

**Please note that all letters must be typed. Priority will be given to those that are less than 500 words long. All authors must sign the letter, which may be shortened or edited for reasons of space or clarity. All letters received are acknowledged.**

## Endocarditis risks

Sir,— My defence organisation once advised that the risks associated with bacterial endocarditis were so grave that a practitioner should refuse to treat a patient who was willing to assume those risks by not taking a prophylactic antibiotic.

The review by Seymour *et al* (*BDJ* 2000; 189: 610-616) suggests, however, that the risk of death following hypersensitivity to penicillins may be five times greater than that due to BE itself.

The recommended prophylactic drug is amoxicillin and the risk of death due to hypersensitivity can surely be reduced by administration under supervision. Nonetheless a significant risk has now been quantified and the principle of informed consent requires disclosure of the risks and possible outcomes of treatment.

So how should the practitioner now proceed? Are we better advised to treat at-risk and informed patients without cover or should amoxicillin cease to be the drug of choice?

**P. Ziar**  
**Penzance**

## Inequalities in availability of NHS GDPs

Sir,— I read with interest the paper by Moles *et al* (*BDJ* 190: 548-553). Tackling inequalities in the availability of dental care for the public is an important issue, which the dental profession needs to address. I was concerned at the dentist to population ratios presented in table 1 of the paper.

In 2000, the Northern and Yorkshire Regional Office collated data on the dentist to population ratios for its health authorities. These are given in table 1 (see opposite page) together with the Moles *et al* data set for the authorities concerned and the percentage difference between the two data sets, the lowest difference being 14% and the highest 41%. When the two data sets are used to rank the authorities according to their dentist to population ratios, there is also a difference in the positions of the health authorities between the two, as in table 2 (see opposite page).

The reason for the large variations between the two data sets is due to the methodology used by Moles *et al* to determine the number of NHS dentists. East Rid-

ing has 196 contracts open in the Dental Practice Board (DPB) data set used by Moles *et al*. The actual number of individual dentists in contract with the authority is approximately 143<sup>1</sup> a difference of 27%. In County Durham and Darlington the health authority contracts officer reports that approximately 175-180 individual dentists work in the health authority area, again a significant difference compared to 249 in the DPB data used by Moles *et al*.

I would suggest that the number of contracts for NHS care in a health authority may be very different to the actual number of dentists who work in an area. There are a number of reasons for this, contracts for dentists remain open for a considerable length of time with the DPB, after a dentist has left an area, so their contract and that of any replacement are reported. If there are any chains of practices in an area it is common for dentists to work throughout the chain and have an individual contract for each. Thus a four practice chain, with five dentists will produce 20 contracts in the DPB data set.

Consequently, there must be some doubt as to the robustness of the relationships between the demographic factors and dentist to population ratios reported by Moles *et al*. The only consistency between the two data sets is that more dentists work in authorities with a dental school, (the borders of Gateshead and South Tyneside health authorities being situated within a few miles of Newcastle Dental School).

I cannot suggest that the Northern and Yorkshire data set is not without confounding factors. But if inequalities in access to dental care are to be addressed then it is important that reliable information is available with which to inform decisions.

**D. P. Landes**  
**Durham**

1. Hull and East Riding Community Health NHS Trust. Community Dental Service Oral Health Strategy 2000-2005, p8 Hull, Hull and East Riding Community Health NHS Trust 2001.

Sir,— The authors are to be congratulated for opening up a debate on this subject. They are understandably cautious about their figures, using the paper in part as a statistical exercise.

This paper does reveal the inadequate nature of DPB data for numbers of dentists. It takes no account of the concept of Whole Time Equivalence (used widely elsewhere in industry in respect of manpower planning).

One wonders if their next task would be to get the DPB to supply better data in respect of numbers of dentists in relation to commitment to GDS work, for until then, I would surmise that in a climate of decreasing reliance upon the GDS by practice own-

ers their data, and therefore their conclusions, are invalidated to a great extent by the GDP with an NHS number who maybe is only 25% reliant upon GDS earnings.

**C. P. D. P. Lister**  
**Salisbury**

*The author of the paper, David Moles, responds:*

*We should like to thank Messers Landes and Lister for their interest in our recently published paper (BDJ 2001; 190: 548-553). Each correspondent questions the validity of the DPB contract data used in our investigation, either in terms of the actual number of practitioners with an active NHS contract, or the amount of time the practitioners commit to NHS work.*

*Dr Landes presents a table of alternative NHS dentist to population ratios for his region. He states 'I cannot suggest that the Northern and Yorkshire data set is not without confounding factors'. This is not an issue of confounding; rather the question is whether data are biased. As Dr Landes notes, there are methodological differences between the data sets. The DPB data set counts contracts rather than dentists. Dr Landes's data was produced in 2000 and may not correspond to the same time frame as our investigation (DPB contract data for January to March 1999). Further, he does not state the source of his population denominators. Dr Landes appears to report estimated data in his letter as evidenced by statements such as 'When the actual number of individual dentists in contract with the authority is approximately 143...' and '...approximately 175-180 individual dentists work in the health authority area...' The number of contracts recorded by the DPB is a consistent and objective measurement. This is why we chose to use it as a surrogate measure for the availability of NHS dentists.*

*The absolute measurement of the dentist to population ratio is of little interest. It is not the aim of this research to attempt to specify an arbitrary 'ideal' or 'acceptable' ratio. Rather, the objectives were to indicate that inequalities exist and to attempt to predict those inequalities. The methodological issues raised by Landes and Lister are discussed along with other important caveats in the manuscript (pages 551-552). There is no reason to expect the validity of the DPB's data to be any better or worse for any particular health authority. Thus, any potential misclassification of the availability of dentists will not be biased between health authorities. The usual effect of such 'non-differential misclassification' is to dilute (weaken) any statistical associations. It is therefore, probable that the associations that we detected were in fact underestimates and the 'true' associations are in fact stronger than those presented.*

**Table 1** Comparison of NHS (E) Northern & Yorkshire Regional Office dentist to population ratio's with Moles et al data set and percentage difference.

Health Authority	NHS (E) dentist to population ratio	Moles et al dentist to population ratio	Percentage difference between data sets (%)
Gateshead & South Tyne	2438	2044	16
Leeds	2526	1894	25
Newcastle & North Tyneside	2555	1891	26
North Yorks	2596	2072	20
Bradford	2778	2226	20
Northumberland	2840	2205	22
Calderdale & Kirklees	2848	2165	24
Sunderland	3013	2593	14
Tees	3024	1782	41
Wakefield	3095	2601	16
North Cumbria	3225	2262	30
County Durham	3358	2443	27
East Riding	3990	2932	27

**Table 2** Comparison of NHS (E) Northern & Yorkshire Regional Office dentist to population ratio's with Moles et al data set for comparative ranking of health authorities.

Health Authority	NHS (E) Ranking	Moles et al Ranking
Gateshead & South Tyne	1	4
Leeds	2	3
Newcastle & North Tyneside	3	2
North Yorks	4	5
Bradford	5	8
Northumberland	6	7
Calderdale & Kirklees	7	6
Sunderland	8	11
Tees	9	1
Wakefield	10	12
North Cumbria	11	9
County Durham	12	10
East Riding	13	13

*Understanding dental manpower and the relationship between supply and demand for services is an extremely complex problem. Any model, however sophisticated, is at best a simplified representation of reality. We have considered one aspect of this complex problem and have shown that certain demographic factors from the 1991 census were useful predictors of inequalities in the numbers of NHS contracts in 1999. We consider that the number of contracts is currently the most reliable surrogate measure for the 'availability of National Health Service general dental practitioners.'*

## Dismissing dysphagia

Sir,—I was interested to read the case report by Green *et al* regarding mortality associat-

ed with an odontogenic infection. The authors reveal that the patient developed a retropharyngeal abscess which had tracked down the cartid sheath with disastrous consequence. They indicate that additional imaging of the neck may have identified infection of the soft tissues. However, they report that the clinical picture was such that there was no indication for further imaging.

The patient, however, after initially being treated with incision and drainage of the infection and having received intravenous antibiotics, returned two days after being discharged; at that point he had not been taking his antibiotics because he found it difficult to swallow.

It is highly probable that the reason for this was that the patient still had a focus of pus in the pharyngeal space. This may have

been detected by the additional imaging techniques which the authors dismissed as not indicated and, indeed, this could have been drained.

The authors have not emphasised the significance of dysphagia in a patient with an odontogenic infection on two occasions. First of all when they treated the patient and secondly when they wrote the case report. The 'In Brief' section of the report should have included 'do not dismiss dysphagia in a patient with odontogenic infection'. This is probably the key point that dental practitioners need to remember from this case.

While I concur with everything else that the authors have stated in their case report, this point is the most significant.

**D. Godden**  
**Cheltenham**

1. Green A W, Flower A, New N E. Mortality associated with odontogenic infection! *BDJ* 2001; 190: 529-530

*The authors A. W. Green, E. A. Flower and N. E. New respond:*

*We have read your letter with interest and now intend to address your comments. You mention that dysphagia is a significant symptom. We agree that dysphagia is an important symptom but in this case, prior to the second discharge of the patient, his symptoms had begun to improve significantly; therefore it was not felt appropriate to conduct any further investigations.*

*Drainage had been established and appropriate antibiotics were being administered. Indeed, the patient who lived locally did not contact the hospital following discharge and was said by relatives to have continued to improve at home. Routinely we do not request further tests on patients who clinically appear to be improving.*

*We understand and agree with Mr Godden's comments, however, we feel that in this situation the management of the case was totally appropriate and the outcome unavoidable.*

## Evaluation of CAL programmes

Sir,— An interesting contradiction in conclusion with regard to computer assisted learning (CAL) programmes appears to be contained in two papers published in the *BDJ* exactly one month apart.

In May, Kay *et al*<sup>1</sup> describes the package they used as having 'no effect on dentists' treatment decision-making behaviour' and call for 'direct comparisons of computer aided learning and traditional education...before the ease of distribution of such packages causes potentially ineffective educational methods to overtake traditional ones.' In June, Welbury *et al*<sup>2</sup> describe their programme as 'user friendly' and say that 'CAL has made a valuable contribution to postgraduate dentistry'. 'CAL', they say 'continues to develop as a method of self-learning that seems to be both acceptable and attainable for the busy general dental practitioner.'

My own experience of CAL programmes<sup>3</sup> would appear to support the views of Welbury *et al*. In the joint project between *Primary Dental Care* and the *British Dental Journal* on continuing professional development (April–December 1999), a pilot project funded by the NCCPED, we made use of the CAL disks distributed to dentists in the National Health Service by the Department of Health.

It was thought that the CAL disks would

lend themselves to paper-based learning material, which could be used for integrated assessment tasks. In the event, the CAL disks were utilised very successfully. A total of 533 GDPs took part in the pilot. The topics chosen for the pilot were endodontics and cross infection control. Endodontics attracted 408 participants, of which number 127 completed all units. Of those who completed all units there were 5 failures, 10 received a passing grade and 112 passed with distinction. Cross infection control attracted 279 participants, of which number 136 completed all units. Of those who completed all units there were 8 failures, 1 received a passing grade and 127 passed with distinction. The material used received very good assessments from participants for their usefulness for refreshing and updating knowledge and for the challenging nature of the questions. The material used was also shown to be appropriate to a range of approaches to learning.<sup>3</sup> I subscribe to the cautionary comments made by Welbury *et al*, in the discussion section of their paper, because of the low response rate. Nevertheless, it is true, as they point out, that a number of teams of teachers from different dental and medical schools have used CAL programmes for some years with great success, at both undergraduate and graduate levels.

Why then are we confronted by views which appear to be diametrically opposed? In a correspondence with Professor Kay I believe that I have arrived at an answer. Professor Kay feels that the validity of educational evaluations rests almost entirely on the extent to which they measure a learning programme's objectives. This is where she thinks we often run into problems, particularly in medicine and dentistry because for many years we have confused the teaching of knowledge and the teaching of skills (clinical decision making and treatment planning being skills and the subject of her evaluation). She is sure that if she had evaluated the CAL package<sup>1</sup> by measuring changes in knowledge and attitudes it would have been shown to be effective. It could be argued that in such a case the CAL package was effective. However, she was interested in whether the intervention had any impact on what people did (rather than said, or knew, or thought). Her view is that it is the practical effect of education which matters. In Nigel Nuttall's final comment in his summary of the paper he believes the failure of the CAL programme to improve the reliability and validity of treatment decisions is more indicative of the difficulties involved in trying to rationalise treatment decision making rather than a failure of the technique of computer aided learning. Professor Kay has interpreted that comment as a reference to an attempt to impart wisdom in her

study to the respondents and wisdom, she says, is such an intangible and immeasurable entity that Dr Nuttall believes that the attempt was doomed to fail from the start.

One can impart knowledge in lots of ways, but can never impart wisdom, she says. I am certain that anyone with extensive experimental teaching in dentistry behind them would agree wholeheartedly with that sentiment. Essentially, it comes down to this, that while CAL programmes, supplemented by structured testing units, can be an effective and efficient method of imparting clinical information they are not necessarily effective in imparting clinical wisdom. But having spent a great deal of time over the years seeking such an effective method I have to confess to failure and would be obliged to those of your readers who have convincing evidence of such a method.

**E. Renson**  
**London**

1. Kay E J, Silkstone B, Worthington H V. Evaluation of computer aided learning in developing clinical decision-making. *Br Dent J* 2001; 190: 554-557.
2. Welbury R R, Hobson R S, Stephenson J J, Jepson N J A. Evaluation of a computer-assisted learning programme on the oro-facial signs of child physical abuse (non-accidental injury) by general dental practitioners. *Br Dent J* 2001; 190: 668-670.
3. Renson E. Continuing Professional Development. Report of a joint project between Primary Dental Care and the *BDJ* funded by the NCCPED. Alicante: CEC Report 2000.
4. Nuttall N. Clinical decision-making — can a computer-aided learning package help? *Br Dent J* 2001; 190: 545.

## Green dentistry

Sir,— There does not seem to be much scope for sustainability in the practice of dentistry. Apart from cycling between home and practice I cannot find many ways of reducing the damaging impact of my practice on the environment. We use a lot of disposables; cotton-wool rolls, cotton packs and paper towels are fairly environment-friendly; but there are many plastic goods in the bin. I would like to reduce the amount of polythene used for labwork. A colleague told me recently of biodegradable packing (made from maize?) for dentures; but I have been unable to find a source. Can anybody help?

**G. Balfry**  
**Bristol**

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