tax—8-10p extra per £1.[4] Not surprisingly, this would not be an attractive policy for politicians—or the public.

Meantime, there is that other "gap": between public expectations and the reality of NHS care. Again this gap has always been there, it is difficult to measure, and it has prompted a regular search for additional, or alternative, sources of funding. Many such inquiries have produced essentially the same result: if you believe in fairness and efficiency as guiding principles then general taxation as a method of funding can't be beaten.[5 6] Other inquiries that have paid less attention to these principles have produced different results—and faced frosty receptions from politicians and the media.[7] The frostiness arises because fairness—solidarity—in health care is strongly supported by the British public.[8] Even when the political and economic environment was at its most conducive for change—during the Thatcher administration in the late 1980s—politicians fought shy of reforming the financing the NHS, instead preferring organisational change. Then, as now, the public appetite for privately funded care appears to be delicate: only 11% of the population choose to have private insurance cover (about two thirds paid for by employers) and the proportion has not changed in a decade.

The latest review of health care funding,[2] written by the BMA's research unit on behalf of a group that includes the BMA, the Royal College of Nursing, the Patients Association, and BUPA, follows a year of research, surveys, public meetings, and deliberation and contains useful analysis which rehearses and essentially dismisses the by now familiar options to "bridge the affordability gap." Hypothecated tax is too inflexible. New patient charges are inefficient and inequitable. Charitable and voluntary giving is welcome but limited (although unpaid volunteers put in 20 million hours of service into the NHS each year). Private health insurance penalises the poor and sick and is costly. Social insurance models are likely to be more regressive and costly than taxation and unlikely to offer extra advantages. The conclusion (which at this stage is for debate rather than forming the policy of any of the sponsoring organisations) is that keeping NHS financing as it is remains the best option.

There is thoughtful analysis worth reading to back up this blunt message. But the review does rake over old ashes: there are no new ideas and the conclusions are familiar. The main barrier to all alternative methods of financing was, and remains, the equity issue. Is there anything that might precipitate change?

Victor Fuchs, an economist writing about the lack of healthcare reform in the US, noted that short of war, a depression, or major civil disturbance, radical reform of health care was unlikely.[9] After all, this sort of event ushered in the NHS in the UK and ushered out the failing patchwork system of insurance. But what, more realistically, could skew the balance between the objectives that normally guide reform of health care—efficiency, equity, responsiveness, quality, etc—slightly away from equity and further towards the others, thus making alternative forms of financing more acceptable? The Conservative party advocates a greater role for the private sector (L Fox, NHS Confederation, Glasgow 2000, at www.tory.org.uk); it may be out of government for a while but probably not forever. Increasing wealth may encourage more people to opt for top-up private insurance; if enough people did this the dynamics between the NHS and private sector might shift to allow new forms of financing and organisation of care. Frustration with slow progress towards modernisation in the NHS, coupled with some widespread failure in quality of care that undermined public confidence, might also tip the balance to more fundamental reform. Either way a "big bang" reform of financing is less likely than incremental change.

But this is obviously speculation, and evidence across developed nations shows that there is nothing inexorable about the direction of health care reform.[10] The public appears to be as wedded as ever to the principles of the NHS.[8] And, despite the gripes, most doctors (86% found by the review[2]) still support the principle of a centrally funded service. Governments buck this trend at their peril. So, for now, the message is more of the same in financing. As the review notes, there are higher priorities for reforming health care—managing demand better and improving quality—but they are harder to achieve.

Jennifer Dixon *director, health care policy programme*
(j.dixon@kehf.org,.uk)
King's Fund, London W1G 0AN

1 Dixon J, Harrison A, New B. Funding the NHS. Is the NHS underfunded? *BMJ* 1997;314:58-61.
2 Academy of Medical Royal Colleges, ABPI, ACHCEW, BMA, BUPA, Patients Association, RCN, RPS. *Healthcare funding review*. London: BMA, 2001.
3 Emmerson C, Frane C, Goodman A. *Pressures in UK healthcare: challenges for the NHS*. London: Institute for Fiscal Studies, 2000:5.
4 Appleby J, Boyle S. Blair's billions: where will he find the money for the NHS? *BMJ* 2000:320;865-7.
5 Royal Commission on the National Health Service. *Report*. London: HMSO, 1979 (Cmnd 7615).
6 Institute of Health Services Management/Royal College of Nursing. *Through the looking glass: opening up the NHS funding debate*. London: IHSM, 1993.
7 Healthcare 2000. *UK health and healthcare services. Challenges and policy options*. London: HC 2000, 1995.
8 Judge K, Mulligan JA, New B. The new NHS: new prescriptions needed? In: Jowell R, Curtice J, Park A, Brook L, Thomson K, Brycson C, eds. *British social attitudes 1997/98*. Aldershot: Social and Community Planning Research, 1998.
9 Fuchs V. National heath insurance revisited. *Health Affairs* 1991;10:7-17.
10 Morone J. Citizens or shoppers? Solidarity under siege. *J Health Politics Policy Law* 2000;25:959-68.

The obesity epidemic in young children

Reduce television viewing and promote playing

Papers p 326

BMJ 2001;322:313–4

A rapid increase in the prevalence of obesity in children has been seen in England, the United States, and around the world.[1–3] In this issue of the *BMJ*, Bundred and colleagues report that among 3 to 4 year old English children there was a 60% increase in the prevalence of being overweight (having a body mass index >85th centile) and a 70% increase in the prevalence of obesity (body mass index >95th centile)

between 1989 and 1998.[4] Growth data were standardised for age and sex using the British Growth Reference Charts, and the analyses seem sound. The surprising finding in this study is that the increases in the prevalence of obesity are occurring among such young children.

Given what we know about the natural history of being overweight in childhood and obesity in children these findings should heighten concern. Although the risk of obesity in adulthood is not increased among children who are overweight at 1 and 3 years old, the risk rises steadily thereafter regardless of parental weight.[5] Furthermore, more than 60% of overweight children have at least one additional risk factor for cardiovascular disease, such as raised blood pressure, hyperlipidaemia, or hyperinsulinaemia, and more than 20% have two or more risk factors.[6] Type 2 diabetes, which was previously rare in children and adolescents, now accounts for over 30% of new cases in some parts of the United States; most cases of type 2 diabetes in children and adolescents are attributable to obesity.[7] Therefore, Bundred et al's data herald a further increase in the prevalence of adult obesity.

Identifying the causes of the rapid increase in the prevalence of obesity among young children is a critical challenge. Increased birth weight increases the risk of obesity later,[8] but children with low birth weights tend to remain small into adulthood.[9] However, as Bundred and colleagues show, only modest increases in birth weight occurred among infants, suggesting that changes in birth weight did not account for the changes in the prevalence of obesity among older children. Because the gene pool did not change substantially between 1989 and 1998, the rapid increases in obesity must reflect environmental changes.

Factors that promote an increase in energy intake or a reduction in energy expenditure cause obesity. In the United States in the past 30 years important changes have occurred in family eating patterns and in the consumption of fast foods, pre-prepared meals, and fizzy drinks. Likewise, the amount of physical activity that children engage in has been reduced by an increase in the use of cars, an increase in the amount of time spent watching television, and a decrease in the opportunities in many communities for physical activity on the way to school or in school. Although television viewing seems to cause obesity in children in the United States it is not clear how many of these other factors promote obesity in young children.[10]

Both food intake and activity in young children are strongly influenced by parents. Although controversy still exists, breast feeding seems to lower the risk of later obesity.[11] In early childhood, the more parents encourage children to eat certain foods the less likely they are to do so.[12] Thus, foods that have been forbidden may be overconsumed when children finally have access to them.[13] Children of mothers who exert a high level of control over their food intake become less able to regulate their own intake, although a mother's reaction may occur secondary to her children's inability to control their own food intake.[14] Children who eat meals with their family consume more fruits and vegetables, fewer fizzy drinks, and less fat in food both at home and away from home.[15] Television advertising of food directed at young children may help explain why reduced television viewing reduces rates of weight gain.[16]

Promoting breast feeding, implementing regular family meals, restoring to parents the responsibility for what children are offered, and restoring to children the choice of whether to eat what is offered, are logical nutritional interventions that are likely to reduce young children's access to foods that are high in calories. Opportunities for spontaneous play may be the only requirement that young children need to increase their physical activity. Reducing the amount of time that children are allowed to watch television is one strategy that offers children opportunities for activity, and it is likely to alter requests for advertised foods as well.

These are not novel approaches; a generation ago, because there were few alternatives, these practices were the norm. Although there is no data to show that these interventions prevent obesity, none of these interventions are likely to have adverse effects, and all of these interventions will improve the quality of family life. Strategies to change families' patterns of eating and activity must be adapted to the social and economic pressures of today's world. However, in view of the rapid increase in the prevalence of obesity and its implications for chronic disease, a return to basics seems to be essential.

William H Dietz *director*

Division of Nutrition and Physical Activity, Centers for Disease Control and Prevention, 4770 Buford Hwy NE, Mailstop K-24, Atlanta, GA 30341, USA (wcd4@cdc.gov)

1 Reilly JJ, Dorosty AR, Emmett PM. Prevalence of overweight and obesity in British children: cohort study. *BMJ* 1999;319:1039.
2 Ogden CL, Troiano RP, Briefel RR, Kuczmarski RJ, Flegal KM, Johnson CL. Prevalence of overweight among preschool children in the United States, 1971 through 1994. *Pediatrics* 1997;99:e1. www.pediatrics.org/cgi/content/full/99/4/e1 (accessed 1 August 2000).
3 Martorell R, Kettel Khan L, Hughes ML, Grummer-Strawn LM. Overweight and obesity in preschool children from developing countries. *Int J Obes* 2000;24:959-67.
4 Bundred P, Kitchiner D, Buchan I. Prevalence of overweight and obese children between 1989 and 1998: population based series of cross sectional studies. *BMJ* 2001;322:326-8.
5 Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997;337:869-73.
6 Freedman DS, Dietz WH, Srinivasan SR, Berenson GS. The relation of overweight to cardiovascular risk factors among children and adolescents: the Bogalusa heart study. *Pediatrics* 1999;103:1175-82.
7 Fagot-Campagna A, Pettit DJ, Engelgau MM, Rios Burrows N, Geiss LS, Valdez R, et al. Type 2 diabetes among North American children and adolescents: an epidemiologic review and a public health perspective. *J Pediatr* 2000;136:664-72.
8 Whitaker RC, Dietz WH. The role of the prenatal environment in the development of obesity. *J Pediatr* 1998;132:768-76.
9 Strauss RS. Adult functional outcome of those born small for gestational age: twenty-six-year follow-up of the 1970 British birth cohort. *JAMA* 2000;283:625-32.
10 Dietz WH, Gortmaker SL. Do we fatten our children at the TV set? Obesity and television viewing in children and adolescents. *Pediatrics* 1985;75:807-12.
11 Von Kreiz R, Koletzko B, Sauerwald T, von Mutius E, Barnert D, Grunert V, et al. Breast feeding and obesity: cross sectional study. *BMJ* 1999;319;147-50.
12 Birch LL, Marlin DW, Rotter J. Eating as the "means" activity in a contingency: effects on young children's food preference. *Child Dev* 1985;55:431-9.
13 Fisher JO, Birch LL. Restricting access to palatable foods affects children's behavioral response, food selection and intake. *Am J Clin Nutr* 1999;69:1264-72.
14 Johnson SL, Birch LL. Parents' and children's adiposity and eating style. *Pediatrics* 1994;94:653-61.
15 Gillman MW, Rifas-Shiman SL, Frazier AL, Rockett HRH, Camargo CA Jr, Field AE, et al. Family dinner and diet quality among older children and adolescents. *Arch Fam Med* 2000;9:235-40.
16 Robinson TN. Reducing childrens' televison viewing to prevent obesity: a randomized trial. *JAMA* 1999;282:1561-7.

We ask all editorial writers to sign a declaration of competing interests (bmj.com/guides/confli.shtml#aut). *We print the interests only when there are some. When none are shown, the authors have ticked the "None declared" box.*