

child bearing age can only be established by immunisation records or serological studies that show high levels of immunity in adolescent girls.⁶ Monitoring systems are currently ineffective, however, and virtually no information exists on coverage of the female adolescent population (A Galazka, personal communication).

Immunisation strategy

A strategy expressly targeting girls would be feasible in some countries. It would require five properly spaced injections and would most likely provide protection from tetanus for life.⁷ Even four doses of tetanus may protect for as long as 20 years, and if delivered at the end of primary school would certainly protect during adolescence and possibly beyond. In developing countries the proportion of children, including girls, attending primary schools is growing. Analysis of statistics collected by Unicef shows that in many of the countries with high death rates in children under 5, the proportion of pregnant women who have been vaccinated is low.⁸

A school health service delivering a programme of tetanus vaccination may be a feasible route for improving coverage of adolescent girls who otherwise may not be vaccinated during pregnancy. There are other advantages to immunising school-girls, including the opportunity to raise health consciousness at an early age and to encourage the use of personal vaccination records. School based delivery of health interventions is currently of great interest and, in developing countries, could be combined with distribution of vitamin A and anthelmintics. In this regard, some evidence exists that giving vitamin A at the time of tetanus vaccination significantly improves the response to vaccine.⁹

Recently it has been suggested that a late dose of an acellular pertussis vaccine and a second dose of measles vaccine should be given towards the end of childhood or in adolescence—to reduce the pool of susceptible girls and to protect future infants.¹⁰ In developed countries, such reasoning has led to the targeting of adolescents for rubella vaccination.

Vaccinating adolescent girls against tetanus could bring about substantial long term gains. Implementation will require an assessment of the proportion of girls who can be

reached in schools or who can be called in to local schools on vaccination days. High risk areas, perhaps based on reported abortion rates, could be targeted.¹¹ Young women should be strongly urged to acquire an immunisation card, high potency primary vaccination and tetanus boosters must be free, while a system to monitor antibody responses among girls needs to be in place.

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Loretta Brabin and Julia Kemp are supported by the Overseas Development Administration.

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Falls after strokes

They are common and need a multi-intervention approach

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Thirty years ago Lord Brain remarked that hemiplegic patients rarely fell because they had to concentrate so hard to walk at all.¹ Yet the paper in this issue by Forster and Young, which looks at falls in patients who had had strokes and were living at home, shows that, far from being rare, falls are more than twice as likely in this group than in the rest of the elderly community (p 83).² So why has our view of this group of patients changed? Probably because, as a result of demographic change and improved rehabilitation and community services, elderly patients living at home now considerably outnumber the younger and fitter patients seen by neurologists in the past.

The important point about the patients in Forster and Young's study is that they were elderly and therefore at an increased risk of falls even without the stroke. About 30% of

people over 65 living in the community fall each year,^{3,4} and although only one in 10 falls results in serious injury, there is considerable morbidity and loss of independence resulting from fear of further falls.

Attention to balance

An elderly person who has frequent spontaneous falls (as opposed to someone who has a single trip or accident) usually has several impaired components of his or her system of balance. Maintaining balance while standing depends on the integration of sensory inputs (somatosensory, visual, and vestibular) with motor processes in the limbs and trunk.⁵ In old age loss of sensory information is poorly tolerated and there is an inability to weigh and select appropriate responses

quickly when the environment changes suddenly. This slower processing of central information is crucial and contributes to the increased risk of falling in patients with stroke, those with Alzheimer's disease, and those who have been oversedated with hypnotics. A 10% increase in mean response times could result in a fivefold to sixfold increase in falls.⁶ Even healthy elderly subjects have a reduced central processing capacity so that reaction times (for example, to sound) are increased when sensory postural information is reduced. In other words, older people have to devote more attention to maintaining posture.⁷

Clearly, some patients with stroke must make a substantial effort simply to stand and walk. Anything that reduces attention such as anxiety or depression puts them at risk and may explain why those patients in Forster and Young's study who were less socially active and were depressed were more likely to fall.

Apart from perceptual difficulties and the obvious ataxia seen after a posterior circulation stroke, hemiplegia itself affects balance. The stance is asymmetric—with about 70% of the total body weight shifted on to the unaffected leg—and postural sway is increased.⁸ The more unsteady the stance the more it affects the walking pattern; objective laboratory measures of stance and walking pattern correlate with clinical motor assessment and the Barthel activities of daily living index.⁹ The hemiplegic gait is characterised by slower, shorter steps; lack of smoothness; and asymmetry. Increased walking speed seems to correlate with improvements in functional ability and is another measurement that could be added to the clinical assessment.

Reducing risks

Forster and Young's study offers some support for the usefulness of clinical assessments of stroke as predictors of falls, but the scope needs to be broadened. Modifiable risk factors for falls such as quadriceps weakness, visual impairment (low contrast visual acuity and contrast sensitivity), inappropriate drug treatment (especially sedatives), and poor general health (for example, due to heart failure) need to be identified.^{3,4,10} Since the likelihood of falls increases with the number of risk factors present, prevention needs to address as many as possible and involve the whole of the multi-disciplinary team. A recent study of intervention that concentrated on improving gait, balance, and muscle strength; reviewing drugs; and modifying environments reduced the risk of falling by 30%.¹¹

Elderly patients who have had strokes should be targeted for this kind of approach. In addition to the usual techniques to reduce spasticity and increase standing symmetry, balance may be further improved by using biofeedback on postural sway.⁸ Identifying and correcting causes of imbalance not due to stroke might result in patients having new spectacles or physiotherapy to relieve unsteadiness caused by cervical spondylosis or vestibular lesions. Programmes either of general exercises with an emphasis on social interaction and enjoyment¹² or of exercises designed to challenge the system that controls balance¹³ improve balance, but such approaches on their own have not yet been shown to affect the rate of falling.

None the less, they should be part of the overall strategy developed by community teams aimed at maximising patients' health and confidence. Environmental hazards are not a risk factor for the general elderly population, but a patient who has had a stroke is more vulnerable and his or her home should be carefully assessed. Someone living alone should be provided with an alarm (such as the Piper lifeline), and all should be taught how to get up from the floor, although both these interventions need evaluating.

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Labour's health policy

Marks a retreat from ideology

The NHS presents the Labour party, as the next government in waiting, with a particularly difficult political challenge. On the one hand, the party's apocalyptic prophecies about the consequences of the changes in 1991 have been betrayed by events: the NHS has not disintegrated, nor has it been privatised. On the other hand, the party's commitment to financial austerity, should it be returned to office, inhibits it from buying support by making any promises about more generous funding. In the circumstances, the Labour party's manifesto on health, *Renewing the NHS*,¹ is a remarkably skilful document. It signals

a retreat from dogmatism and an acceptance of the need for a pragmatic policy under a smokescreen of ideological rhetoric.

The rhetoric is designed to reassure the party faithful. The manifesto evokes a mythical past when everything was splendid in the NHS. It describes a demonised present in which the Conservative government is corrupting the NHS's ideals. But the proposals are designed to reassure the public and the professionals working in the NHS. They turn out to be surprisingly modest, often building on the much denounced changes of recent years, largely cosmetic in character, and

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