Vaccine uptake, August 1993 (Source COVER returns to CDSC/PHLS)

	Jarman score	D3	P3	MMR
Liverpool	23	91	87	89
East Birmingham	25	97	95	93
Tower Hamlets	55	90	88	89
National	0	95	93	93

pertussis (P3) uptake, and by 70 for measles, mumps, and rubella (MMR) at 2 years.³

While family and social circumstances are clearly very important factors in influencing immunisation performance, the BMRB report identified the importance of the local management of the immunisation services in overcoming these impediments. In the table, the most recently available Liverpool immunisation uptake data is compared with that of a district with the closest match Jarman score, the English district with the highest Jarman score (most deprived) and the national average.

Even accepting the fallibility of the Jarman score and the lack of comparability of East Birmingham with Liverpool, there can be little doubt that Tower Hamlets is an appropriate district for comparative purposes. Immunisation uptake is as high there for pertussis and MMR, clearly indicating that local management of the immunisation programme can overcome socioeconomic barriers to immunisation.

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- 2 Pearson M, Makowiecka K, Gregg J, Woollard J, Rogers M, West C. Primary immunisations in Liverpool. II: Is there a gap between consent and completion? *Arch Dis Child* 1993; **69**: 115-9.
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Professor Pearson and coauthors comment:

We thank Drs Salisbury and Begg for their interest in our paper looking at immunisation of children resident in Liverpool two years ago and not five as stated in their letter. They have drawn our attention to the BMRB report of 1989, *The Uptake of Pre-School Immunisation in England*. As it has been so widely disseminated, it is surprising that it was not referred to in any of the recent publications on immunisation.

We would agree that it was an omission not to mention the accelerated programme of vaccination. However, we could not see how that could overcome the practical or attitudinal barriers to immunisation, nor address the issue of consent.

Good local management of immunisation services is crucial, but is becoming increasingly difficult. In Liverpool, health visitors are in one trust, clinical medical officers and the immunisation coordinator in another trust, and approximately two thirds of vaccinations are done in general practice. Despite these difficulties, COVER statistics show that pertussis uptake has increased by 6%. As diphtheria has only increased by 1%, we

would suggest that good management resulting in increased confidence in pertussis accounts for the improved figures, rather than the accelerated programme.

A recently published report based on the 1991 census places Knowsley and Manchester as the most deprived districts in England, with Liverpool a very close third.¹ Tower Hamlets was ranked fifth. Perhaps Knowsley (an adjoining district to Liverpool) would be more appropriate for comparative purposes. The COVER statistics for Knowsley and St Helens Health District are diphtheria 89%, pertussis 85%.

1 *People and places - a 1991 census atlas of England*. University of Bristol, SAUS Publications.

EDITOR,—The recent articles by Pearson *et al*, about obtaining consent of parents for immunisations,^{1,2} seem to assume the moral or political necessity of the process as a precondition for immunisation. This raises the question as to the basis of this assumption. Children are not autonomous agents and require surrogate decision makers. There is a reasonable assumption that parents, under most circumstances, are most likely to be able to represent the interests of their child. This is not a universal right or law, however, and there is ample precedent for having other surrogates if the parents are neglectful, incompetent, or abusive, etc.

If the society, through its elected representatives and after intensive, objective scientific debate, determines that immunisations are beneficial and necessary for the public health and for the child, and that the individual risks associated with immunisation are small in respect to the benefits, then no reasonable caring parent should object and no unreasonable or uncaring parent should be allowed to object. The children of the minority of parents who refuse immunisation will benefit from the herd immunity resulting from all those children who face the small risk of the procedure. This is clearly inequitable and unjust. If all stand to benefit, all should share the risk.

As these articles and other studies demonstrate, considerable effort and resources that might otherwise be more beneficially employed are required to obtain and document immunisation consent. Perhaps consideration should be given to devoting those resources to improving the public's confidence in the process of reviewing the safety and effectiveness of vaccines, and to justification of a policy of mandatory immunisation without formal consent.

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Resolution of hepatic abscess after interferon gamma in chronic granulomatous disease

EDITOR,—We read with interest the report by Hague *et al* of possible benefit from interferon gamma in an acute infection in a patient with

chronic granulomatous disease.¹ Our recent experience would not support this suggestion²: a 3 year old boy with known chronic granulomatous disease presented with a left sided chest wall mass and the diagnosis of extensive intrathoracic and extrathoracic aspergillosis was confirmed by a percutaneous biopsy guided by computed tomography. He was treated initially with intravenous liposomal amphotericin and subcutaneous interferon gamma 50 µg subcutaneously three times weekly, but his clinical condition deteriorated significantly during seven weeks of treatment. Amphotericin was therefore discontinued and he was commenced on oral itraconazole suspension which resulted in progressive clinical improvement after three months on this regimen, and marked radiological clearing after eight months of treatment. The patient remains well on maintenance itraconazole suspension and subcutaneous interferon gamma three times weekly.

This suggests to us that interferon gamma did not have a major influence on the resolution of the severe fungal lung infection in this patient. A controlled trial on the use of prophylactic antimicrobial treatment is required which should include antifungal prophylaxis with itraconazole suspension. However, given the apparent success of continuous prophylactic treatment with interferon gamma,³ the suggestion that such a study should include intermittent interferon gamma treatment would be difficult to justify on ethical grounds.

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- 1 Hague RA, Eastham EJ, Lee REJ, Cant AJ. Resolution of hepatic abscess after interferon gamma in chronic granulomatous disease. *Arch Dis Child* 1993; **69**: 443-5.
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Bovine colostrum immunoglobulin concentrate for cryptosporidiosis in AIDS

EDITOR,—Shield *et al* report the case of a child with AIDS complicated by cryptosporidiosis who showed a favourable response to hyperimmune colostrum.¹ The report documents the availability of a commercially available preparation but casts no new light on the management of cryptosporidiosis affecting the immune compromised.

It has been known for many years that cryptosporidiosis may cause severe illness complicating a variety of humoral and cell mediated immune deficiency states.² There have also been a number of case reports documenting varying degrees of clinical and microbiological benefits by the administration of various forms of enteral immunotherapy to patients with diverse immune deficiency states, including AIDS, complicated by cryptosporidiosis.³⁻⁵ These include hyperimmune bovine colostrum, pooled bovine colostrum, whey protein concentrate, and human serum immunoglobulin.

The preparation used by Shield *et al* had the same concentration of anticryptosporidial titres as preparations used and reported by other authors.^{1,4} As the patient died six months after completing the treatment I believe it would be speculative to state that permanent clearance of cryptosporidia had occurred; significant reinfection may have been detected at some point in the future had the patient survived. It was not clear whether serum immunoglobulins had been abnormal during the course of the study and neither whether human serum immunoglobulin had been administered at any point; these are factors which may have had bearing on the clinical course.

It has been observed that colostrum contains significant concentrations of non-antibody immunologically active compounds including glycoconjugates that may have activity against cryptosporidia.⁶ The pathophysiology of cryptosporidiosis is unclear and lack of effective mucosal antibody may be only one part of a complex disease process. This may be why diverse approaches to enteral immunotherapy have all shown promise. There are no data available so far to confirm that one preparation is superior to another in the management of cryptosporidiosis affecting immune deficient patients and I believe that continued single case reports will not clarify the situation. Controlled trials may enable comparisons to be made between different enteral preparations not only in terms of effectiveness but also cost, palatability, dosage, and duration of treatment.

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Inappropriate prescribing of promethazine in infants

EDITOR,—Several publications have indicated a possible link between phenothiazine administration and some cases of sudden infant death syndrome (SIDS).¹⁻³ Prompted by the observation that four of seven infants presenting to one Belgian hospital with SIDS had received trimeprazine in the days before death,¹ Kahn and Blum prospectively studied 52 SIDS victims, 36 near miss infants, and 175 controls and found 23% of SIDS victims, 22% of near miss infants, and 2% of controls were taking a phenothiazine preparation (with the same proportion of infants in each group suffering from nasopharyngitis).² Furthermore, the same group investigated the influence of phenothiazines on cardiorespiratory

and sleep characteristics in four normal infants.³ In these infants recordings showed an increase of 39% in the number of central apnoeas and short lived obstructive apnoeas on the second night of promethazine administration. These authors suggest that phenothiazines may cause central and obstructive apnoea in infants and reduced arousal and recommend that all central nervous system depressants are avoided in children under 1 year. Alternative mechanisms for phenothiazine induced apnoea have been suggested including an increase in endogenous opioid activity and an alteration in temperature regulation.^{4,5} Reviewing these studies Cantu felt that the data linking phenothiazines and SIDS was inconclusive but advised caution in the use of this class of drugs in infants less than 1 year in view of the risk of central nervous system depression and apnoea.⁶

We are concerned that promethazine is frequently prescribed for children under 2 years despite recommendations to the contrary. On reviewing the notes of the 93 consecutive children under 2 years attending casualty at Birmingham Children's Hospital with respiratory symptoms during the week before Christmas 1992, we found that 10% (six of 59 infants) of those under 1 year and 3% (one of 34 children) of those between 1 and 2 years were taking promethazine.

The manufacturers data sheet for promethazine hydrochloride (Phenergan, Rhône-Poulenc Rorer) states 'not recommended' in children less than 1 year and 'use as recommended by a doctor' in children from 1-2 years. We recognise the ambiguity of data sheet entries for many drugs used in childhood with respect to product licences and are aware that more than 25% of all drugs used at Birmingham Children's Hospital for accepted clinical indications are used outside of assumed product licence regulations (personal communication). However, the potential risks of administration of promethazine to infants outweigh any possible therapeutic benefit and we therefore urge doctors, pharmacists, and parents to avoid its use in infancy.

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Child resistant packaging and accidental child poisoning

EDITOR,—The introduction of child resistant closures for children's aspirin and paracetamol preparations in the UK in 1976 led to a significant fall in the numbers of children admitted to hospital for accidental aspirin and paracetamol poisoning.¹ The Pharmaceutical Society has since recommended that liquid methadone and all solid dose formulations are

issued in bottles with child resistant closures (R Odds, personal communication).

We are carrying out a population based study of children attending accident and emergency departments as a result of injuries and poisoning in a district in south London. On the 73 days studied over a one year period, there were three children between 2 and 3 years of age who presented after paracetamol ingestion. They had all taken liquid paracetamol, dispensed on prescription, in containers without child resistant closures.

Proprietary brands of paracetamol elixir are supplied with child resistant closures but hospital and private pharmacies dispense prescriptions of generic paracetamol elixir in bottles with plain tops. The reason given for this practice is that a standard child resistant closure design for use with the bottles used by pharmacists for liquid prescriptions has not yet been finalised and made generally available.

Although the number of children reported here is too small to allow the calculation of risk in a population, they did account for nearly 10% of all accidental ingestions in this sample. This suggests that there may be a significant number of children at risk from an easily avoidable hazard. The Department of Health should be encouraged to ensure that adequate supplies of child resistant closures are produced and that their use for children's liquid formulations is recommended. Payment for dispensing should include reimbursement of any extra cost involved in using these lids.

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Nasal instillation of 'Olbas Oil' in an infant

EDITOR,—Proprietary formulations of essential oils are readily available to the public for inhalation and are enjoying an increased popularity as natural remedies. Their toxicity when taken inappropriately by ingestion, ocular or nasal instillation is not generally appreciated. We report a case of nasal instillation.

Case history

A 4 month old boy had had four days of upper respiratory tract symptoms affecting feeding, and a relative had given his mother, a 30 year old woman with three other children, some 'Olbas Oil' without the box or instructions. She did not notice the warning against use in infants and put several drops in his right nostril. He immediately coughed, became tachypnoeic, and his colour deteriorated. An ambulance was summoned and he was brought into casualty.

On arrival he was peripherally cold with