- 1 Anonymous. Top docs blast lazy GPs who coin it in. *Sun* 1984 Oct 31:5.
- 2 Jones B. Hours report is a bitter pill for GPs. *Mail on Sunday* 1984 Nov 11:8-9.
- 3 Thomas J. Report exposes 20-hour week. *Doctor* 1984 Nov 1:1.
- 4 Relman AS. The Ingelfinger rule. *N Engl J Med* 1981;305:824-6.
- 5 McBride G. Now for the latest news. *JAMA* 1981;245:374-5.
- 6 Grouse LD. The Ingelfinger rule. *JAMA* 1981;245:375-6.
- 7 Anonymous. Medical journals and urgent medical news [Editorial]. *Ann Intern Med* 1983;99:559-60.

What can we do about measles?

A recent article described an outbreak of five cases of measles.¹ This episode occurred in the United States, and the fact that it was thought sufficiently important to warrant publication underlines the remarkable progress made there in controlling measles, certainly when compared with our own poor performance. (Ironically, the source of the outbreak was traced to a 17 year old English citizen who was visiting that country.)

In 1983 active surveillance uncovered only 1436 cases of measles in the United States, a rate of 0.6/100 000 total population.² The index case in the outbreak had travelled with a drum and bugle corps over 10 000 miles through 24 states, but created a chain of no more than four known cases of measles. This testifies not only to the solid immunity induced in the population by mass vaccination but also to the energetic measures to control the outbreak. One thousand contacts or potential contacts were vaccinated and a further 500 were able to avoid vaccination only by showing proof of immunity to measles. The emergency immunisation clinics were held until after midnight "to maximise participation and minimise interference with the [drum and bugle] competitions."

The United States set 1 October 1982 as a target date for eliminating measles, and the fact that this has not been quite achieved says more for the target being unrealistic than for any failure in effort. At present eradication is a goal based more on politics and idealism than on the pragmatism of cost effectiveness.³ Moreover, if, as Rabo and Taranger believe,⁴ there is a danger that the incidence of measles will eventually rise in adults in countries in which there is a policy of mass measles immunisation in childhood, eradication should not be attempted except on a worldwide basis. The outbreak in question was contained to four secondary cases, but at a cost of much effort, and, given the high level of immunity already achieved throughout the country, the number of cases or chains of cases prevented by this effort is unlikely to have been very many.

Until worldwide eradication or elimination of measles is feasible, perhaps we do not need to set our sights so high. That is not to say, however, that in Britain we do not have considerable scope for improvement. In 1983 England and Wales achieved its highest average national uptake for measles vaccine for children reaching their second birthday—of 59%.⁵ This is a derisory figure compared with the 97% coverage the United States has achieved since 1982. Canada has set a similar target to that of the United States, and three countries in Europe—Czechoslovakia, Sweden, and Finland—have set goals of elimination of indigenous measles.⁶ Czechoslovakia is already well on the way to achieving her target, with only 25 recorded cases in 1982, most of them imported. Sweden and Finland have started more recently but will undoubtedly do well.

A recent health notice from the DHSS has laid down a target of 90% vaccine coverage by 1990, at which level

"efforts to eliminate measles could be made."⁵ Though this may seem modest by the standards of other countries, it is probably realistic—especially if, as the Swedes have found, two doses of measles vaccine are required to eliminate the disease.⁴ Levels of measles vaccine uptake by district in 1983 ranged from 28% to 85%, and the higher figure shows what can be done, presumably by enthusiasm and efficiency, within the existing framework of the health services in this country. Though enthusiasm and motivation undoubtedly exist,⁷ district health authorities are now being asked specifically to offer measles immunisation to all susceptible children entering preschool playgroups, nursery schools, and primary schools; and, after reviewing the immunisation state of children at the school medical examination, to offer immunisation when necessary.

Unfortunately, the criteria for susceptibility are not clearly set out in the DHSS document. In the United States immunity means written documentation showing the date of vaccination with live measles vaccine on or after the first birthday, or a history of measles diagnosed by a physician. The criteria for immunisation after the review of immunisation state at the school medical examinations are also not specified. Nevertheless, the campaign scheduled to start in the autumn, and forecast by *The Times* in April,⁸ will perhaps herald a new and vigorous attitude on the part of our health services to this, one of the most demonstrably cost effective of vaccines.

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- 1 Beets C, Miller J, Lofgren JP. Measles among members of a drum and bugle corps—Arkansas, California, Kansas. *MMWR* 1983;32:561-7.
- 2 Division of Immunisation, Centers for Disease Control. Measles—United States, 1983. *MMWR* 1984;33:105-8.
- 3 Noah ND. The strategy of immunization. *Community Med* 1983;5:140-7.
- 4 Rabo E, Taranger J. Scandinavian model for eliminating measles, mumps, and rubella. *Br Med J* 1984;289:1402-4.
- 5 Department of Health and Social Security Health Services Management. *Measles immunization*. London: DHSS, 1984. (HN:84)19.
- 6 World Health Organisation Regional Office for Europe, Copenhagen. Measles surveillance: feasibility of measles elimination in Europe. *World Health Organisation Weekly Epidemiological Record* 1983;58:229-30.
- 7 Middleton J. Measles control: are community physicians concerned? *Community Med* 1984;6:78.
- 8 Timmins N. Health officials aim to vaccinate all children and stamp out measles. *The Times* 1984 April 7:3(cols 1-3).

Skin disease: the link with zinc

Zinc joined the miners in the news a few weeks ago after a report that it had helped a girl with anorexia nervosa.¹ The public fancy was tickled—as it had not been by earlier reports of zinc deficiency in anorectics²—and the blazing headlines confirmed that zinc has long since ended its slow struggle up the evolutionary ladder to a secure place in human medicine.

Black bread mould has been known to need zinc since 1869; plants since 1926; rats since 1934; pigs since 1955; and cattle since 1960.³ At that stage several zinc deficiency diseases had been recognised in animals, differing in detail but tending to share as their main features retarded growth, hypogonadism, alopecia, and skin lesions. The time was ripe for the discovery of a similar zinc deficiency state in man.

The gap was filled in 1961 by a group of anaemic clay eating Iranian dwarfs with absent secondary sex charac-

teristics.⁴ Absorption of the already meagre amount of zinc in their mainly vegetable diet was being hindered by phytates. Roughness and hyperpigmentation of the skin were only a minor part of the whole picture, but volunteers made zinc deficient also tended to develop a dry, scaly skin⁵—though nothing as dramatic as that seen in porcine parakeratosis, the skin manifestation of zinc deficiency in pigs, which looks rather like human psoriasis.⁶ Nevertheless, these findings led to a search for a role for zinc in psoriasis and other skin diseases.

Nothing startling has come from this search.⁷ It is safe to say that psoriasis is not due to a lack of zinc,⁸ though the skin changes of zinc deficiency may mimic stasis eczema⁹ or seborrhoeic eczema of the face. But the dermatology world was soon to be galvanised by the discovery that acrodermatitis enteropathica was due to a failure to absorb zinc.¹⁰ Acrodermatitis enteropathica is a rare disease, probably inherited as an autosomal recessive, and its skin lesions are striking and diagnostic—vesicopustular at first and later crusted and psoriasiform, they affect the skin around the body orifices and on the hands and feet. Once the penny had dropped, babies with acrodermatitis enteropathica might be seen to fit neatly into the expected pattern of zinc deficiency with their failure to thrive and lack of hair. Those who survived into adult life showed retardation of growth and of sexual maturity—and responded quickly to treatment with oral zinc sulphate.¹¹

A similarity was soon detected between the skin lesions of patients with acrodermatitis enteropathica and those of some patients having total parenteral nutrition.¹² Many must already have been short of zinc as a result of chronic bowel disease and had been given too little parenterally. They did well with extra zinc, and this is now added routinely, especially in premature infants. But the skin lesions of zinc deficiency have also been seen in other conditions—for example, after jejunoileal bypass surgery¹³ and in cystic fibrosis.¹⁴ Chronic alcoholics may also become zinc depleted and may show, in addition to an acrodermatitis enteropathica like picture, a strange and widespread asteatotic eczema.¹⁵ The skin lesions of kwashiorkor may even be due to lack of zinc.¹⁶

Repletion with zinc is logical and successful in such cases, but the arguments become more tortuous when zinc is tried in diseases not known to be due to a lack of it. Acne vulgaris is a case in point. Michaëlsson, treating a youth with acrodermatitis enteropathica, who also had severe acne, found that both types of lesion did well with zinc.^{11 17} The acne of people taking a low zinc diet may become worse⁵; and an acne like eruption was described in patients having total parenteral nutrition before any association with zinc had been recognised.¹⁸ Why not, dermatologists asked, try zinc in ordinary acne even though it may cause troublesome nausea?

The results have been conflicting, the more so as zinc seems to work better in Scandinavia than elsewhere—and trials of acne are easy to criticise. Tiresomely, after the evidence has been sifted, it seems that “most authors have found either small or no significant changes in acne patients treated with zinc sulphate when compared to control groups.”¹⁹

The state of play is much the same with leg ulcers, whose improvement is just as difficult to evaluate. Certainly zinc deficiency leads to slow healing, but it does not automatically follow that giving zinc to those not short of it will speed things up.²⁰ My policy is to follow Weisman's advice: “Zinc therapy for leg ulceration can be recommended only in the

case of pre-existing zinc deficiency” and a single estimation of the plasma zinc concentration may not be an adequate guide to this.²¹

Shuster, pondering the role of treatment with zinc in acne, offered as a general rule the idea that all new treatments seem to work at first.²² Disillusion sets in later. Will others be able to confirm the value of zinc in alopecia totalis,²³ in erythema multiforme,²⁴ in chronic furunculosis,²⁵ in pustular dermatosis of the scalp,²⁶ or even in anorexia nervosa? Let us hope so. Say not the struggle naught availeth.

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- 1 Bryce-Smith D, Simpson RID. Case of anorexia nervosa responding to zinc sulphate. *Lancet* 1984;iii:350.
- 2 Esca SA, Brenner W, Mach K, Gschnait F. Kwashiorkor-like zinc deficiency in anorexia nervosa. *Acta Derm Venereol (Stockh)* 1979;59:361-4.
- 3 Halsted JA, Smith JC, Irwin MI. A conspectus of research on zinc requirements in man. *J Nutr* 1974;104:345-78.
- 4 Prasad AS, Halsted JA, Nadimi M. Syndrome of iron deficiency anemia, hepatosplenomegaly, hypogonadism, dwarfism and geophagia. *Am J Med* 1961;31:532-46.
- 5 Baer MT, King JC, Tamura T, Margen S. Acne in zinc deficiency. *Arch Dermatol* 1978;114:1093.
- 6 Tucker HF, Salmon MD. Parakeratosis or zinc deficiency disease in the pig. *Proc Soc Exp Biol Med* 1955;88:613-8.
- 7 Hawkins T, Marks JM, Plummer VM, Greaves MW. Whole body monitoring and other studies of zinc⁶⁵ metabolism in patients with dermatologic disease. *Clin Exp Dermatol* 1976;1:243-52.
- 8 McMillan EM, Rowe D. Plasma zinc in psoriasis in relation to surface area involvement. *Br J Dermatol* 1983;108:301-6.
- 9 Owens CWI, Al-Khader AA, Jackson MJ, Pritchard BNC. A severe “stasis eczema” associated with low plasma zinc, treated successfully with oral zinc. *Br J Dermatol* 1981;105:461-4.
- 10 Barnes PM, Moynahan EJ. Zinc deficiency in acrodermatitis enteropathica. *Proceedings of the Royal Society of Medicine* 1973;66:327-9.
- 11 Michaëlsson G. Zinc therapy in acrodermatitis enteropathica. *Acta Derm Venereol (Stockh)* 1974;54:377-81.
- 12 Kay RG, Tasman-Jones C, Pybus J, Whiting R, Black H. A syndrome of acute zinc deficiency during total parenteral alimentation in man. *Ann Surg* 1976;183:331-8.
- 13 Weisman K, Wadskov S, Mikkelsen HI, Knudsen L, Christensen K, Storgaard L. Acquired zinc deficiency dermatosis in man. *Arch Dermatol* 1978;114:1509-11.
- 14 Hansen RC, Lennen R, Revsin B. Cystic fibrosis manifesting with acrodermatitis enteropathica-like eruption. *Arch Dermatol* 1983;119:51-5.
- 15 Ecker RI, Schroeter A. Acrodermatitis and zinc deficiency. *Arch Dermatol* 1978;114:937-9.
- 16 Golden MHN, Golden BE, Jackson AA. Skin breakdown in kwashiorkor responds to zinc. *Lancet* 1980;ii:1256.
- 17 Michaëlsson G. Oral zinc in acne. *Acta Derm Venereol (Stockh)* 1980;suppl 89:87-93.
- 18 Schlappner OLA, Shelley WB, Ruberg RL, Dudrick SL. Acute papulopustular acne associated with prolonged intravenous hyperalimentation. *JAMA* 1972;219:877-80.
- 19 Fine J, Wise TG, Falchuk KH. Zinc in cutaneous disease and dermatologic therapeutics. In: Moschella SL, ed. *Dermatology update*. New York: Elsevier, 1982:299-312.
- 20 Groundwater W, MacLeod IB. Effects of systemic zinc supplements on strength of healing incised wounds in normal rats. *Br J Surg* 1970;57:222-5.
- 21 Weisman K. Zinc metabolism and the skin. In: Rook A, Savin JA, eds. *Recent advances in dermatology* 5. Edinburgh: Churchill Livingstone, 1980:109-29.
- 22 Shuster S. In discussion of Michaëlsson G. Oral zinc in acne. *Acta Derm Venereol (Stockh)* 1980;suppl 89:92.
- 23 Jablonska S, Wolowa F. Zinc sulphate and alopecia totalis. *Br J Dermatol* 1981;105:485.
- 24 Bor NM, Sezer V, Öner G, Ozkagaroğlu K. Zinc deficiency in erythema multiforme and treatment with zinc sulphate. *Haceteppe Bull Med Surg* 1979;12:51-7.
- 25 Brody J. Treatment of chronic furunculosis with zinc. *Lancet* 1977;ii:1358-9.
- 26 Ikeda M, Arata J, Isaka H. Erosive pustular dermatosis of the scalp successfully treated with oral zinc sulphate. *Br J Dermatol* 1982;106:742-3.

Consensus on cabbage

“When short of money, think” should be the motto on the desk of all NHS decision makers (clinicians and administrators alike). Following that maxim, the first consensus development conference in Britain (see p 1527) spent three days last week thinking about coronary artery bypass grafting (in jargon CABG or cabbage).

The format of the conference was based on the model established in the United States six years ago; the Americans have now held 45 such meetings, and more recently Sweden, Denmark, and the Netherlands have organised similar events. A topic is chosen, often but not invariably a new, expensive medical technique, and specific detailed questions are drafted highlighting uncertainties and issues of clinical and administrative importance. A panel drawn from several disciplines, medical and non-medical, listens to evidence from experts and interrogates them—in the presence of and