Western agricultural policies and the surpluses they produce does little to mitigate such a scandal.²

More alarming still is the current tendency of some key donor governments to provide only sufficient cereals for the general ration while supplying oil and legumes on a seemingly ad hoc basis. Emergency general rations, already deficient in key micronutrients, are thus becoming increasingly unpalatable for young children, whose small stomachs require energy dense foods, such as oil, rather than bulk to satisfy energy requirements.^{3,4} The reasons why this is occurring remain unclear but probably relate to what surpluses are available and costs.

Relief agencies therefore have to operate in emergencies where there is an inadequate general ration. Some agencies respond by implementing supplementary feeding programmes with the limited quantities of oil and legumes made available by donors. Many small agencies, incapable of handling the logistics of a large general feeding programme, automatically opt in a crisis for a supplementary feeding programme because they feel they must "do something." Yet experienced practitioners have long recognised the inadvisability of supplementary feeding programmes during food emergencies without an adequate general ration. In effect, it is an attempt to impose a system of targeting within a household when the entire household is in dire need of those same commodities. Agencies are beginning to rediscover the costs and wastage of trying to monitor and enforce such an approach.

Implementing wet supplementary feeding programmes in rural food emergencies is also open to criticism. They have no overall advantages over dry feeding programmes^{5,6}; in emergencies the time and resources required by aid agencies to establish and operate wet programmes, compared with dry take home feeding, should automatically disqualify them except in exceptional circumstances. Furthermore, in food emergencies the already excessive demands placed on mothers increase enormously as obtaining fuel and water gets harder and foraging for wild foods and petty trading become

essential for survival. Having to accompany a malnourished child at a feeding centre for most of the day therefore makes life even harder for the mother—often resulting in poor attendance and consequently poor weight gain in her child. Despite the many previous "bad" experiences such programmes continue to be set up.⁷ This has as much to do with their high profile—which helps voluntary aid agencies to compete for scarce domestic resources—as with lack of institutional memory and guidelines for agencies.

Finally, agencies' practice of automatically implementing supplementary feeding programmes in food emergencies induced by drought, on the grounds that such programmes will lead to the minimum loss of life given available resources, needs questioning. Supplementary feeding programmes can consume considerable agency resources yet provide as little as one tenth of a household's energy needs.⁸ The same resources devoted to improving sources of fresh water or providing basic health care may prevent far more deaths.⁹ Clearly, emergencies vary enormously, and what is desirable may not always be possible. But given the substantial experience now available, automatic and often inappropriate responses are no longer acceptable.

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Registering a need

Disease registers are as important to purchasers as to clinicians

One of the great strengths of the NHS, and one that was preserved in the recent reforms,¹ is the concept of responsibility for the health of geographically defined populations. Indeed, without this the new market model of health services would suffer all the disadvantages of being demand led, just like the health care systems of many other countries. Addressing a population's health care needs depends, however, on knowledge of the pool of morbidity in that population. Disease registers offer an important way of providing and maintaining that knowledge.

Routinely available data that can be used to describe the size and distribution of particular diseases within a population are woefully inadequate. They are limited principally by their reliance on the tip of the health service iceberg: ascertainment of cases is derived from people who are being treated in hospitals (usually as inpatients). For very few illnesses does the number of cases being treated in hospital even approximate the prevalence of the disease in the population, although for some (for example, fractured neck of femur) a higher proportion of patients are admitted than for others (for example, asthma). Against this background, disease registers

have established a place alongside other methods of identifying morbidity, such as notification systems, information derived from contacts with services, and epidemiological surveys of incidence and prevalence.

A disease register has four characteristics which distinguish it from these other methods of recording: it is based on people, not events; these people each have the same feature in common, the focus of interest for the register; it is longitudinal in that the information held about people is updated in a defined, systematic manner; and it is based on a geographically defined population.

The best example of a disease register that attempts to provide comprehensive, routinely available data for the whole of Britain on an important group of diseases is the national cancer registry.² There are also other national registers with more limited aims. For example, the United Kingdom cardiac surgical register was established to analyse the workload for cardiac surgery and encourage rational use and planning of cardiac surgical services nationally.³ There have been many examples around the world of disease registers that are based on local or regional populations—for example, psychiatric

case registers⁴ and stroke registers.⁵ This week's journal describes the setting up of a district wide diabetic register (p 627).⁶ Disease registers restricted to general practice lists are more limited in their applicability⁷ in not having a natural population base except where efforts are made to achieve representativeness.⁸

The subject of a register will usually reflect its intended uses. Registers have thus been classified as preventive (for example, genetic), disease specific (cancer, psychiatric disease), treatment and follow up (thyroid disease), aftercare (handicap), at risk (occupational hazards), skills and resources (donor panels), and specific information (forensic pathology).⁹

In practice, many disease registers potentially have multiple uses. As well as measuring the frequency and distribution of disease in the population they can detect changes over time, be used to follow up individual patients, enable comparisons of the outcome of different treatment regimens, facilitate monitoring and evaluation of service use, be used for exploring causal associations, be used for clinical research and audit, and help to arrange support for patients.

Before a register is established several key questions must be considered: why the register is required, what disease is being registered, how cases are to be identified and reported, what information will be recorded on each case, how information will be stored and communicated, who will be responsible for producing analyses and servicing requests, who will produce reports, and who will pay. To be of any real value a disease register once established must be maintained well. This means addressing at least two fundamental issues: completeness of ascertainment of cases and validity.¹⁰ Unfortunately, this is not always recognised, and the resources set aside to run the register may be insufficient to allow quality control issues to be tackled.

The day to day problems of running a case register are formidable. They include searching for missing records, making good incomplete or inaccurate records, eliminating

duplicate entries, resolving coding queries, ironing out computing difficulties, and responding to requests for analyses. Few who have been involved with a register would disagree that success is likely to turn on the presence of a credible senior health care professional with the time, energy, and enthusiasm to galvanise the commitment of the clinicians who will be reporting cases and of a senior administrative officer with an almost pathological degree of obsessiveness.

Without more widespread use of disease registers it is difficult to see how health authorities can meet their responsibility to assess their populations' needs. The decision to establish a register should not, however, be undertaken lightly: it requires proper justification, skilled organisation, adequate resources, and, above all, dedicated and imaginative leadership. A disease register is a long term investment, but it may produce a rich yield that will be just as valuable for those concerned with needs assessment, clinical or epidemiological research, disease prevention, and service evaluation as for those concerned with patient care and support.

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Large volume plastic spacers in asthma

Should be used more

The morbidity and mortality from asthma seems to be rising^{1,2} despite better understanding of the pathogenesis of the disease,³ more awareness of underdiagnosis and undertreatment,⁴ and a wide choice of effective treatments and delivery systems. Surveys of the severity of symptoms^{5,6} and inquiries into deaths from asthma⁷ show that we are failing to manage asthma as well as we should. Part of this failure, in treating both chronic symptoms and acute attacks, is due to inhaled drugs not reaching their site of action in the airways. Poor inhaler technique mainly accounts for this,^{8,9} though poor adherence to prescribed treatment is also a problem.

Pressurised aerosol metered dose inhalers are the mainstay of inhaled treatment for asthma and will probably remain so when environmentally friendly alternatives to the chlorofluorocarbon propellants used in existing devices have been developed. For nearly 10 years we have had the option of prescribing large volume plastic spacers (Nebuhaler and Volumatic) to improve the effectiveness of metered dose inhalers, but many users of aerosols still do not know of their existence or appreciate their value.

The main advantage of large volume spacers is that, compared with the use of a metered dose inhaler alone, they increase the proportion of the dose delivered to the airways

while reducing the proportion absorbed into the body. An in vivo radiotracer study showed that a large volume spacer deposited 21% of the dose in the lungs and 16% in the oropharynx, with 56% remaining in the spacer.¹⁰ Metered dose inhalers used alone deposit 10-15% in the lungs with about 80% in the oropharynx.^{10,11} Dry powder devices similarly deposit 10-15% of the dose in the lungs and 70-80% in the oropharynx.^{12,13} Clinical studies have shown that using large volume spacers with metered dose inhalers is more effective than using metered dose inhalers on their own.^{14,15} The relative superiority of the spacer in achieving lung deposition of inhaled drug is likely to be even greater during an asthma attack.

The better pattern of deposition achieved with spacers not only improves efficacy but may also reduce adverse effects, such as oral candidiasis, dysphonia,¹⁶ and suppression of the hypothalamic-pituitary-adrenal axis,^{17,18} which may occur with high doses of inhaled steroids. Clinically important adverse effects of inhaled steroids are rare at lower doses,¹⁹ but reducing the dose to the minimum consistent with good control of symptoms is preferable.

Large volume spacers are easy to use and largely overcome the problems of poor technique associated with use of metered