

Transcript

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 UNIVERSITY OF MELBOURNE.**
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 OF MELBOURNE**

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KEN RANDALL: Ladies and gentlemen, welcome to the National Press Club and today's National Australia Bank address. It's a really great pleasure today to welcome Professor Sir Gustav Nossal. Gus Nossal is probably the best known name in Australian medical research, and deservedly so. He's had more than three decades of outstanding contributions to it in the field of immunology.

And, among other things, he is this year's medallist of the Australian Society of Medical Research and we're very pleased that he's going to be actually presented with that medal now by Dr Clive Morris from the National Health and Medical Research Council.

[Applause]

DR CLIVE MORRIS: Thank you very much, Ken. Firstly, I'd like to acknowledge the Traditional Landowners; secondly



I'd like to say that I've been given the great honour of awarding the ASMR Medal for 2008.

I don't know how many times I've heard someone introduce somebody and say that the person needs no introduction. I think, in saying that today, I am absolutely right. I don't believe that Professor Nussal needs - Professor Nossal needs any introduction from me at all. He has been a great contributor to immunology for many years, he was made a Knight; he's Order of Australia; a huge educator in science, and I think an inspiration to generations of health and medical researchers and scientists.

I was surprised to learn that Gus is only 77 years old, in fact today is his birthday...

[Applause]

...and when I asked Gus before what he'd like me to say he said don't talk for too long because I want to get up and talk.

[Laughter]

And I think that's what he should do on his birthday. So without further ado I would like to present Gus with the ASMR Medal for 2008. That's something that you can wear with dignity and pride...



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[Applause]

...in lots of circumstances.

Sir Gus.

SIR GUSTAV NOSSAL: Chairman, Ken Randall, Dr Clive Morris, distinguished and esteemed members of the Fourth Estate here in your very large numbers, which I'm pleased to see, all my dear colleagues from the Australian Society for Medical Research, and ladies and gentlemen.

It's a wonderful honour to receive this medal and to have the chance of addressing the National Press Club of Australia and, through you, to be able to address the nation on a subject that some might deem to be of some importance: namely the past triumphs and the future challenges of Australian medical research.

I thought - medical and health research. I thought I might begin by painting a thumbnail sketch of four iconic discoveries in Australian medical and health research, and then pose the question are there any commonalities; could we from looking at these maybe distil a particular Australian cache.

And I'll begin with Graham Clark and the bionic ear. Graham graduated in medicine in 1957 with the ambition to become an ENT surgeon and to help people like his severely deaf father. He took a PhD



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in the electronic aspects of hearing in 1969 and then, at the tender age of 35, he received the Chair of Otorhynology at the University of Melbourne.

His research on the bionic ear actually commenced in 1967; the first cochlear implant a fairly crude device was implanted in 1978. A much improved version was submitted to international clinical trial in 1982 and, as a big reward, the United States Food and Drug Administration gave approval to this device in 1985. Commercialisation was via Cochlear Limited.

Now the principles of the bionic ear are actually fairly simple to understand. It consists of two bits: one that is worn outside the body and that is a microphone which picks up voice. A speech processor turns the voice sounds into electrical signals; a transmitter sends coded information via radio waves into the implanted device, which is implanted here in the mastoid bone just behind your ear. And in here an antennae receives the microwaves, a multi-electrode implant of 22 tiny little wires is passed into the spiral cochlear of the inner ear. The electrical signals stimulate nerves in the inner ear and thence via the auditory nerve into the brain.

Now this device has been an extraordinary humanitarian and commercial success. A hundred-and-twenty-thousand people in many, many countries have received a cochlear implant. It was



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first tried on adults but then the really biggest benefit is on children, and the first child was operated on in 1987. Approval for operations on children under two was granted in 1990 and now, as a matter of fact, many children aged one are receiving the cochlear implant. The world's first double implant was on the 11th of January 2007.

Now miniaturisation and other improvements continue apace so that the next generation of external auditory businesses will sit behind your ear, not much larger than the regular hearing aid.

I've turned next to Robin Warren, Barry Marshall and Helicobacter. In 1979 the Perth pathologist Robin Warren observes hard-to-stain(*) curved s-shaped bacteria in the stomach lining near peptic ulcers. And he dares to postulate that these ulcers are not due to executive stress and are not due to too much acid in the stomach, they're actually caused by a bug.

He's joined in 1981 by the young medical researcher, Barry Marshall, just a young registrar. They spend several frustrating months trying to grow these bacteria which were very hard to grow; finally succeed through prolonging their cultures for a long time and find a new class of bacteria called helicobacter. They give this particular member helicobacter pylori.



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Barry Marshall follows a very long tradition in medical research through self-experimentation

[Laughter]

He drinks a concentrated culture of these vile bugs; one week later develops severe vomiting and gastritis; has a gastric biopsy performed on himself which confirms inflammation and allows the helicobacter to be re-isolated from his stomach, and then Marshall cures himself with antibiotics.

Ladies and gentlemen, the march to glory was pretty tough and pretty slow. Medical professions always - and necessarily so - a fairly conservative profession; a decade of scepticism is finally overcome and finally both peptic ulcers and gastric cancers are recognised as due to helicobacter pylori.

Triple therapy - namely two antibiotics and a proton pump inhibitor - becomes a standard easy cure for ulcers. Pills taken for two weeks, no operations, no lifetime of pill popping, no more pain.

And in 2005 Warren and Marshall share the Nobel Prize.

Ian Fraser is my next victim with his cervical cancer vaccine. This young Scottish physician comes to the Walter and Eliza Hall Institute in 1980 to be trained in immunology research. As part of his duties he's given the newly-formed HIV Aids Clinic to



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supervise. He sees many gay men with ano-genital warts; develops a fascination not only for the - for the Aids virus but also for the human papilloma virus family.

He moves to the University of Queensland in 1985; begins the study of these human papilloma viruses, and as a quite single and pivotal event in his life meets the Chinese Post-Doctoral Fellow, Jian Zhou, who is a molecular biologist - this is in 1989 - they begin this fertile collaboration. And in 1991 they cloned the gene for HPV viruses for the code protein, such that this code protein self-assembles into a virus-like particle. The skin of the virus, if you want, without the insides.

These VLPs are good vaccines in laboratory animals, and the Melbourne firm CSL becomes a partner in 1991. And in 1995 big, muscley, and much more cashed up, Merck Incorporated joins in as the international commercialising partner.

Extensive clinical trials prove the vaccine to be safe and 100 per cent effective in preventing chronic infection. Strains HPV 16 and 18 were found by Harold zur Hausen to be the most important cancer-producing strains as well as Strains 6 and 11 being the most important for the causation of genital warts. And Merck goes ahead with this Tetravalent vaccine which will, roughly speaking, cover about 70 per cent of cervical cancer.



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The vaccine is approved for use in June 2006 and Fraser is named Australian of the Year. Second generation vaccines being progressed right now at the research level by both Merck and GlaxoSmithKline will include many more strains and should cover 90-95 per cent of the cervical cancer risk.

My last example is Colin Masters and Alzheimer's Disease. Colin begins the study of brains of Kuru, the so-called laughing death, a horrible disease of Papua New Guinea natives in the highlands and the foray(*) region. He begins as a medical student in 1968. This Kuru is very like Mad Cow Disease which became of course notorious a good many years later.

Masters sees these gloppy proteinaceous deposits - amyloid deposits - in the brain and, in 1977 moves to the United States to join the legendary Carlton Gajdusek, the discoverer of the cause of Kuru, who won a Nobel Prize, and his aim is to purify the amyloid plaques, figure out what this protein actually is.

But he soon notes that Alzheimer's Disease, a vastly more important public health problem than Kuru or Creutzfeldt-Jakob Disease has rather similar though slightly and interestingly different amyloid deposits in the brain. And he says I'm going to discover and sequence the protein in those plaques, the Abeta protein, the toxic cause of brain damage in Alzheimer's Disease. He moves to Perth and then is



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head-hunted to Melbourne where he's been working on this from 1988.

Enter his collaborator Ashley Bush who makes the remarkable discovery that metals like copper and zinc are required for the Abeta amyloid to aggregate into fibrils, plaques and tangles.

The drug Cleopanol(*) a known anti-parasitic agent is known to be a metal chelator. They try that, they find it can inhibit Abeta fibril formation and neurotoxicity. However the drug is too toxic for routine use.

A related compound PBT2 is discovered together with the firm that they founded, namely, Prana Biotechnology, Geoffrey Kempler is the chief exec, that was incorporated in the year 2000. PBT2 is safe and well-tolerated and results on cognitive improvement in 78 early Alzheimer's patients.

A second generation of drugs which are a bit more subtle and probably a bit more clever in their action are in the research pipeline and I turn your attention to the recent PNAS article that Ashley Bush and collaborators published a week or two ago.

Now, ladies and gentlemen, can we find any common features in these Australian iconic discoveries? Well I reckon we can. All rest on an extensive base of fundamental science. All asked bold, direct questions of real importance and forged



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a forceful linear direct research strategy. Nothing Byzantine, nothing Cartesian. Is this perhaps the Australian cachet?

All involved dreams conceived early and pursued for decades with intense dedication. All used multi-disciplinary collaboration; all required industry involvement for completion.

From the particular to the general. I'm here to do two things: to talk up Australian medical research as it is now and will be in the future, and to introduce to you - we'll be launching it formally a little later - this report from Access Economics showing the exceptional returns from investing in R&D in health and medical research in Australia.

Bluntly, we spent about one-and-a-half per cent of the world's global health research expenditure. That's a figure slightly bigger than the 1.1 per cent which you will find in the report because I've calculated that on a slightly different basis. Of the order of magnitude of one-and-a-half per cent of the global health research expenditure. And for that we performed three per cent of the world's published medical research.

Recent growth has been healthy at 12 per cent per annum in part at least because of the Access Economic Report Number One in 1983 and the very heavy efforts of the Australian Society for Medical



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Research. Recent growth has been healthy at about 12 per cent per annum.

Australia now ranks in about the middle of the OECD in terms of per capita expenditure on health and medical research. The sector is a major employer and we all know of the impact of our publications is high. However, I know from long experience - and bear in mind that my great brother Fred was a leading journo - I have a long experience of the Fourth Estate. And I know that some of you sometimes have been known to be just the wee-est bit sceptical.

[Laughter]

Just the wee-est bit. And some of you might say, well, 97 per cent of the medical research is done elsewhere, couldn't we skip the three per cent, couldn't we save those \$3 billion, and why perform medical research in Australia at all?

Well I reckon there are three reasons: the first is that, as I've shown you, Australian discoveries have major global impact, and I genuinely can tell you my four examples could easily have been 40.

Secondly, a rich and proud nation should contribute to the world effort. And, thirdly, slightly more subtly, medical researchers are agents of technology transfer ensuring the efficiency and modernity of our health system. Their seat at the table in global



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fora permits analysis and prioritisation of the literally tens of thousands of overseas discoveries, allowing and speeding the introduction of the most valuable ones and the discarding of the meretricious ones. A busy GP or a busy specialist in Macquarie Street or Collins Street can't do that work. That work has got to be done by the professionals themselves networking extensively in the world for a.

Mr Chairman I submit to you - and this point is not developed in the Access Report because it's not quantifiable - I submit to you that in a health system costing over \$100 billion annually this last function is literally priceless.

Now we all know that Indigenous health needs extra attention. The 17 year life expectancy gap between Indigenous Australians and mainstream Australians is due mainly to diseases like the diseases that white fellas get. But substance abuse, sexual abuse, homicide and other violence are much higher and this requires, I believe very, very sincerely, this requires sociological and health services research of a high order.

Some infections are much higher. For example scabies and streptococcal infections leading to kidney and heart disease. A Group A streptococcal vaccine is ready for clinical trials and needs your support.



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Third World diseases are also under-researched. Diseases of poverty are not attractive to big farmer. Infections still abound. Under-researched areas include parasitic diseases, diarrhoeal diseases, respiratory infections including tuberculosis, and here vaccines offer the best hope.

Australia, namely Ruth Bishop and Ian Holmes, discovered the greatest viral cause of diarrhoea, the rota virus, which causes 600,000 deaths in the developing countries and causes most of the very early hospitalisations for diarrhoea in our own great teaching hospitals.

The relevant vaccine which exists and it is, sorry to say for my dear industry colleagues here, much, much cheaper than either the Merck or the Glaxosmithkline vaccine which your kids and your grandkids are getting I'm happy to say. This vaccine receives - needs your extra support for the clinical trials.

I'll stick my neck out with my fourth estate colleagues and tell you that GMOs have got a very big role to play in third world heath. There's not an enormous amount of curry(*) malnutrition in the world now, but there is a lot of protein malnutrition and in particular there is severe micro nutrient deficiency including micro nutrients like iron, iodine and vitamin A.



And Jim Peacock knows, as well as anyone else in the world what rich promise GMOs as staple crops have here in ameliorating the poverty for the poorest one sixth of the world who need better crops.

In many countries, of course, that are third world, a middle class is emerging and they not surprisingly are part of the looming epidemic of obesity and diabetes which I don't think they yet realise in China or India, how frightening that could be for them.

In summary, Australian medical and health research is a good news story and it needs to be promulgated, that's what the Australian Society for Medical Research is all about. That's what this stenuous medlist(*) week where we have to visit seven capital cities in seven days, is all about. It's a fine collaboration between researchers, governments, health administrators, industry, philanthropy and civil society, now all aligned.

It's perhaps the prime example of the clever country strategy. We must keep up the momentum and Mr Chairman, when you ask me back here in 10 years time, for my eighty-seventh birthday, I would like to see Australia having reached the top quartile of the OECD per capita expenditure on health and medical research.

Thank you.



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[Applause]

KEN RANDALL: I look forward to that next anniversary, Gus. Congratulations on your award.

Our first question today is from John Millard.

QUESTION: John Millard, ArtSound FM.

So Gustav, as you've pointed out, Australia punches well above its weight in the OECD in medical and general research. This is despite the fact that science teachers are hard to recruit and retain, that they're poorly paid, that those that go on to science and perhaps do a PhD often end up in the bureaucracy or industry rather than remaining in science simply because they don't have the ability to be able to go to get a bank loan, pick up a family or whatever it might be.

Given we do punch so well, how much better do you think we could do, if science teachers - and all teachers, for that matter - were paid a decent salary and there was some job security for research scientists?

GUSTAV NOSSAL: Well, thank you for the question. I've had the good fortune of working very hard in science education with my dear friends of the Australian Science Teachers Association, particularly the Victorian branch. This great tradition is being carried on by Jim Peacock, who followed me two down the line,



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and Kurt Lambeck, who followed me three down the line as president of the Australian Academy of Science.

But I'll tell you an amazing thing. I work for a charity run by Fiona Stanley in Perth - the Australian Research Alliance for Children and Youth. I'm on the board and the chairman was the quite redoubtable Michael Chaney who, in fact, was president of the Business Council of Australia.

Guess what he did for his last speech as president of that redoubt of big industry; he didn't talk about tariff reductions, he didn't talk about tax breaks for R&D. He talked about teachers and he said, what we have to do in this country, over a period of time, is we have to double the salary of the best teachers. Now, wasn't that remarkable? All I can say is, hear hear.

QUESTION:

Simon Grose, *Science Media* and *The Canberra Times*.

We have a few reviews going on at the moment from this new government and one of those is into the innovation process. I wondered if you could share with us your thoughts on how the medical researchers you referred to, how their stories could relate, could inform that process?

In particular, you mentioned Graeme Clark with the cochlear. I recall that, firstly, he couldn't get any



funds from the ARC at first because all the peers who reviewed him said it wouldn't work. Then he got money from Reg Ansett's then TV station telethons. He got a prototype going but then he couldn't get any money after he got a prototype going.

He got some money by personal representations to then Prime Minister Malcolm Fraser. He then, with the corporate - there was a tough corporate time and he lost pretty well all his IP. He won the Prime Minister's science prize about four years ago and said that he would donate it to his research if nine other people would do the same and he didn't get any money - he had no takers. Then, I think, the former government gave him \$5 million a year or so afterwards.

Now that's one story and I'm very wary of innovation theory because each successful story I hear goes against the theory.

Anyway, I just wondered how the kind of stories you're aware of in medical research can inform how we do innovation in this country in the next 10, 20 years.

GUSTAV NOSSAL: Thank you for the question, Simon.

Two points. I think the first is that we have learnt a lot in the last 15 years. I think we've learnt a lot on both sides of the fence. I think the scientists are



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beginning to realise that now that their game - and particularly in the medical research - is starting to be big business, large amounts of taxpayers' money going into it, that they also have a responsibility to drive that research closer to commercialisation.

At the same time, I think our business leaders are coming to recognise that there might be gold in them there hills and it might be a good idea if that wasn't all or mainly going to the multinationals, who reap the primary rewards.

Now, my second point is there is nothing that teaches as well as example. When our people see what the Gardasil royalties really are, when they actually see the brilliance of Peter Coleman's and Mark von Itzstein's work with Biota on Relenza - the best drug by far if that horrible bird flu epidemic ever does come - a wonderful Australian invention.

Examples teach and I think our Australian business sector will be informed by these examples and the scene that Graeme faced, I believe, will not be faced by the pioneers - many of them sitting in this room - who will be the Graeme Clarks of 25 years from now.

QUESTION:

David Denham from *Preview*.

I'd like to cast the canvas a little broader. I read in today's paper that the Secretary General of the United Nations says that he wants to increase by 50



per cent the food production of the world by 3030 (sic) - it doesn't say how he's going to do it, of course - to combat the higher price of food and all the rest of it in the world today in poor countries.

What I'd like to ask you is what sort of priority should we be giving to our research contribution in Australia to that that focuses on Australian needs, and what percentage and how should we prioritise the food - the aid that goes to the international? Because, clearly, Alzheimer's in Burundi is not going to be a real - it might be in Zimbabwe with one of the people there.

So the question, really, is how do we decide where we put our efforts? When we look at the global situation, we've got hundreds of millions of people are going to starve to death because of the price of food going up. Here we're researching on really things that are, dare I say it, icing on the cake in our particular civilisation?

GUSTAV NOSSAL:

Well, I have the good fortune of being one of the senior advisors to the Bill and Melinda Gates Foundation and, therefore, I have a very soft spot for third world directed research. I am pleased to say that we do do a reasonable amount in Australia and I think it's broadly acknowledged that that is a good thing for Australia to do. A robust percentage - I'm not going to give the figure - but I think it deserves a lot of merit and a lot of credit.



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Now, I know that the food area is controversial. I think it's genuinely bad luck that the first test case of a GMO food crop that we had to debate in this country was GM canola. Because although the GM canola has tremendous benefits for the environment and sidelines the horrible triazine non-biodegradable herbicides that we have to use for regular conventional canola - the opponents never talk about that - it's not clear to the consumer that there are fantastic benefits.

But we have coming down the research pipeline, for example, drought resistant wheat, virus resistant white clover to feed our dairy cattle, frost resistant horticultural crops and allergen free rye grass to get away from the hayfever and the asthma. We have tremendous products coming down the research pipeline.

I would like much of that energy which is currently mainly being directed, as you say, to rich countries, going to GMOs for the world. I know that time is short and I don't know whether the chairman would like Jim Peacock to add anything to that, but the CSIRO, of course, is very heavily involved in research for third world crops to raise that nutrition and I think that GMOs are going to have a big role to play.

By the way, last little point. Whoever thought of this stupid idea of biofuels from corn and stuff like that? It has to be one of the craziest politically

correct ideas that I ever heard and thank goodness that is being more widely recognised now.

QUESTION:

David Curry from *The Canberra Times*.

Related to the previous question, I guess, you've said today that large pharmaceutical companies don't find diseases of poverty attractive and, presumably, that's because there's not a lot of money in it. But what responsibility and what role do you think governments have in redressing that imbalance through incentives and directing research?

GUSTAV NOSSAL:

Well, I think that we have heavy responsibilities from the public sector to redress that imbalance. The Bill and Melinda Gates Foundation really changed the global dynamic of this a great deal because with Warren Buffett's money added to the \$35 billion that Bill and Melinda Gates gave, they now have got a corpus of \$70 billion and that's starting to be serious money.

But Bill Gates, if he were here, would tell you that maybe even more important than that is the change in climate in government towards overseas development assistance, official development assistance.

I consider the turning point to have been the G8 Summit in the year 2005 when Bob Geldof and Bono and a few others said it's time to make



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poverty history. I think that can be done. The food side would be a big part of that, the health side would be a big part of that, and I actually think this one is on a pretty good track.

Now, you can do me a tremendous favour because governments are good at promising but some governments at some times are also quite good at resiling from those promises. You should look up what the G8 promised in 2005 and you could see whether they're actually delivering.

I'll leave you to make a judgment for yourself. The Millennium Development Goals will not be reached by 2015. The Australian Government has pledged itself to double the funds for AusAID - please keep a close eye on them.

QUESTION:

Mark Metherell from *The Sydney Morning Herald*, Sir Gus. Happy birthday.

Talking about governments and promises, can you give us an idea - you've presumably spoken to people in the Labor Government; do you get a sense of how committed they are to increasing medical research funding and how important it is for that increase?

GUSTAV NOSSAL:

Well, I can't tell you but Kurt Lambeck and Jim Peacock could, in their respective roles as president of the Academy and chief scientist.



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My impression, for what it is worth, is that the fact that nothing was done in the first Swan Budget was well telegraphed; we all knew there wouldn't be much in it and we're all going to have to watch the second Budget very carefully.

I can only tell you - I mean, second hand evidence shouldn't be produced in court - I can only tell you that Rudd's best friend is Glyn Davis, who's my vice-chancellor at the University of Melbourne, and he is absolutely convinced that the Rudd Government will make a big difference to education and research. They're very committed to, what I dare to say, maybe by this summer we're all united in this room by what we dare to say is our course.

QUESTION:

Sophie Morris from *The Australian Financial Review*, Professor Nossal.

You've spoken of the rich promise that GMO crops have in ameliorating poverty for the poorest one sixth of the world. At a time of global food shortages, when there is such concern about feeding those people, what do you think of state governments that maintain those bans on GM crops? Is that immoral?

We've had WA come out this week and restate their intention to remain GM free and use this as a marketing tool to promote their produce over other states'. Ethically, do you have any problems with this position?



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GUSTAV NOSSAL: Politics will always be politics. I must say, I was very surprised when Mike Rann overturned the expert advice that was given to him on the subject of the GM canola moratorium.

I think I'll dodge your question because I'm not going to go into the ethics of Government. Politics is always politics. I think, in this particular instance, the minor amount of canola that Western Australia might have grown isn't going to influence the situation at all.

Politicians tend to play to the gallery; they like to be re-elected. Right at the moment if you were to poll Australians there would be more against GM than there would be for - I think, probably - although let's do that poll in *The AFR* some time.

Look, one of the virtues of being long in the tooth is that you've sort of seen it all before. I have lived through the times, and I will kid you not, when the mayor of Cambridge, Massachusetts, USA threatened to close the biology labs of Harvard University because they were daring to promote pharmaceuticals made through recombinant E. coli bugs or recombinant yeasts - threatened to close the labs. Now, fortunately, it didn't come to pass.

Who, today, remembers that our hepatitis B vaccine, our interferon for viral infections, our erythropoietin for those blessed cyclists who want to run a bit faster - but, more seriously, an absolute



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boom for victims of chronic kidney disease who can't make blood and, of course, the erythropoietin helps them just tremendously. Or, for that matter, that wonderful GCSF from my former institute which has been given to other 6000 cancer sufferers to help their bone marrow after heavy chemotherapy or bone marrow transplant.

Who remembers? Did any of you know that that made through GM? Nobody knows, nobody cares, it's old hat, it's totally routine. And that will be the case, but it will take 20 years, I think, for this because, really, what you eat is very sort of precious to people.

All I can do is talk sweet reason. I don't get emotional about the subject. I think it's important not to get emotional. Just say what you believe, go over the science, go over full ten years that it takes between Jim discovering something in his lab and that being a commercially available crop - a full ten years. Much of that ten years is taken up with proving environmental and health safety. So society's concerns will gradually abate but it will take time.

KEN RANDALL:

That mayor's predecessor didn't like witches much, either, did he?

QUESTION:

Leo Shanahan, Sir Gus, from *The Age* newspaper.



I'm just interested in your opinion on the Government's decision to cut \$22 million in this year's federal Budget from the National Health and Research Council.

GUSTAV NOSSAL: I think that's not correct, not from the National Health and Medical Research Council.

There was a severe cut to the Commercial Ready commercialisation grants, and I believe that that was very short-sighted, but that there's a kind of a macho element going here. You see, Rudd can easily say, don't worry about it I've left it all to Terry Cutler.

We are very, very pleased about the composition about the Terry Cutler enquiry which is looking into all aspects of innovation in this country. There's one slight constraint; he's been given rather a short period of time to report - because I think he has to report by next July - but it's an excellent committee. And I have absolutely no doubt that some form of support for early stage research commercialisation will resurface; call it daughter of Commercial Ready.

I don't think they should have cut that particular allocation of the Budget but it was macho time - let's prove how economically responsible we are - and everything was under the hammer. For a while, it is true, that the previously promised increases for



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NH&MRC were under the razor gang's sharp eye but it didn't happen.

QUESTION:

Siobhan Ryan from *The Australian*.

The mention of biofuels - actually, if I can ask two questions - one, I wouldn't mind you expanding on your remarks about biofuel. Given that there is a reasonable amount of state and federal funding that still exists for these programs, are you talking about all types of biofuels here? Are you talking about the waste product ones or the ones that were based on feed stocks or other crops?

Secondly, on ...

GUSTAV NOSSAL:

We'll let's do the first one first or I'll forget.

QUESTION:

Okay.

GUSTAV NOSSAL:

At 77, you know, Alzheimer's is not that far away.

I'm all in favour of good usage of the wastes - all in favour of it. The parts of sugarcane that you can't use for anything else, the bits and pieces of logged timber that can't be used for anything else - excellent, go for it.

I'm very much against the relatively small amount of arable land that we have in this country being used for crop varieties that could otherwise be



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making wheat or sorghum or soy beans or even, God bless it, rice. That's what I'm against.

I think the other thing that proponents of biofuels having sufficiently taken into account is the carbon inputs into agriculture, which are heavy. Agriculture is a very fuel intensive industry; it takes a lot of oil and a lot of tractors and so forth to plant a crop of fuel. So that's what I believe is ill conceived.

QUESTION:

Thank you. Second is GM, of course. You have at the moment Labor Governments, state and federal, but you have a system whereby each state individually decides to lift or to impose moratoriums on GMs. Would you like to see leadership at a federal level on this? Do you think the time has come that we actually move to a national system of assessing these issues?

GUSTAV NOSSAL:

Well, we have a system at the moment which most Aussies, unfortunately, don't understand. Because, in point of fact, the six states and two territories signed up to a deal whereby the safety, both from the point of view of the environment and for human health, of genetically modified organisms was federally and centrally decided. So your problem doesn't exist for the question of whether regulators believe an entity to be safe.

Now four years ago the entirely estimable gene technology regulator Dr Sue Meek decided that, on



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the basis of excellent advice available to her, that GM canola of the sorts that the two firms were promoting posed neither more nor less environmental and health hazards than standard canola.

So, when I was doing an enquiry for the Bracks/Brumby Government on whether the moratorium on GM canola should be lifted, I was asked to enquire purely into the economic and trade related aspects of the implications of removing or not removing the moratorium.

But, being a rather cautious person, I wrote to Sue - who can speak for herself, because she's in the audience - and I said has anything changed in these four years? Has anything happened in your, which I know to be, extensive reading of the world literature and in the experimentation that might make you question the advice that you gave the Government four years ago? And I got a really lovely letter from Sue which was closely reasoned, closely argued point by point which essentially said, my opinion remains entirely unchanged. So the Commonwealth already has those responsibilities.

Now, given that the decisions about individual crops in individual states - and, for that matter, in individual shires - necessarily involve a lot of local sensibilities, I have no problem with that set of decisions remaining with the states.



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QUESTION:

David Speers from Sky News.

Professor, you talked about Indigenous health and I think you said there's a need for more sociological research. I wonder if you could just specifically talk about what you mean there and what other sorts of research into Indigenous health problems you think are necessary, and do you think the life expectancy gap can be closed or even halved in a generation?

GUSTAV NOSSAL:

They're a very good spectrum of questions. The question of whether that gap can be closed is not a question - it has to be closed. It has to gradually be closed or the blot on the escutcheon of Australia as a nation will remain an enormous one.

Now, of course the gap is mainly due to the general life conditions, particularly for remote, traditional Aboriginal communities. The alienation, the despair, the boredom, the lack of job opportunities, the difficulty of getting services to them, remains a horrible difficulty in their lives and that affects your health. There's absolutely no question about that. So we have to continue to work on all aspects of living conditions of Aboriginal and Torres Strait Islander peoples to redress that.

However, the health sector specifically can do a lot of things. It can get rid of these infections, it can work hard to improve nutritional standards. We have had, for example, very good developments in maternal and child health, quite significant



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reductions in neonatal mortality - although it remains twice that of mainstream Australians. We have had, dare I say it, excellent success in immunisation. Immunisation rates in Aboriginal kids are only five or six percentage points down below those of mainstream Aussie kids. So there are the specific things we can do.

Now, by research, I meant something slightly different, sociological research. I mean things like what the Victorian Health Promotion Foundation did in the anti-smoking campaign - I have the great good fortune of being the founding chairman of VicHealth.

We soon learnt that wagging your finger and showing a black lung to a teenager at school and saying, naughty, naughty, you mustn't dash behind the woodshed and light a smoke - absolutely useless. But we learnt that if you had a great big poster with two very beautiful people and the poster read, kiss a non-smoker and taste the difference - that's works on a teenager.

The one that I liked particularly was, showing my age, when Pat Cash won Wimbledon. And Pat Cash did a lot of work, he was a wonderful person for the Cancer Council - and you see him come up on this big ad in your television screen or when you go to the movies, serving a fantastic ace, turning to the camera and saying, I couldn't have done that if I smoked.



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Now, you see, that's sociological research and the health services research speaks very much to the question of how you're going to get appropriate health services to remote communities where the community might be 600 kilometres west of Alice Springs and consist of 300 people. You're not going to be able to get a doctor to each of those communities. You need research to tell you what kind of Aboriginal health worker, what kind of nursing assistance, what kind of streaming of the Flying Doctor Service in and out do you really need - practical research like that and there's tons more examples like that.

QUESTION:

I was just wondering - given your obvious understanding of the power of effective public communications in the examples you just gave us - what do you think it's going to take to get the majority of the Australian public to accept GM crops, GM food. Because, to pick up on a point that was made before, I think it's a political truism that if the majority of the public supports something the politicians aren't too far behind.

GUSTAV NOSSAL:

That's right. Look, there's only a very simple answer to your question - sweet reasoning.

I have had much more time to combat, if that's the right word, the anti-vaccine activists. You didn't know, did you, that the measles vaccine causes autism? You didn't know that the hepatitis B vaccine causes multiple sclerosis, did you? But it's an absolute fact that anti-vaccine activists will tell



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you. In fact, they'll shout it down your throat. All you can do when you're confronted with that is keep your temper, master the facts.

The measles, mumps, rubella is close to my heart because David Salisbury, the chief person working for the Health Department in the UK, was absolutely on the cusp of having eradicated measles transmission from the United Kingdom. He's one of the best people in the game - absolutely on the cusp.

This thing about the MMR causing autism and Crohn's disease hit the press. His immunisation rates plummeted from the high eighties, low nineties percentage down to something like down to something like 70 per cent. All of the gains made rapidly vanished. They're only just now, after nine major studies - expensive studies - lampooning and blasting the thing out of the water, have all completely and utterly exonerated the MMR to do with autism. There was one very large study in Denmark that was the clincher, you know, autism rates in non-immunised versus immunised are exactly, completely and utterly identical.

Sweet reason; just repeat that, just say that often enough on Jon Faine 774, or my dear friend Mark Metherell, who doesn't ring me up quite as often as he used to - Mark, we've got to remedy that. Say, Mark, you've got to help me on this damn thing and just say it over and over again. Eventually, I actually think you win through.



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I actually think most Australians have a good healthy dose of commonsense. But you mustn't lose your temper and you mustn't ever, ever, ever talk down to people. You know, take the concerns of people seriously.

When the Mothers Against Genetic Engineering appeared before me on this enquiry, a lovely group of three or four women who came into the room told us about their concerns. You listen and you study what it is that they're trying to tell you and you reach your conclusions and then you come back and say, well, look, I've heard you, I don't agree with you, here are the reasons, and time will do the job, I think.

QUESTION:

Sir Gus, we all have a vested interest in medical research approaching Alzheimer's at our respective rates. But some cynics - not myself, of course - have suggested that a disproportionate amount of money goes into medical research as apart from research into the other basic sciences, be they physical, biological or earth sciences. Do you think there's such a bias and, if there is, how would you answer such a cynic?

GUSTAV NOSSAL:

You know, one of the things that happens, John, is occasionally you get yourself into trouble.

I'm a blabbermouth, I do probably more media work than I should and one fine day someone from the fourth estate rings me up and asks me this



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question. I dare to say that I think, really, my wonderful colleagues in medical research have done pretty well over these last few years and, really, we should begin to give serious attention to physics, chemistry and mathematics - the enabling sciences - of which particularly mathematics are really limping in Australia at the moment.

Well, now, guess what? The very next day the redoubtable Dr Rebecca James, who is in the charge of the other big lobby group, not as effective as ASMR, but a very good lobby group called Research Australia - how dare you say that there's enough money going into medical research in Australia and you're undermining all the work that we're doing and so forth. So, you know, you make some mistakes.

I think it is extraordinarily important in this nation that we support the enabling sciences. We have to continue to support medical research, which does so well because it has the heart throb - a bleeding heart style appeal. I mean, engineering's doing okay and nanotechnology and the more, if you want, sexy parts of physics are doing okay. But the more old fashioned aspects of physics and chemistry aren't and I think they need a lot of help.

KEN RANDALL:

Thank you very much.



Sir Gus, thank you very much, it's been a delightful hour. So many occasions to celebrate in one moment.

Congratulations on your medal, Happy birthday and thank you very much for joining us today.

GUSTAV NOSSAL: Thank you very much. Wonderful questions.

* * **END** * *

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ABs = Managers, administrators, professions. GBs = Grocery buyers.
