

Meningitis: a campaign goes astray

by Finlay Macdonald

Meningococcal meningitis hit the headlines recently when the Health Department conducted its first mass vaccination campaign for 25 years. Some children suffered side-effects that have still not been explained. The department has been accused of using bribery instead of informative publicity to get its message across. And a large question remains: why is a killer disease associated with poverty posing such a threat to our children?

CHAD HEASLIP is not a clumsy child. That's why his mother, Le-Anne, was surprised when the two-year-old woke one morning very disoriented. He fell down steps, and at night he rolled off the bench-top where he sits while Le-Anne cooks dinner. She put him to bed about 7.30 and when she woke him an hour later to find he was feverish, she headed straight for the urgent doctor. Two days earlier, on May 28, Chad had been vaccinated for meningococcal meningitis. "When I walked out to take him to the doctor," says Le-Anne, "I said to my husband I guarantee it's a reaction to that vaccine."

The doctor found Chad was slightly red in one ear, though not enough to be associated with disorientation, and told his mother it was not the vaccine. "He said it was definitely not that," she remembers, "the vaccine was 100% safe."

But Chad just wouldn't get better. Two weeks later he got a cold, and then a dose of tonsillitis. He has all his teeth, but he began to dribble like a younger child. And the fevers were still coming every couple of days. By now, and maybe not surprisingly, his behaviour had changed completely. He became naughty, irritable, he was grizzly and clingy, and he moped about the house with a dummy and pillow. He was already taking antibiotics for tonsillitis, but he seemed no better, and so Le-Anne again visited the doctor. This time it was fluid in the ears and more antibiotics. On July 9 at 11.00am she discovered Chad couldn't walk.

"He was laying face down playing with his trucks and he went to stand up and fell forward onto his elbows and started to scream. So I rushed over and picked him up. I stood him there and stepped back and he just dropped — he didn't even put

his feet flat to the ground, he just flopped."

Le-Anne put Chad to bed, but when she woke him over three hours later he still couldn't walk. She went to change his pants and found his groin was tight and swollen. She rushed him straight to the doctor who told her to take him to Middlemore Hospital. X-rays, blood and urine tests proved nothing, but hospital staff suggested Chad was play-acting for attention because of his three-month-old baby sister. "He's like any kid," says Le-

Anne, "he'd pull her hair to get my attention and that, but now he's just so protective of her. That just didn't wash." By the time they left the hospital eight hours later, Chad was walking — "with a limp, he was staggering".

Things looked better the next day — Chad was still dragging one leg, but he looked okay. He had colour in his face. About 10.00am Le-Anne undressed him for a bath and he passed out. She rang her doctor who advised her to let him sleep. Chad is a light sleeper and, when

the dog barked at the postie and he didn't wake, Le-Anne thought it strange. "I tried to wake him and he wouldn't wake. I rang my husband to come round and my mother came over. We just shook him, and he woke up — it was about an hour later and he just shook all over. So I made him walk to his room and I dressed him. I sat him on the couch and, just like clicking your fingers, he went berserk."

"He kicked doors with his bare feet, he did forward rolls, backward rolls — it was unbelievable, like a split personality. And the way he was kicking furniture you'd swear he didn't feel it, because he's a bit of a sook. And I had a woman here with a little girl looking after my three-month-old, because I wasn't managing very well, and he just walked up to this girl and slapped her — hit her a beauty — and they've been really good friends basically from birth."

"And what knocked him out of it was my mother hit him and knocked him out, and he just snapped out just like that and was right back to his old self. But he did it for about half an hour before we realised what was going on."

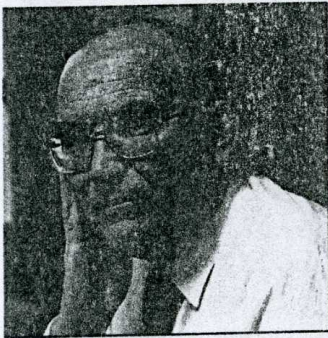
Chad was ill for most of the five weeks after he was vaccinated. In that time he was diagnosed as having ataxia (dysfunction in the nervous system causing "drunken" behaviour) and croup (a disease of the larynx and trachea in children) — both relatively serious conditions.

Chad Heaslip is a lot better now, but his mother is still anxious. Her own mother rings every morning and every night to see that Chad is all right. Like a growing number of people, Le-Anne is deeply dissatisfied with the Health Department's handling of the mass vaccination campaign against meningococcal meningitis in Auckland, and their reaction to the subsequent reports of unusual and unexpected side-effects.

MENINGOCOCCAL MENINGITIS is an acute bacterial infection of the mem-



Le-Anne and Chad Heaslip: "just like clicking your fingers, he went berserk".



Director-general of health, Dr George Salmond: "In the future, we've got to ensure in situations such as this that only a limited number of people talk . . . and that we are very careful in what we say, that our information is very carefully thought through, and that we try not to make statements that are in any way speculation by individual practitioners."

Drury Primary School reacted badly to the vaccination, and more parents came forward with similar stories, the department was forced to confront the issue.

Just how it did that is a lesson in how not to maintain credibility. To begin with, the South Auckland medical officer of health, Dr Allan Cowan, dismissed the Drury School incident as "a psychological thing", the result of needle-panic if you like. At the same time, the Auckland medical officer of health, Dr John McLeod, said the reactions were to the injection not the vaccine. "The symptoms of these children are no surprise," he is quoted as saying.

Only a week later the vaccine's manufacturer had vowed to help the Health Department find the cause of the side-effects, and Cowan admitted that reports of children vomiting and having difficulty walking were previously unknown. An investigation was called for and a pediatric neurologist, Dr David Jamison, appointed to examine the children affected. On July 24 Cowan was quoted as saying that one or two of the children had produced "alarming neurological effects".

In the space of just under three weeks the department appeared to have swung from supreme confidence to grave doubt, and had postponed the follow-up booster campaign until Jamison's findings were known. The subsequent report compiled by department medical assessor Professor Ralph Edwards has given the vaccine a "guarded all-clear". However, boosters for children under two who experienced reactions to their first dose are ruled out.

Salmond says he understands that Cowan was misquoted early in the piece, but that when he found all sorts of people making statements about the reported side-effects, he realised how confusing it would be. He then issued an edict that only he or McLeod would make statements from then on.

"In the future," he says, "we've got to ensure in situations such as this that only a limited number of people talk . . . and that we are very careful in what we say, that our information is very carefully thought through, and that we try not to make statements that are in any way speculation by individual practitioners. That is something I am going to be talking very seriously with my officers about as a result of this experience, because I agree that what has happened here has been potentially damaging to the department."

Unfortunately it is only four years since the Health Department was last involved in controversy over suppressed information. In 1983 it was revealed that the department had knowingly used a contaminated polio vaccine in its mass campaign in the early 1960s. That vaccine, contaminated with a monkey virus, SV-40 (for simian virus 40), was also produced by Connaught Laboratories, although other brands of polio vaccine were similarly contaminated.

An inquiry into the affair found that there were "no measurable harmful effects on the health of New Zealanders", but the inquiry committee did make five recommendations to the Health Department. Two of those recommendations have particular relevance to the meningitis campaign.

It was stated, first, that the public should become involved in making decisions on the risks involved in mass vaccination campaigns and, second, that

the department should hire an epidemiologist to "continuously monitor" health issues such as the impact of an immunisation campaign. On the first score, there does appear to be a sub-committee of the Board of Health — the health protection committee — which Salmond says could be used in such a way. However, in this case it was not consulted prior to the meningitis campaign. According to Salmond, this was because of the speed with which the department had to act on advice from the communicable diseases advisory committee. "Now had there been more time," says Salmond, "I guess it would have been put to the health protection committee of the Board of Health. So to some extent that provision is in place."

Not so the epidemiologist. According to Salmond the department has been looking for one for years, "but they're very rare birds to get and they're much in demand".

That parents should be alerted to the "risks" involved in a mass vaccination campaign raises a difficult issue. Some people will say that information about the small but inevitable level of adverse reaction to vaccines will act as a disincentive to parents having their children immunised, and that would detract from the "greater good" of preventing as many deaths as possible. At one point during the meningitis campaign, Dr John McLeod is quoted as making the telling remark: "In retrospect, maybe we should have given more information, but the majority of people don't want all that information. Most believe we are out to help them, not destroy them."

But at least one American finding is that the body can react very violently to polysaccharide vaccines (like Menomune A) and that if a person is carrying the related live bacteria or one similar, the body will have a violent auto-immune reaction to the vaccine. One Australian source estimates 5% of all children have immune system problems of one sort or another, and for them immunisation is dangerous.

Of course, in a mass vaccination programme those who might have problems will make up only a tiny percentage of the population. But for them and their parents, denied information on possible side-effects, it has been an alarming experience.

Salmond: "Nothing is risk-free. Nothing is absolutely safe . . . What we have to do with any immunisation campaign is look at the risks of the disease and look at the risks of the immunisation process, and make a decision as to whether it is justified to accept the risks of the immunisation process and to recommend the immunisation programme."

"The evidence on this point suggests that certainly nobody's died of the immunisation, and my understanding is that nobody has been shown to have long-standing side-effects or complications which can be clearly attributed to the vaccine."

Which begs the medical question: just what is causing those side-effects? The Health Department has pretty much stuck to its guns on this — a combination of factors like the immunisation process itself, intercurrent illness the children would have got anyway, and possibly some genuine reactions. For Salmond it is the very fact that these side-effects have never been linked with this vaccine

that makes him confident that the vaccine is not to blame.

Butler has her own theory: that the children appear to be showing signs of allergic complications caused by the deposition of antigen (the vaccine bacterial coating, the polysaccharide) and antibodies, which cause the body's immune system to attack parts of the body itself. Such reactions could lead to long-term complications.

There is concern that the children were examined by a pediatric neurologist and not a vaccines expert. Why is the right sort of specialist not evaluating the children? Because New Zealand does not have one. The Health Department has neither an immunologist of international standing, nor a vaccines expert. Nor does it have facilities to do sub-typing (identifying new strains of bacteria), to test for either natural immunity or immunity gained from vaccines, to test for immune-system problems in individuals, or to test vaccines for potency or contamination.

And so we come, as always with questions about the nation's health, to money. As far as Salmond is concerned it simply isn't feasible that a country the size of New Zealand should have such facilities. We don't manufacture vaccines and therefore it would be hard to justify the enormous expense of setting up testing facilities. The best we can hope to do is trust the judgment of the American Food and Drug Administration, other similar organisations and the manufacturers' word. All of which leaves us at the whim of quite a lot of people.

"That's right," says Salmond. "And I think you have to understand that 30 years ago we had a GNP that was third in the world and since that time it has slipped. In the OECD countries we are now, what, 17th or 18th out of 22 countries. We are down there with Turkey and Greece. Now we tend to see ourselves as up there with Norway and Sweden, but places like that have got per capita incomes that are double ours. So I'd have to say that we have Rolls-Royce tastes on mini-minor incomes."

But what of specifics? Can we expect the recently announced extended hepatitis B campaign to receive adequate publicity, without the avoidance of hard issues like potential side-effects? Salmond seems to think so. He puts the department's failure on that count down to the speed with which the meningitis campaign was launched and the fact that it is 25 years since New Zealand had a mass vaccination campaign.

"The world is changing . . . people have become a lot more sophisticated about these things. I think we should be willing, as we are able to be, to provide a lot more information than we did . . ."

"I think a certain amount of this was inevitable for us. I think we could have done a lot better. I was very disappointed when I did see the form which went out to seek parental permission. In many ways it was good — colourful, interesting — they got the PR bit right. But that form was really very short on information about side-effects of the immunisation. I have no hesitation in accepting that that is something we could have and should have done."

So lessons have been learned. Some things should not happen again. But the larger question remains, and it must concern the Health Department. Why are so many of our children now at risk from these diseases? ■

branes covering the brain and spinal cord — the meninges — and when untreated can cause deafness, mental retardation or death. Last year in Auckland the disease killed 16 people out of 141 reported cases, double the number of cases from 1985. To the Health Department it looked like Auckland (particularly the central, western and southern areas) was staring down the barrel of an epidemic. The department's communicable diseases advisory committee opted for quick action and a mass vaccination campaign: the first such campaign in New Zealand since nearly two million people were given the oral polio vaccine in the early 1960s.

Although the campaign achieved its most basic aim of reaching about 130,000 children, right from the start it was dogged by controversy. Reports in the media about the imminent campaign were brief and very close to the starting date. Most parents learned of it through either their local Plunket or health clinic or, if their children were school-age, from a department publicity kit.

What angered some people was an incentive scheme included in the promotional kit, which gave details of prizes children could win if they were immunised and their names went into a draw. Doubts about the ethics of trading off vaccinations for videos and the like were raised (Le-Anne Heaslip now calls it "bribery"), partly because the main targeted areas for the campaign were the lower socio-economic regions of Auckland. That fact takes on a greater significance if one looks at the history of

meningococcal epidemics this century.

In 1985 the *Journal of Infection* published a comparative study of outbreaks and epidemics of meningococcal meningitis from the early 1900s to the 1970s and 80s in America, Germany, and England and Wales. It clearly showed that the disease peaks during times of war, depression and recession.

Another study of the disease in the northern savannah of Africa (published in the *Tropical Doctor*, 1976) stated, "the meningococci are disseminated by drop-let infection, thus spread is favoured by overcrowding and poor living conditions". According to Hilary Butler, an anti-vaccine campaigner in Tuakau near Auckland, there are parallels to be drawn between such findings and the situation in Auckland's poorer areas.

Butler says epidemics of meningitis have certain distinct characteristics, including overcrowding and poor general health and living conditions, and a high incidence of sexually transmitted diseases, especially gonorrhoea (which lowers antibody levels for certain strains of meningitis). To back her claims Butler points to recent reports in Auckland newspapers about poverty and venereal disease in the Auckland region. According to those reports, the sexually transmitted disease clinic at Auckland Hospital is struggling to deal with 10,000 out-patient attendances each year, while a budget adviser in Mangere estimates that a high proportion of South Aucklanders are living in poverty.

Butler also makes the point that there is a high predisposition to the disease

among Maori and Pacific Islanders: for every one European who contracts the disease, 10 Maori and 14 Pacific Islanders get it. Maori and Pacific Island people make up only 11% and 6% of the Auckland population respectively. "Now if that's not a socio-economic indicator what is?" she asks.

Butler is well aware that what she says in a case like this will be discredited in some quarters because of her record as an opponent of vaccination. In fact the Health Department has already put some of the blame for the furore over the vaccination's side-effects on "organised anti-vaccination groups". The director-general of health, Dr George Salmond, has stated, "We have reason to believe that there are groups out there who are simply using this as an opportunity to gain some publicity about anti-immunisation views . . . the next time we do it [a mass vaccination campaign] we have got to be a little bit better prepared to cope with this sort of attack."

Such claims tend to portray people like Butler as over-zealous cranks (and lead inevitably to the familiar "orthodox v fringe" debate), but she has raised questions about the department's handling of this issue that *do* need to be answered. Such as why, for the last three years, has there been no attempt to educate the public about factors influencing susceptibility to meningococcal meningitis?

Salmond says that the department has been aware of the problem of infectious diseases in the more crowded parts of South Auckland, but that an outbreak of this proportion came largely as a

surprise: "Because it does tend to be a disease of third-world countries, and so one really has to think seriously about what are the conditions which predispose people to it, and that, in a sense, is worrisome and it has to be looked into."

"I suppose if the truth be known," says Salmond, "it sort of sneaked up on us in a way, and it was not until really the first couple of months of this year that I became aware that this was building up into a really significant problem in Auckland. I think now we have got that outbreak under control and we have to go back and look at the implications for other infectious diseases."

That the possible epidemic caught the department on the hop goes some way to explaining why its pre-campaign publicity about the disease and, more importantly, the possible side-effects, was so inadequate — as the department itself has admitted. It does not, however, explain the department's decision to keep quiet about reported side-effects until the initial campaign was complete, and the confusing and contradictory statements made by health officials when those side-effects became public knowledge.

BY THE TIME the initial vaccination campaign was half complete, the Health Department had received reports of 25 cases of adverse reactions to the vaccine, Menomune A, which is manufactured by a Canadian firm, Connaught Laboratories Incorporated. The director-general himself made the decision to suppress that information so as not to jeopardise the rest of the campaign. But when pupils at