

new statesman

A close-up photograph of a hand in a white glove holding a clear plastic tray filled with numerous white, round pills. The hand is positioned over a surgical tray containing various metal instruments, including forceps and scissors. The scene is brightly lit, with a blue surgical light visible in the background. The overall composition suggests a connection between pharmaceuticals and surgery.

**The
future
of medicine**

**Special
Supplement**



Introduction

This round table discussion, held by the *New Statesman* with Pfizer, examines where we can expect the leaps in development of medicine over the next few decades. Personalised approaches to therapy and prevention will come out of a revolution in healthcare, driven by advances in knowledge and communication.

Participants



DR RICHARD BARKER

Director general,
Association of the British Pharmaceutical Industry



PROFESSOR JOHN BELL

Regius professor of medicine, Oxford University;
chair, UK Biobank Science Committee



DR SIMON BEST

Chairman, Ardana plc;
Chairman, Bioindustry Association



PROFESSOR DAME CAROL BLACK

President,
Royal College of Physicians of London



PROFESSOR COLIN BLAKEMORE

Chief exec, Medical Research Council; Waynflete
professor of physiology, Oxford University



PROFESSOR SALLY DAVIES

Director of research and development,
Department of Health



DR ANNETTE DOHERTY

Senior Vice-President
Pfizer Global Research and Development



DR IAN GIBSON MP

Member of parliament for Norwich North; chair,
All Party Parliamentary Group on Cancer



GEOFF LEE

Director of global strategic policy,
GE Healthcare



PROFESSOR PETER LITTLEJOHNS

Clinical and public health director, National
Institute for Health and Clinical Excellence (NICE)



PROFESSOR SALVADOR MONCADA

Director, The Wolfson Institute for Biomedical
Research, University College London



SARAH MONTAGUE (CHAIR)

Presenter,
BBC Radio 4 *Today Programme*



PROFESSOR ROBIN MURRAY

Professor of psychiatry,
Institute of Psychiatry, Kings College London



PROFESSOR SHERVANTHI HOMER-VANNIASINKAM

Chair of the Institute of Nanotechnology's
NanoMedNet; professor of clinical and experi-
mental vascular research, University of Bradford



PROFESSOR ANTHONY SEGAL

Director, Centre for Molecular Medicine,
University College London



PROFESSOR IJEOMA UCHEGBU

Professor of drug delivery, University of
Strathclyde; chairperson of the Academy of
Pharmaceutical Sciences of Great Britain



PROFESSOR SIR MAGDI YACOUB FRS

Cardiothoracic surgeon, department of technology
and oncology, Imperial College London

Editor: Caroline Stagg Design and cover: Leon Parks Publisher: Spencer Neal
newstatesman subscriber services: Stephen Brasher Freephone: 0800 731 8496
E-mail: sbrasher@newstatesman.co.uk Published by New Statesman Limited.
A supplement to the newstatesman issue 29 May 2006. © All rights reserved. Registered
as a newspaper in the UK and USA. Address: 52 Grosvenor Gardens, London SW1W 0AU

For this and other reports
in the series:

www.policyforum.co.uk

This supplement can be downloaded from the *New Statesman's* website at www.newstatesman.com/supplements

The future of medicine

Where therapy meets prevention



Sarah Montague Thank you all for coming. I will start by asking each of you what you are working on and what makes you think: “This is fantastic. This is what the future is about.”

Colin Blakemore We are going to experience a rapid increase in understanding, going beyond describing single genomes to understanding the nature of polymorphic variations, genetic variations and how they affect our tendency to ill-health and how genes and the environment impinge on health.

There will be rapid advances in this over the next ten years, with new approaches to treatment and prevention. Personalised approaches to prevention will be with us in 20 years’ time. This will direct other emerging technologies, such as people monitoring their personal state of health, function and phenotype. In 20 or 30 years, people will have an implanted chip that will monitor a wide range of indicators of their state of health, coupled remotely to an internet-based personal prevention diagnostic system.

We will see the expert patient coupled with the internet, and

advisory systems coupled through personal monitoring of health, guiding the approach to lifestyle, diet, prevention and, where necessary, early diagnosis and treatment.

John Bell We now have enough information about fundamental pathophysiology and some of the common diseases to be able to differentiate and develop a new taxonomy for disease. We will develop therapies that are specific for subtypes of disease, something we have not really done systematically before. We will treat cancer, diabetes and heart disease in specific ways, based on a better understanding of each individual’s underlying mechanisms. If you have expensive drugs, you want to use them in a precise, targeted way and be assured of getting a vital response. I do not use the term “personalised medicine” for this because I always practise personalised medicine. This will take it a step further.

Richard Barker I, too, am not very fond of the concept of personalised medicine because it will be unaffordable, but I ►



people in the poor economies die younger and end up pretty decimated.

Anthony Segal The major diseases affecting the world relate to nutrition. We are dealing with this issue fairly amateurishly. I agree that the directed treatment of cancer will come and that it will be very expensive to implement. I think stem-cell therapies are a long way off.

We are going to have to tackle atherosclerosis. This causes 50 per cent of all deaths and a large amount of morbidity in older people. We know this is related in some way to cholesterol and we know statins can reduce that. However, we know very little about the underlying pathophysiology. We need more small science and for directed groups to try to understand the intricacies of the problems.

► embrace bringing together our knowledge of therapies and diagnostics with the information to couple the two together, and to do that in an environment where behaviour modification is often our target, not just therapy. I agree that we will have rapid progress in underlying pathophysiology and our understanding of genetics, but we have to bring them together at the point of the patient, at the point of clinical decision-making to make best use of the patient's ability to have their own behaviour modified. We over-invest in molecular biology but under-invest in human behaviour modification.

Salvador Moncada There has been a massive investment in modern cancer therapy over the past 20 years and these areas are about to come to fruition. Over the next ten years we will see the development of safe, effective anti-cancer drugs without side-effects. We will be able to find combination therapies that will delay the disease in such a way that people can have a normal life with the treatment.

The other thing that has been mentioned is the definition of the nature of polygenic diseases. This will allow a clear understanding of the interaction between the environment and genes, leading to personalised treatment and prevention and creating a completely different pattern of disease incidence.

Ijeoma Uchegbu Gene therapeutics will be important. They get a bad press but gene therapeutics are creeping up on us. We will see a more polarised world where people in the rich economies live for longer, focus on the diseases of ageing and

Ian Gibson We need a moratorium to prevent insurance companies from getting their hands on gene-typing data. There are some big civil liberties issues here. The interaction with other countries over some of these technologies will be extremely important. French scientists and politicians are very concerned about stem cells, the Human Embryology and Fertilisation Authority and so on. They want to get something going.

One of the biggest issues is going to be inequality of health. The National Institute for Health and Clinical Excellence (NICE) would agree that it is very difficult to break down the postcode lottery. Patient groups are going to be extremely important politically. Stem cell research got through because of the Alzheimer's Society and the Parkinson's disease groups.

Peter Littlejohns When innovations are coming on board, they need to come in a way that society sees as acceptable and morally defensible. The debate about the postcode lottery is taking place in a very explicit and evidence-based way. We do have a way in which we can identify the information that is required to carry that forward, but there also needs to be a public debate and we need to ensure that society can handle it in a very transparent and open way.

Simon Best Very basic problems in the developing world centre on agriculture and nutrition. That is a theme we ought to build on. We can also cross-reference our biological understanding about the evolutionary links between all living systems and organisms, and use this knowledge to see if there are

appropriate technological interventions that could make a difference to major challenges in the developing world.

I have recently become involved with a French company working at the leading edge of various central nervous system (CNS) disorders. Through academic networks within France and Switzerland it has become apparent that a new drug-treatment pathway for depression has a very specific role to play with regard to trypanosomes, which have a role in neuroscience and the human brain. By virtue of that informal network, it has been possible to feed into public-sector trypanosome programmes putative new drugs and also to start evaluating them as treatments.

Robin Murray When you see a physician, he or she takes your history and says: "This could be X, Y or Z. We will do some tests." If you go to see a psychiatrist, the psychiatrist listens and says: "In my clinical judgement, this is anxiety, depression or schizophrenia. I will now treat you." With the huge advances in neuroscience, neuro-imaging and behavioural genetics, when you go to see your psychiatrist in the future, he or she will say: "We need to do some investigations." If someone is paranoid, the psychiatrist will say: "Is the paranoia related to depression or schizophrenia?" We can now put someone in a PET scanner and look at their dopamine function to see if it is the onset of schizophrenia. Or we can put them in a virtual reality suite, in a particular social situations to see what makes them paranoid.

Behavioural genetics is having a profound effect in determining factors of cognition and personality in the normal population. I think psychiatry may end up as the highest-tech branch of medicine rather than the lowest-tech, as it is now.

Geoff Lee The complexity of our science is also our greatest challenge. We are on the cusp of massive change and we are so close to it that we probably do not recognise it. The first industrial revolution put three fundamental elements together - coal, iron and steam - and we forged a whole new industrial society. The elements coming together now are actually leading us into a socio-economic revolution.

The agents of change are the individuals in society. The three elements are the new biology, the communication power we have through the internet, and the extent to which that is accelerating our learning curve. We could not have decoded the human genome without broadband and processing power.

The ancient Greeks had the god Hermes, who pulled



together innovation, science, medicine, commerce and the arts of oratory and communication under a single object of worship. I think we need this holistic approach.

Magdi Yacoub We have major opportunities here to try to unify hi-tech medicine by identifying basic mechanisms in targeted therapies and prevention and linking it to the community. For example, heart failure can now be treated by a

The elements coming together now are actually leading us into a socio-economic revolution

mechanical device. We can understand the basic mechanisms of why that is and we can find new targets for therapy. From genetic analysis of the population we can discover why some people do not recover; we can travel to Africa and find different types of heart failure.

Shervanthi Homer-Vanniasinkam Most exciting for me is the development of strategies to look at sites of atherosclerotic disease where it is most likely to cause havoc in the body. Then we can develop site-targeted therapies through nanomedicine. This should be affordable and the drugs should be too. ►



study in north-east England on diabetes management. These diabetic patients are all on a database and are texted with a message saying: "What is your blood sugar today?" The patient texts the answer back into the database. If it is within the required limits they get a: "Well done". If it is outside the limits, the nurse's computer alerts him or her to call this patient and gives them the telephone number. It is very successful. With the latest technology, the test strip for blood sugar can be read straight into the mobile phone so that the patient does not even have to be asked what it is. In the future, patients could pay to interact with their digital television and say: "I have got these symptoms. What shall I do?" After all, when I see patients, I use pattern recognition from their history and we have unwritten algorithms that take us through the possibilities.

► **Annette Doherty** The most exciting thing I see is the fast pace of discovery and development. Drugs that are going to be with patients in 2015 are already in the pipeline today. We will get more medicines to patients more quickly over the next 15 years. The past decade has been the most productive in history for design, discovery and development of medicines.

The other area that excites me is personalised medicine. Drugs from similar mechanistic classes will treat certain sub-populations against different diseases more effectively. In relation to preventive medicine, a focus on wellbeing and health, to try to prevent progression to certain disease states, will become an important area. Screening and diagnostics that patients use themselves will increase in the next 15 to 20 years.

The pharmaceutical industry needs to use its science to screen everyone against the diseases prevalent in the developing world. A partnership approach is required to ensure that our medicines reach every patient they can benefit worldwide.

Carol Black My excitement is much more basic. It is that healthcare professionals have seen the importance of really breaking down the barriers between primary and secondary care. There is excitement, partly generated by the White Paper, that we are now working together to achieve unity of care and being able to say: "What should the patient pathway be?" It is about getting people together in the right configuration for proper delivery of high-quality healthcare.

Sally Davies ICT is going to make dramatic changes to how we manage health as individuals. Take, for example, a pilot

Sarah Montague These are existing ideas. But how can the NHS go about prioritising them?

Sally Davies We know a lot of disease and its prevention relates to behaviour, so we need a lot of social research on behaviour. That should take in issues about taxation, laws and all the issues around how we can promote healthy behaviour.

Colin Blakemore I think the main hurdle in many areas is research capacity. There is a long time-lag between injecting cash and building capacity. Capacity has to be built on the basis of existing expertise, the ability to train the next generation and to frame the research questions in a way that is tractable, particularly in prevention research and behavioural change.

Ijeoma Uchegbu We are saying that we understand disease more than we have ever understood it, but the number of new clinical entities being approved is diminishing. So we can identify the molecule but we cannot get it on to the market and into the patients' hands as a drug. More money should be spent on the development of medicines.

Salvador Moncada I do not think the problem is one of investment. We have made very important developments in our understanding of disease and we are about to see real breakthroughs that will allow new drug discovery to take place. Distribution has been mentioned. There is an unequal distribution of healthcare in the developed countries themselves and in the world in general. We invest enormous amounts of

money in solving problems like atherosclerosis and diabetes but, when it comes to starvation, there is nothing.

Peter Littlejohns Carol's and Annette's points are related. I have just come back from Harvard where they share your concerns that the number of new products being authorised through the FDA is decreasing significantly. The research and development (R&D) budgets within their industry are decreasing. The only increase is in the marketing share. They were all talking about a preliminary paper issued by Sir Michael Marmot from University College London and the Rand Corporation. It showed that the British middle-aged population is much healthier than the American population, despite the fact that we spend less on our health service. Trying to get a linear relation between money, research, implementation of medicine and patient outcome is complex.

Anthony Segal To get back to the issue of capacity, we have a massive problem in this country because of the decimation of the clinical scientist. On the one hand, the NHS is target driven, with the development of very strict career structures for doctors. In that respect the system lacks flexibility, so people are discouraged from doing science. On the other hand, there is the development of big science; all the projects from the Wellcome Trust and the priority areas the Medical Research Council has too. But the pool of finance for individuals doing



The British middle-aged population is much healthier than the American population

a little bit of work here and there has been removed. That has been a great loss and a schism has been created between the NHS and universities.

We have a great scientific industry here and the development of learning is making big advances in identifying genetic mechanisms. We are exporting that to places where the clinicians are more able to directly involve their science in clinical practice because this key bridge between the two has virtually been abolished by the structural mechanisms in this country.

Sally Davies The Academy of Medical Sciences has led in highlighting this issue. We all recognise what you are describing but also recognise the need for a new model for training clinical scientists or for clinicians to be scientists. The UK Clinical Research Collaboration has a new academic medical training structure with new money to fund the academic part, but it will take time to deliver what we need.

Ijeoma Uchegbu I feel that we are still left with the problem that we seem to understand disease more, but we are not getting the medicines out at the other end.

Annette Doherty There is an issue in the UK. It has been recognised and measures have been put in place to address it. For every 25 prospective medicines we put into development, only one comes out at the other end at the moment. So the attrition that we see through development is the main issue.

Ian Gibson There is industry and industry. Small industry – bio-tech companies – favour innovation, as opposed to big pharmaceutical companies, and they are driving production.

Annette Doherty I dispute that. Ninety per cent of the ►



work. The industry finds it difficult to recruit good clinical scientists because we have not trained any for 20 years.

Colin Blakemore A lot of this discussion has been about the gulf between the explosion of knowledge both at the clinical and bio-medical levels, the productivity of the pharmaceutical industry and the development of new treatments in general.

For the past 10 or 15 years, the number of new molecular entities has been 30 or 40 per year, despite the fact that the cost per entity has been going up. This has only been maintained by increasing market share. That is not sustainable unless the two things are in parallel. Drug companies are focusing on a narrower and narrower group of targets and those targets are the diseases of the developed world because that is where the money is going to come from to sustain the present situation.

► medicines with patients today have been discovered and developed by the pharmaceutical industry. Partnerships with the bio-tech industry are key. There are many innovative drugs I can point to that Pfizer has partnered. These days we are addressing disease areas that are much more complicated and complex. We are on the precipice of understanding a lot of the areas that we have talked about today, such as cancer. This will allow us to pick out the winners so that we spend less money in development. However, we also need to shorten our overall development timeline to produce medicines more quickly. We are putting a lot of effort into that right now

Carol Black Professor Segal is highlighting the fact that we have got into a situation where we have not been producing the next generation of clinical scientists.

Sally Davies But today a committee is sitting that will spend £50m of capital, £20m a year, on running costs for experimental medicine. We are addressing it.

Carol Black You are addressing it at that level, but what we now have to do is ensure that young people want to do this. I do not think they are fired up about clinical science.

John Bell The general view of the pharmaceutical industry is that it is not innovative. The area that is the least innovative is early development, which requires clinical science to make it

There are two approaches to solving this. The first is regulatory. The conservatism is being driven by the regulatory framework. We need to review the regulatory demands for absolute safety that we impose on the pharmaceutical industry to see if there is any scope for relaxing the regulations and decreasing conservatism.

Second is the role of non-commercial funding. Public funding and foundations could lead the way because they are not driven by targets associated with diseases of developed countries.

When you go to a surgeon and discuss elective surgery, the surgeon will say: "There is an 80 per cent chance of a good improvement; a 10 per cent chance of you being no better and a 10 per cent chance of dying. Please sign this piece of paper if you are happy with that." If people have the opportunity to make their own decisions, they are much more willing to accept risk. We have built into the structure of administering drugs the notion that the patient plays no part in assessing risk. They assume the drug is safe and we know that is not realistic.

Robin Murray Pharmaceutical companies have, to some extent, caused a lack of trust among doctors and the public, so one of the difficulties for the general population when assessing risk is that they know that drugs have been over-hyped.

Richard Barker To come back to how we translate fundamental bio-medical research into real treatments for patients, that is difficult because of the fall-out rate. It requires clear co-

operation between the three groups, the bio-medical scientists, practising clinicians – we do not have enough clinical pharmacologists by a long way – and the bio-pharmaceutical industry. The light at the end of the tunnel is that we have much better science now to help us understand which subgroups of patients will benefit from a medicine that targets a particular pathway. We will only get there if we work closely together to say: “In relation to this subgroup of Alzheimer’s patients or this subgroup of cancer sufferers, how do we get the regulators to understand that a particular medicine, for a smaller population, is worth taking forward?”



Ijeoma Uchegbu The pharmaceutical industry exists to make money. If we are looking at translating good biology into good medicines, governments and public bodies should fund that translation. If you can stop a patient from smoking, you will get a better health outcome than doing bypass surgery. Unfortunately, preventive measures do not yield any income. So government has to step in and be aggressive about prevention.

Magdi Yacoub But the nation has to depend on understanding basic mechanisms. If people do not smoke, it is true that you will get less incidence of heart disease but you will still have disease if you do not understand the mechanism.

Geoff Lee The ancient Greeks would have called this a “clash between the gods of science and commerce”. They managed to get it right, so how do we do it? The science we are teaching does not inspire young people, but they could be inspired by studying health and environment as a fundamental part of the curriculum, alongside maths and English. That would get people inspired by careers in science and business and give us a flow into the broader science base we need in order to engage the population. Then we can move from a disease-based model to a health-based model. Chemistry departments are closing because we call them “chemistry” departments.

Ian Gibson Some of them have got wise. The one in Norwich is now called “chemistry and pharmacy”. That was just an idea because we knew that the royal college was after a new pharmacy school. The one at Sussex University is trying to combine. Doing this has increased applications.

Simon Best In Scotland, we have tried to explore this. The weakest link in the whole system is science teaching in the lower grades of secondary school and it is non-existent now in Scottish state primary schools. The first response to this was to focus the best teachers on sixth formers who had already made the decision to take science. The trouble is that we had taken away the teachers who could inspire kids aged 11, 12 and 13 to take science. That is where we need the best science teachers right now, at the decision-making point.

Geoff Lee We need to redefine what industry is about in this area. If we look at a pharmaceutical industry, a diagnostics industry and a technology industry, we have therapeutics, diagnostics and information. We have to bring these together in an industrial and technological context. Only then can we start to provide integrated solutions.

Anthony Segal We have to develop a career structure for clinical academics and scientists. We have a very ad hoc arrangement where some people manage to get funding, then they drop out. There are big gaps between levels of funding. There is no seamless way a person can develop a career. This is a major disincentive to entering into this stream of medical enterprise – clinical enterprise is more secure.

Sally Davies We have advertised and awarded the first round of clinical fellowships in clinical lectureships. These are a part of the structured pathway that is currently being rolled out to develop new generation of academic clinicians. ►



Ian Gibson That is a problem the Department for International Development needs to address.

Ijeoma Uchegbu Malaria probably kills more people than HIV/Aids, but Aids receives such a high profile because it is a disease of the West. I know people who are working in the malaria areas and their careers have been reinvigorated by the Bill and Melinda Gates Foundation.

Colin Blakemore The difference is that HIV is a drug-treatable disease and malaria is not, yet. Quick gains in the developing world are clearly not going to come through expensive therapeutic interventions. They will come through public health but, politically, that it is so complex.

John Bell When you are talking about inequalities on a global basis, you need to talk about the billion poorest people on the planet in whom TB, HIV, nutrition and the diseases of severe poverty are primary. Then there is a very large proportion

of the world's population where the major chronic diseases are taking equally as many lives prematurely, driving families back into the poverty trap. Those issues are aligned with issues of behavioural modification. The big epidemics of diabetes, common cancers, vascular disease and obstructive airways disease kill more than 50 per cent of the world's population prematurely. It is important not to forget that, even though we have to think of the very poorest people as well.

Sally Davies And those diseases are increasing in the developing world too. For many of the chronic diseases and cancer, developing healthy lifestyles will have the biggest impact throughout the world. We need to understand the impact of social marketing, the systems and the political levers there are that will vary from country to country and culture to culture.

Sarah Montague Let us look at this country and the possibilities that are within the NHS.

Robin Murray Before we get to the NHS, should we not talk about the conditions in our inner cities and how they facilitate good healthcare? From a psychiatric point of view, being brought up in a one-parent family, being abused by your mother's boyfriend, having poor or no education about health, and even taking drugs by the age of 12 is building up more and more problems. Psychoses have doubled in London since the 1960s because of people's lifestyles. There are many

► **Sarah Montague** One thing that has been raised several times is this idea of the inequality with the developing world and how we develop successful ways of tackling that.

Richard Barker The answer is public private partnerships, such as those that exist in the fields of malaria, TB and Aids, mainly in the provision of medicines. We need more resources. The biggest resource problems lie not in the creation of therapies but in the delivery of therapies to the developing world. The thinking about how we can develop the health systems of countries in sub-Saharan Africa is not integrated. This is fundamentally a political problem, and not something that can be resolved by the bio-medical and pharmaceutical communities. We need to create health systems that can deliver the medicines that are already in the pipeline.

Simon Best Even if we sorted out all those problems, the nutritional status of most victims of HIV or other endemic tropical diseases is problematic. They are chronically malnourished or undernourished and the retroviral regime has significant safety risks in undernourished patients. If we don't address the basic issue of food quality and nutrition, we may make things worse.

Salvador Moncada It is very clear that helping developing countries has less to do with disease than with socio-economic problems. If you solve those, then you could start solving the other problems, as we have in the West.

areas of disease, such as obesity, hypertension and coronary artery disease where lifestyle patterns are important. The lack of education or societal planning to try to reduce the factors that engender these illnesses is very important.

We all know how many psychiatric disorders are a direct consequence of the rise in alcohol consumption, yet we are seeing liberalisation of the drinking hours. In Scotland this was associated with a great increase in alcoholism.

There are no votes in psychiatric care. We are bad at preventing violence in the normal “sane” population and we are not much better at preventing violence by psychiatric patients. Politicians and newspapers largely concentrate on the occasional violent incident. The proportion of deaths and murders by psychiatric patients has steadily fallen since 1952. So it is the sane population that is killing people, not those receiving psychiatric treatment.

Sarah Montague Let us move on to the situation in Britain where we have amazing possibilities. There is no way the NHS is going to be able to pay for some of the things being put forward today.

Colin Blakemore Any health system has finite resources. What we need to come to terms with, in a sense, is the fraction of our national wealth that we are willing to commit to health delivery. We are now investing much more in our healthcare system as a percentage of GDP than we were before, we are getting towards the European average. However, it has not delivered a proportionate gain in quality of care. I think we need to give a lot more thought to how money is efficiently channelled to deliver. We need a really sensible public debate about what we are aiming to achieve.

Ijeoma Uchegbu We are living longer, so this investment in health is yielding some dividend. We heard earlier about the paper that showed we are spending less on health in the UK than they are in the United States but we are living longer. I think the NHS is delivering but it still gets awfully bad press.

Colin Blakemore The major component of the increase in life expectancy in this country is accounted for by the reduction in smoking. It has nothing to do with medicines.

Sally Davies Is not that increase in life expectancy due to early diagnosis and better treatment?

Sarah Montague I want to bring Carol back. What do you see



as the main limitations of the NHS over the next few decades?

Carol Black I agree with Colin that, as a democratic society, we could decide that we want to spend much more on our health. The demands are infinite.

I do not think we have been able to make the best use of the extra finance we have had available

Sarah Montague Do you think we should spend more?

Carol Black Thinking of the money that has been poured into the health service, it has gone into things like salaries, the new GP contract, consultants' contracts, Agenda for Change, new private finance initiatives and pensions. So, relatively little of it has been available to improve the quality of care. I do not think we have been able to make the best use of the extra finance that we have had available.

Sarah Montague But looking forward, when people want their personalised prevention, their personal medicine, the chip in their arm, who is going to pay for it? ▶



mechanisms that allow us, as a society, to invest in innovation that will lead to economic growth and the healthcare we need to lead successful lives. We need to start by allowing the politicians and the Department of Health (DoH) some latitude in recognising that the electorate is currently asking them to do a pretty impossible task.

Salvador Moncada I am all for greater investment, but that will not solve the problem by itself. It is a problem of education, objectives and values and what we want to achieve.

Colin Blakemore The paradox is that, in a socialised health system, we have an opportunity to organise things differently from a commercially delivered health system and yet we treat it in the same way. The public believes that it has funded the scheme through taxes and that it has an entitlement to whatever it wants. We need to close the loop of engagement so that the public understands its own part. It should be more of a contract in a service delivery relationship.

Sarah Montague You are advocating an open discussion about rationing?

► **Carol Black** We have to decide whether we think it is a reasonable return on the money that is available.

Magdi Yacoub It could be available in the future.

Annette Doherty If we end up paying for people with chronic diseases in the ageing population, it will cost the healthcare system more. We need to invest a healthy percentage of our overall budget in healthcare because, in the end, it will benefit the nation.

Richard Barker We have to invest in healthcare so that we can work longer because the socio-demographics mean we will have to. Young people cannot support such a cost.

Geoff Lee We need to invest more in health. It is what everybody out in the street would want, but I think we have allowed the parameters of the debate to become fossilised. Whenever food sales or 4x4 car sales go up that is perceived as “good news” for the economy, yet when health spending goes up, that is viewed as “bad news”. But health is an asset, not a liability, so let us think inventively about socially responsible funding

Colin Blakemore More than that. What we need is an understanding that, in return for the benefits of a truly nationalised health system, there is also an element of obligation and duty; a duty, for instance, to be willing to be involved in research; a duty not to abuse the system. There are many other things.

Salvador Moncada We have mentioned several times that a large proportion of the country has stopped smoking. There is a lot to learn from this. Different types of interventions in different places are going to make a significant change in the baseline of the health of our population. Stopping smoking is not just a health intervention but it is an educational intervention, it is an attitudinal and a political intervention. It is an overall change in the mind of society and it is important to implement it in many other areas, obesity being just one.

Peter Littlejohns We have heard this morning that trying to separate the issues out into prevention or cure does not work because it has to be integrated. Separating out health and education does not work because it has to be integrated. It is the same with rationing. Rationing, to me, means starting with a shortage of a commodity and ensuring that distribution is fair.

Sarah Montague Rationing is a lazy use of the word. One of the arguments, surely, is that if you can say: “This is what the NHS delivers” and you exclude, for example, ophthalmology, then you allow a very sophisticated market in ophthalmology to be provided in the private sector where people can get delivery. Whereas, if the NHS tries to provide services in a range of other things but fails, then people are losing out as a result of it trying to cover too much.

Peter Littlejohns That a very open and frank debate on what the NHS is there for, what its overall objectives are and how it should be delivered is a legitimate way forward, but I think it is customer-led by the competition.

Ian Gibson How do you decide what to take out? Some of the things that go on in the private sector with laser eye surgery are disgraceful. We are talking about regulating the area now. What about IVF? I could make an argument quite easily that it should be outside the NHS, but patient groups would challenge that and they have an influence. I think you have to include it all.

Sarah Montague But how do you pay for it if you do not draw the line somewhere?

Ian Gibson You have to start with prevention. Jamie Oliver has managed to hit a nerve that embarrassed politicians and that is really good. There are things like that where you have to engage with the industry. You are all having a little poke at pharmaceuticals. Why don't you have a go at the food industry? I was, rightly, criticised for taking a football team to the last World Cup at McDonald's expense. It sends out a terrible message.

Sarah Montague We are nearing the end. I want to go round the table and ask you to say what would be your priority for spending if you had control of the purse strings?

Ian Gibson I would start with more walk-in surgeries. A million people in my constituency, in one year, visited a walk-in surgery and did not annoy their GPs with cut fingers and so on. They are run by nurses; GPs were against them. They have been a great success and we are urging the government to do more.

Richard Barker For me, it has to be cancer. We still have the lowest uptake of modern cancer medicines. We are going to have new ones but we do not have the capacity to deliver them,



so the medicines must go hand-in-hand with capacity. We will learn an enormous amount about what Colin started us off with, which is personalised medicine. The more advances we see there the more we need to put money into it quickly.

Colin Blakemore It is interesting to note that in all the discussion about prevention, the word “vaccination” has not been mentioned once. I think one of the most exciting and promising areas is harnessing the power of the immune system in prevention and therapy with all the interesting variants, such as

Separating out health and education does not work because it has to be integrated

DNA vaccines and so on. There is the possibility of using vaccinations as an approach to the prevention of other diseases. We have already seen the possibilities in the area of addiction, in Alzheimer's disease, neurodegenerative disease and cancer, of course. I think we are going to see wider and wider innovative uses of immunotherapy and vaccination.

Salvador Moncada I would invest in education and in trying to understand how we develop this contract between the public and health providers to take us into the future. ►



First, to inspire our young people by making health a core part of the curriculum. Second, to use technology as part of the solution in healthcare delivery because it has to be a deflater in the price curve, so we have more cost-effective healthcare. Third, as a means of stimulating our 21st Century economy, because the UK could take a very exciting lead in this area.

Carol Black I would tackle the ten most common diseases in the socio-economically deprived communities because we would see a great gain if we could really treat those people. In that group of people I would also target lifestyle diseases, whether it be smoking, obesity and excessive alcohol. If we could improve the behaviour of those people, we could see a great gain in the delivery of healthcare.

Annette Doherty If we are talking about the UK, I would put more money into education, to make sure we have the required science, engineering and technology skills in the UK. I would also put my money into the healthcare system, upgrade our hospitals, give our staff better

training and broaden access to healthcare.

John Bell I would not give any more money to the NHS. The biggest epidemic is obesity and diabetes. I would give more money to all the other government departments, where their activities are relevant to controlling that. That means transport, education and the environment. We should put a health badge on it because we do not have joined-up government and we are forever having one department doing something really dumb and then the DoH has to pick up the pieces. I would give my money to the other departments and let them sort it out.

Robin Murray I agree that education is most important but, because it is being done mainly by charities, it only gets to the middle classes. We have to do something to focus education on those who are in most need of health advice. In the long term, we should be combining this with genetic risk so that it would not be just blanket advice to the whole population. You could get screened, be advised that you need to pay particular attention to the risk of diabetes or, in my field, you might need to pay particular attention to which recreational drugs you take.

► **Shervanthi Homer-Vanniasinkam** In this country I would spend my money on identifying, supporting and fast-tracking clinician scientists who can make a difference in the NHS, which is one of the best health services in the world. In the developing world, you have to find people with vision who can work effectively with local people. I have done it myself.

We should be combining this with genetic risk so that it would not be just blanket advice

Magdi Yacoub I would put my money into engaging the public. I would get them to decide about priorities because, rather than use the word “rationing”, there are priorities that they can choose for themselves. They can use prevention. They can see that hi-tech medicines can deliver prevention.

Geoff Lee I would use technology to achieve three things.

Some people can take amphetamines and cannabis without adverse consequences, but other people will become psychotic.

Anthony Segal We talk about education but I do not think we do it very well. We should be clear as to what the major risks to the population are, whether it be diabetes, obesity, drugs or whatever. I do not believe that we take a great professional attitude to the education of the public.

The commercial sector is very efficient in doing this in terms of advertising and the promotion of commercial interests. We do not have the same commercial priority in the sophisticated delivery of educational programmes.

Simon Best I would increase the recognised and growing area of experimental medicine in the NHS. I would put money through the research councils and fund the public side of public private partnerships to help get the next generation of smaller and more innovative companies going. This obviously, is the lifeblood of my bit of the industry. Ultimately, I would see this as complementing larger companies and their needs.

Peter Littlejohns You would expect me to say that we need a frank and open debate around the NHS, so I will not say that. I think the NHS has a unique opportunity to be seen, not as a passive recipient of all this debate, but as a very active partner. The essence of that will be an integration of all the key stakeholders so that industry, working with the patients, the public and with the science groups, can carry it forward in an active, integrated partnership.

Sarah Montague Which area would you put your money into, given all that you know about drugs?

Peter Littlejohns It has to be the chronic diseases, the whole issue of obesity and chronic diseases.



Ijeoma Uchegbu I would definitely put my money towards translational research because great biology can end up as a medicine for a patient. Also, I would put money into the education of five-year-olds in healthy eating, not smoking and having a social conscience. They should care about people dying in other countries.

Sally Davies I think I would spend the money on engaging the professionals in the health service so that we use what we know effectively. I am very proud, actually, of the changes that have been made in my own hospital. However, it is fairly rare that we get single-specialty professionals talking about the behavioural issues at a broader level. I would like to engage the public around adherence to treatment, about behaviour and, finally, about values. A lot of the new treatments that will hit us are actually an issue about societal value. The cost is currently falling to the NHS but we have not done the work to show the value, not just to individuals, but to society too. I would like an open debate about that value.

Sarah Montague Thanks to everyone for a fascinating debate.

newstatesman

3rd Floor
52 Grosvenor Gardens
London SW1W 0AU
Tel: 020 7730 3444
Fax: 020 7259 0181
www.newstatesman.com



Pfizer UK Corporate Affairs
Walton Oaks
Dorking Road
Tadworth
Surrey KT20 7NS
Tel: 01737 332 332