measures reassure medical professionals working in the field, and also encourage novel and effective approaches.

The UK's efforts in using more team based healthcare approaches were praised and illustrate the value of scaling up interventions and standardising the treatments available, which are important tools used in public health. These approaches involve shifting tasks and distributing them throughout clinical practices to a variety of other health workers such as nurses, nurse practitioners and allied health professionals. For example, 80% of the adjustment of blood pressure medication in much of the UK is now done by nurses rather than doctors, whereas in the US, with an exception of a couple of healthcare systems, this is solely a doctor's task. The outcome of the UK approach has been an increase in quality, a reduction in costs and more patients being able to remain in work or return to work. While sometimes not popular with academics, it was argued that standardisation of treatment has many advantages. It can minimise the cost of treatment and increase its quality; allow for improved supervision of the progression of the disease, and provide a straightforward way to evaluate whether the approach is effective.

¹ Further details of the Fund for Public Health for new York can be found at: <http://fphny.org/>

Bringing together different disciplines

One challenge to public health in the UK and the US is bringing together many disparate disciplines, such as General Practice and epidemiology, in an era of increasing specialisation. For example, participants highlighted that social science is essential to understand how to change people's behaviour, prevent disease and build predictive models. While all models are ultimately insufficient because they are only representations of the real world, some can nevertheless be useful, especially if they are simple. UK researchers have done much to help the CDC with modelling but it was suggested that the UK has not done enough to engage social scientists with public health such as during recent influenza outbreaks.

Another important discipline is bioinformatics, which the CDC is strengthening following a recent review. Dr Frieden acknowledged that researchers with bioinformatics expertise can be difficult to attract to the CDC as they can command higher salaries in the private sector. The CDC 'grows its own' experts in this situation. Other areas that the CDC is working to strengthen include injury prevention and food safety; CDC has just designated five food safety research centres under the recent US Food Safety Act.

Integrating with other sectors of government

Many of the drivers of public health sit outside the control of the health system. Participants considered urban planning as an example of where other sectors of government, such as transport, have an important influence on public health. Dr Frieden highlighted the influence that the health impact assessment movement is having on ensuring urban planning is conducive to good public health in California. Changes to transport that also improve health might take the form of walkable cities or designing infrastructure and routes for cycling, as is taking place in London.

3 Importance of data

Participants agreed that collecting and analysing high quality data is vital to monitor public health outcomes, and to define and tackle challenges to public health. Quality data allows for evidence-based decision-making around health policy and improves health outcomes. The NHS offers a huge potential data resource for research that could improve public health in the UK. However, data collection in the UK is not sufficiently coordinated and there is excessive focus on collecting data about healthcare, such as waiting times, rather than data on health. There are also concerns that data is not utilised once collected. The current restructuring of the NHS and the public health system in the UK offers an opportunity to improve the process of data collection. The power of data to improve public health is illustrated with the experience of TB control in NYC described in Box 3.1.

Dr Frieden noted the value of the CDC's annual National Health And Nutrition Examination Survey (NHANES). This involves interviewing a randomised group of 8000-9000 people for 2-3 hours and testing them for a variety of clinical conditions. It then provides information about the prevalence of particular diseases such as hypertension, but does not support management of the disease in individuals.

Electronic health care records can be a valuable source of real time data. The UK has implemented a system to provide real time information on what patients are presenting with at GP practices and via NHS Direct. This was extended to accident and emergency departments for the Olympics and Paralympics and provides a useful early warning system.

Standardising the format of electronic records can be fundamental to extracting useful information from them in a timely fashion. Dr Frieden gave the example of one system in NYC that was an early adopter of e-health records but ended up with 200 different fields for blood pressure from across 11 hospitals. The issue of data is also considered in the context of public engagement and political will in Sections 5 and 7. The fundamental message of the discussion on data was that the value lies in empowering healthcare professionals at the practice level rather than imposing systems from the outside.

Box 3.1 Harnessing data to tackle tuberculosis

Early in his career examining the epidemiology of MDR-TB in NYC, Dr Frieden was asked a life changing question: 'You diagnosed 3811 patients of TB in one year, but how many did you cure?' To his surprise he realised that he did not know and that spurred him to initiate a new system of prospective cohort follow-up of all patients diagnosed with TB in NYC. The follow-up showed that at the time the cure rates were less than 50% and that most infections were from recent transmission. To address these issues the NYC Health Department took an interventional approach to epidemiology where case managers were assigned to monitor every case of TB and Directly Observed Treatment (DOTS) was adopted. Outreach workers were assigned to tactfully work with doctors to help improve reporting and ensure consistent treatment. Public health officials also worked with professional societies to improve clinical guidelines, see Section 2.

The system was remarkably effective in introducing accountability to the public health system and helped reduce Multi-Drug Resistant TB (MDR-TB) in NYC by around 80% in just four years. Subsequently, Dr Frieden moved to India where the tuberculosis burden was very large. Here he helped the government scale up effective diagnosis and treatment, and the systems he helped the country establish have been used to treat 15M TB patients.

Normal TB, MDR-TB and Extremely Drug Resistant Tuberculosis (XDR-TB) pose major challenges to both the UK and other countries, particularly in people who also have HIV/AIDS. Currently public health professionals in the UK have lots of data about TB but this is not being acted upon and better case management is needed.

Participants noted that in the UK a system is currently being piloted in Birmingham, a UK TB hotspot, to bring together stakeholders from different professional groups to address TB. This approach has helped to surmount some of the barriers discussed in Section 2.

A major challenge in the UK at the moment for TB and other infectious diseases is infection control in hospitals. This echoes the experience of the TB outbreaks in NYC in the 1990s where at least 6% of all infections, and a much higher proportion of multi-drug resistant infections were shown to have been acquired by patients while in hospitals.

4 Working with the food and beverage industry

One aspect of promoting healthier lifestyles is to improve the availability and advertising of healthy food and drink options to the public. Working with the food and drink industry is critical to bringing about change.

During Dr Tom Frieden's role as Commissioner of the NYC Health Department, NYC became the first place in the United States to eliminate trans-fats from restaurants and require certain restaurants to display calorie information prominently. Dr Frieden also highlighted the UK's success at reducing the intake of sodium in the population by targeting salt in food.

Participants noted that there have been both positive and negative experiences of working with organisations in the food and drinks industry. Companies want consumers to maintain trust in their products and do not want to be seen as the next 'big tobacco'. Having healthier meal options is part of this, and may provide them with a competitive edge. Walmart, for example, has made a five year commitment to eliminating artificial trans-fat from all their food, reducing sodium by 25%, and reducing the cost of healthier foods so that they were no more expensive than their less healthy equivalents. However, working with some companies has not always produced a useful outcome and participants were keen to explore how public health services can maintain the shift towards healthier eating and drinking.

One international example of how to encourage companies to engage with nutrition standards is the Access To Nutrition Index (ATNI).² This is a venture supported by the Wellcome Trust, the Bill and Melinda Gates Foundation and the Global Alliance for Improved Nutrition to produce a publically available benchmarking tool. The ATNI will rank food and beverage manufacturers on their nutrition-related policies, practices, and performance. The first results from the ATNI are expected to be published in 2013.

Systems of accountability such as the ATNI will hopefully motivate companies to achieve their commitments to providing nutritious products. In the future this could be expanded to include food retailers and others.

Standards are also important in advertising. One popular children's television channel has committed to reducing the advertising of unhealthy food and drink products by 2016 despite vigorous lobbying by the food industry against government regulation in this area. Dr Frieden hopes that other television companies will follow their lead.

² Further details are available from: <http://www.accessnutrition.org/>

5 Engaging with the public

After considering engagement with the food and drinks industry, the discussion moved on to the challenges of engagement with the public, particularly children. A key aspect of this issue articulated by the late eminent epidemiologist Professor Geoffrey Rose is that the things that do the most good are those that help a lot of people a little bit. This is an especially important point in public health as people are rarely motivated to make changes that help them only a little.

Social change is nevertheless achievable and there have been notable examples of recent success. It was socially acceptable in the past to offer someone a cigarette before smoking yourself, whereas now it is more socially expected to ask your companion if they mind if you smoke. We have also moved away from 'Here's one for the road' to having a designated non-drinking driver.

Public confidence

The question was posed of how scientists, particularly within public health bodies such as the CDC, can make their views known whilst maintaining the confidence of the public. Dr Frieden said that he believed it was possible to provide quality research and have public confidence, but it required a fine balance. At one extreme, if scientists are seen as too close to government they will lose the trust of the public. At the other extreme, if they are seen as too independent and not accountable, government may not trust them and they will not be credible within governmental circles where policies and programs are designed and evaluated.

One of the CDC's main methods of communicating to the world and engendering trust is through its Morbidity and Mortality Weekly Report (MMWR) that has been strengthened recently. This publication is editorially independent, although it remains sensitive to the timing and complexity of the context of health and public health issues.

Complex public health messages

One participant raised the concern of overloading the public with too many messages promoting different aspects of a healthy lifestyle. There is data to show only 6% of the population in one region were adopting all four recommended healthy lifestyle regimes and one set of lifestyle risks, smoking, was being replaced by another, alcohol. This is in contrast to the US where both tobacco use and alcohol use have fallen in parallel.

The underlying influence and importance of the social determinants of health was acknowledged. Dr Frieden described a pyramid of public health interventions. At the bottom are the most effective socio-economic interventions such as improved housing. Next most effective are environmental changes such as clean water and clean air. Above that and next most effective are long lasting protective interventions such as vaccines.

Then there are routine clinical activities such as treating hypertension. Right at the pinnacle is education, which may be less effective but still worthwhile.

Public discourse about health often focuses on healthcare delivery as the principle driver of health improvement rather than public health. This is also discussed in Section 3 in the context of data. While Dr Frieden was sceptical about whether public demand for better public health could be created, he stressed that a combination of reliable data that illustrated the problem and the intervention of groups outside government could engender social change. He highlighted the example of drink driving in the US where the Mothers Against Drunk Driving (MADD) had used available data on the scale of the problem to help bring about change.³

Influencing children

Previously school education campaigns in the US have not been shown to be particularly effective at reducing tobacco use. Although in some cases education has been less effective than other tools, changing social paradigms can have a profound impact as is discussed at the beginning of this Section. For example, last year the US Government funded a hard hitting anti-tobacco campaign that told powerful stories about the impact of smoking such as the consequences of a heart attack or amputation. Previously, the US Government has not funded anti-tobacco public health campaigns and funding was made available as part of US health reforms.

Schemes to change what children eat at school have been encouraging, particularly in reducing intake of salt and sugar, and increasing consumption of fresh vegetables. However, nutritional advice needs to be intuitive. For example, the CDC has worked with the US Department of Agriculture to develop the food plate, which contains sections for each food group that are proportionate to the recommended daily intake. This shows more promise than the less intuitive food pyramid that has been widely used.

One important aspect of child health is physical activity, which is increasingly being linked to improved learning. Participants were aware of a number of programmes to improve the activity of school children. In the US examples included First Lady Michelle Obama's 'Let's Move' programme, and training physical education teachers to keep students active throughout the physical education class as currently children are often only active around one third of the time.⁴

³ Further details on MADD can be found at: <http://www.madd.org/>

⁴ Further details of 'Let's Move' can be found at: <http://www.letsmove.gov/>

6 Strengthening public health in developing countries

Participants were keen to hear Dr Frieden's reflections on the challenges to improving public health globally. One of the key mechanisms by which the CDC helps individual countries improve their public health programmes is to have staff working in country and for them to be fully embedded in that country's public health system. Working within the country (rather than through short visits) is vital to understanding the limitations of the systems already in place and in enabling workable solutions to be developed. Sending US based CDC staff overseas is expensive; six times more of the CDC staff based outside the US are from the country in which they are based rather than from the US.

To collaborate internationally it also is essential to work with, and if necessary strengthen, multi-lateral organisations like the WHO. When working in India Dr Frieden found his status as a representative of the WHO to be more helpful than if he had been an official working for the US Government. The CDC Foundation (see Box 2.1) is able to focus funding on Non-Governmental Organisations (NGOs) that can amplify and make more effective the work of governments.

Participants commented that many developing countries have difficulties in investigating outbreaks and developing their capacity to undertake routine disease surveillance. In addition to embedding experts in developing countries, Dr Frieden recommended:

- Strengthening laboratory systems worldwide, including via accreditation. Reference laboratories are crucial and laboratory staff should be included in policy discussions.
- Increasing training in epidemiology, particularly interventional epidemiology such as the field epidemiology training CDC provides to staff from a variety of professions.
- Establishing and strengthening public health institutes and institutions; many countries aspire to have a CDC or are interested in the role of a quasi-autonomous government body trusted by both the government and the public.

All three of these measures allow decisions to be made based on data.

The CDC was praised for putting all of its global health activities under one roof and most of the CDC funding for activities abroad comes from the President's Emergency Plan for AIDS Relief (PEPFAR). One strength of the CDC that 'travels well' is its organisational culture that focuses on data and obtaining results without seeking credit for itself.

More developed countries such as the US can also learn much from developing countries. For example, based on his experience in India, Dr Frieden developed a focused five year public health plan for NYC with a limited number of recommendations. This was the first time a US city had developed such a formal, focused arrangement.

7 Conclusions - Implementing change

During discussion many effective solutions were raised to improve public health. Dr Frieden suggested that the role of public health is to define the unacceptable so action can be taken. For example, by publishing the incidence of measles and highlighting how this problem would be avoided through vaccination. Reflecting on his experiences, he gave his perspective on those factors most likely to engender successful change which provided an appropriate conclusion to the meeting. These factors, which are expanded below, include:

- Improving the interfaces with public health and public health research
- Ensuring support for public health work
- Focusing on health benefits
- Agreeing achievable goals, communicating them and being accountable
- Strengthening laboratories

Improving the interfaces with public health and public health research

As discussed in Section 2, for public health to be successful bridges need to be built between public health research, public health service delivery and clinical medicine as currently the relationships between these areas are too weak. There are also opportunities to strengthen links with other disciplines, such as social science and bioinformatics, and with other sectors of government, such as transport or education.

Ensuring support for public health work

Participants were aware that it was essential to work with a number of different interested groups and individuals to effect changes in public health. For example, Dr Frieden worked closely with the Mayor of NYC, Michael Bloomberg, to tackle the tobacco epidemic through increases in tobacco tax and bans on smoking in public places, and in securing \$27M funding for prevention orientated electronic health records in the most impoverished city precincts. Participants also noted the value of identifying partnerships from outside of government, such as NGOs, that are able to maintain focus on achieving certain goals. One challenge is that the most effective public health measures to tackle NCDs are often vigorously opposed by vested interests.

Focusing on health benefits

The important point was made that the main outcome of public health is to save lives and this should be the focus when promoting public health. Economic benefits are often a welcome secondary benefit, so should not detract attention away from the health benefit, which is where public health practitioners have credibility. Dr Frieden used the example of working with the New York Finance Agency to lower illegal cigarette smuggling. The economic benefit from tax revenues was minimal compared to other projects the agency

were carrying out, however the Finance Commissioner was persuaded of the importance of the endeavour by the number of lives that would be saved.

Identifying achievable goals, communicating them and being accountable

It was suggested that the key to success was to identify achievable goals, a limited number of interventions and a clear technical package, such as DOTS for TB, rather than trying to do everything. These goals should be communicated and information feedback loops should be used to monitor and refine the programme and to measure success. This is illustrated by the example of tuberculosis control in NYC in Box 3.1.

Strengthening laboratories

Throughout the meeting Dr Frieden highlighted the importance of excellent laboratories in underpinning the technical rigour of the CDC and their value to public health systems more widely. Laboratories are useful for a whole range of public health issues from cholesterol to trans fats to bioterrorism. One successful measure to strengthen laboratories that was undertaken by the CDC in the 1980s was to bring laboratories together with corresponding epidemiology units. Dr Frieden stressed that it is essential for laboratories to keep up to date with the latest technologies and he noted that in the future an increased capacity to sequence microbes will help to monitor the progress of disease outbreaks.

Annex I List of participants

Dr Jenny Amery, Chief Professional Officer for Health and Education, Department for International Development (DFID)

Dr Paul Cosford, Regional Director, Public Health England

Professor Lindsay Davies, President, Faculty of Public Health

Dr Tom Frieden, Director, US Center for Disease Control and Prevention (Guest speaker)

Professor George Griffin FMedSci, Vice Principal (Research), Centre for Infection, St George's University of London

Professor Sir Andrew Haines FMedSci, Professor of Public Health and Primary Care, London School of Hygiene and Tropical Medicine

Professor David Heymann CBE FMedSci, Chair, Health Protection Agency (Chair)

Dr Ruth Hussey, Chief Medical Officer for Wales

Professor Anne Johnson FMedSci, Professor of Infectious Disease Epidemiology, University College London

Dr Colin McCord, University of Columbia

Professor Angus Nicoll CBE, Head of Influenza Programme, European Centres for Disease Control

Professor Baron Peter Piot FMedSci, Director, London School of Hygiene and Tropical Medicine

Mr Duncan Selbie, Chief Executive, Public Health England

Helen Shirley-Quirk, Interim Director, Emergency Preparedness and Olympics, Department of Health

Professor Robert Souhami CBE FMedSci, Foreign Secretary, Academy of Medical Sciences

Dr Marc Sprenger, Director, European Centres for Disease Control

Dr Hilary Walker, Deputy Director Health Protection, Department of Health

Sir Mark Walport FRS FMedSci, Director, Wellcome Trust

Professor Nick Wareham, Director, MRC Epidemiology Unit, Cambridge

Professor Chris Whitty FMedSci, Chief Scientific Advisor and Director Research and Evidence, Department for International Development (DFID)

Secretariat

Dr Rachel Quinn, Director, Medical Science Policy, Academy of Medical Sciences

Helen Moore, Policy Intern, Academy of Medical Sciences

Annex II Biography of Dr Tom Frieden

Thomas R. Frieden became Director of the Centers for Disease Control and Prevention (CDC) and Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR) in June 2009. Dr Frieden has worked to control both communicable and non-communicable diseases in the US and around the world. From 1992-1996, he led NYC's programme that rapidly controlled tuberculosis, including reducing cases of MDR-TB by 80 percent. He then worked in India for five years where he assisted with national TB control efforts. The programme in India has treated more than 10 million patients and has saved more than one million lives.

As Commissioner of the NYC Health Department from 2002-2009, he directed one of the world's largest public health agencies, with an annual budget of \$1.7 billion and more than 6,000 staff. During his tenure, the number of smokers declined by 350 000, teen smoking decreased by half, and New York City became the first place in the US to eliminate trans-fats from restaurants, rigorously monitor the diabetes epidemic, and require certain restaurants to post calorie information prominently. The Department also greatly increased colon cancer screening and eliminated racial/ethnic disparities in colon cancer screening rates. Under Dr Frieden's leadership, the department also established the largest community electronic health records project in the country. The project provided prevention-oriented electronic health records to physicians caring for more than a million New Yorkers, including more than half of the doctors caring for patients in Harlem, the South Bronx, and Bedford-Stuyvesant. The project is a model for efforts to expand electronic health record use nationally.

Dr Frieden also provided pro bono assistance to New York City Mayor Michael Bloomberg in his global health philanthropy; including helping to establish the Bloomberg Initiative to Reduce Tobacco Use, a strategic program which promotes the implementation of proven interventions which can save more than 100 million lives.

A physician with training in internal medicine, infectious diseases, public health, and epidemiology, Dr Frieden is especially known for his expertise in TB control. Dr Frieden previously worked for CDC from 1990 until 2002. He began his career at CDC as an Epidemic Intelligence Service (EIS) Officer at the New York City Health Department.

Dr Frieden speaks Spanish and graduated from Oberlin College. He received both his medical degree and master's of public health degree from Columbia University and completed infectious disease training at Yale University. He has received numerous awards and honors and has published more than 200 scientific articles.



Academy of Medical Sciences
41 Portland Place
London, W1B 1QH
+44(0)20 3176 2150
info@acmedsci.ac.uk
www.acmedsci.ac.uk

Registered Charity No. 1070618
Registered Company No. 3520281