either essential, additional, or enhanced. All general practitioners must provide essential services, envisaged as a tightly defined core, but can reduce some of their current commitments. In particular, an opt out for out of hours care will be introduced, and in future these services will be managed through NHS Direct.⁴ Primary care organisations will have new responsibilities to commission alternative providers (not all of whom will be doctors) to fill any gaps created.

Conversely, those doctors who wish to will be able to offer enhanced services for extra pay. Some of these services will be nationally specified and priced; others will be open to local agreement. An expenditure floor will ensure that resources are available and not diverted to meet other priorities. A new quality and outcomes framework will cover standards to measure clinical and organisational quality and also patients' experiences. Thus, in part, doctors' pay may depend on the surveyed views of their patients.

So how well does the proposed new contract address the concerns of general practitioners? In future, general practitioners should be better able to control their workload and trade leisure for income. Importantly, the new contract proposes significant changes to the incentives facing general practitioners. Quality of care is likely to be a more powerful motivator than it has proved in the past. The perverse incentive for general practitioners to manage large lists with a limited range of services should reduce.

Shifting the contract from individual practitioners to practices introduces new incentives to make greater use of non-medical staff (under current arrangements, many payments are linked to the existence of a general practitioner). In addition, practices may become larger, with subspecialisation among general practitioners. Of course, the prospect of a practice based contract also raises questions about the nature of the contracting organisations, opening the door to new entities, including private limited companies, which have been tentatively tested under personal medical services.

The new capitation formula should be welcome for deprived areas because funding will be delivered regardless of whether general practitioners are already in post. Currently, many deprived areas are denied resources because enough general practitioners cannot be recruited.

The proposed new contract seems to offer much to general practice and to patients—but there are risks

attached. All incentives systems encourage gaming. General practitioners will inevitably concentrate on those quality targets that have been specified, at the expense of others. Whether the right standards have been incorporated into the new quality and outcomes framework will be disputed.

By clearly specifying general medical services for the first time the government risks paying for services it currently receives for free. Primary care organisations, too, face risks. The evidence from pilots of personal medical services suggests that active commissioning of primary care requires considerable managerial capacity.⁵ Yet primary care organisations are organisationally immature and overburdened.

The new contract raises important questions about the future for British primary care. Patients may receive services from their own registered practice, from another practice, from staff employed by primary care trusts, or from others such as community pharmacists. In addition, the linkage between daytime and out of hours services seems set to break forever, and domiciliary general practice visiting may be contracted out to a separate organisation. The traditional general practitioner will no longer be the only hub around which primary care revolves.

The negotiators have made much progress and have dealt with many of the profession's concerns, but the nature of the longitudinal relationship between patient and general practitioner, an admired hallmark of the British system, will change. This ultimately may be the most important consequence of the new contract.

Richard Lewis visiting fellow

(rlewis@kingsfund.org.uk)

Stephen Gillam director

Primary Care Programme, King's Fund, London W1G 0AN

Childhood drowning is a global concern

Prevention needs a multifaceted approach

Papers p 1070

rowning is a significant cause of childhood death in many parts of the world. It is estimated that in 1998 almost half a million deaths worldwide were caused by drowning, 57% of which were among children aged up to 14 years. A recent Unicef report found that, in 26 of the world's richest nations, injuries were the leading cause of death among children. Drowning was the second leading cause of injury related death, exceeded only by deaths due to road traffic crashes. Drowning is also unique in

that case fatality rates are as high as 50% and medical care makes little difference in outcomes for victims brought to the emergency department without spontaneous respiration.

The study by Sibert et al in this week's journal (p 1070) identified a significant decline in the incidence of childhood drowning in the United Kingdom between 1988-89 and 1998-99.³ A strength of the study was the use of multiple data sources to identify circumstances surrounding deaths due to drowning.

BMJ 2002;324:1049-50

¹ General Practice Committee. National survey of GP opinion, October 2001. http://web.bma.org.uk/ap.nsf/Content/GPC+++National+Survey+ of+GP+opinion+2001 (accessed 22 Apr 2002).

NHS Confederation. The new GMS contract—delivering the benefits for GPs and their patients. London: NHS Confederation, 2002.
 General Practice Committee. Your contract your future. London: British

³ General Practice Committee. Your contract your future. London: British Medical Association, 2002.

⁴ Department of Health. Delivering the NHS Plan—next steps on investment, next steps on reform. London: Department of Health, 2002.

⁵ Lewis R, Gillam S, Jenkins C, eds. Personal medical services pilots modernising trimary care? London: King's Fund Publishing, 2001.

modernising primary care? London: King's Fund Publishing, 2001.
 De Maeseneer J, Hjortdahl P, Starfield B. Fix what's wrong, not what's right, with general practice in Britain. BMJ 2000;320:1616-7.

Although data are not presented on the site of drowning by age, previous studies in the United Kingdom and other industrialised countries provide a consistent picture. Infants are most likely to drown in the home (usually in a bathtub); toddlers in bodies of water close to the home such as swimming pools or ponds; and older children in natural bodies of water such as lakes and rivers, generally located away from the home.⁴⁻⁶ Although data from developing countries are sparse, developmental capabilities of children are likely to lead to comparable patterns. For example, in Guadalajara, Mexico, 60% of drowning incidents among children aged 1-4 years were in underground cisterns—a structure located close to the home.7

Sibert et al found a significant increase in drowning incidents in garden ponds and large declines in drowning incidents that occurred in natural freshwater sites, for example lakes, rivers, and canals. These trends are comparable with those in the United States, where the largest declines in drowning rates were seen among older children.8 Interestingly, a systematic review of primary preventive strategies found pool fencing, a strategy which specifically targets toddlers and young children, to be the only intervention which was effective.9 Yet, in many countries toddlers continue to have the highest drowning rates, pointing to the challenges in implementing this strategy. In contrast, deaths due to drowning in older children have declined despite the lack of effective interventions. This decrease might be explained by decreased exposure as older children adopt more sedentary lifestyles and families move from rural to urban areas. However, studies examining this hypothesis are lacking and other explanations such as decreased risk taking or improvements in swimming ability should also be considered.¹⁰

A number of important preventive messages have been emphasised including: constant supervision of infants by adults in the bathtub and around other bodies of water; pool fencing, particularly with isolation fencing that completely surrounds the pool, separating it from the home; and not swimming alone or in remote, unguarded sites.11 Furthermore, parents, adolescents, and homeowners with pools on their property are advised to obtain training in basic life support techniques as studies have shown that if initiated promptly, resuscitation by a bystander, before the arrival of emergency personnel, results in significantly better neurological outcomes. $^{\!\scriptscriptstyle 11\ 12}$

Some studies recommend that after the age of 5 years all children should be taught to swim, but, although it seems obvious that better swimmers would be less likely to drown, the relation between swimming lessons, swimming ability, and the risk of drowning is unknown.11 It could be argued that better swimmers might take greater risks, like swimming in rougher or unguarded waters. Additionally, the provision of swimming lessons to all children might result in increased exposure to water and subsequent increases in drowning rates. Clearly there is a need for scientifically rigorous studies to determine which interventions work.

In 1997 Pless referred to drowning prevention as the "final frontier of injury prevention." It is time for renewed efforts on several fronts. Adequate fencing of pools will be achieved only if fencing is both required by law and regulations are enforced. Furthermore,



research findings about pool fencing must be translated to other comparable sites, be it ornamental ponds in the United Kingdom or cisterns in Mexico.13 Finally, we must evaluate recommended prevention strategies and begin to think creatively about potential new strategies. Comparisons of practices in regions with varied drowning rates might lead to new insights for prevention. For example, are there familial bathing practices that protect infants from drowning? Complete and consistent documentation of the circumstances surrounding drowning deaths would greatly facilitate these efforts.

Ruth A Brenner investigator, epidemiology branch Division of Epidemiology, Statistics, and Prevention Research, National Institute of Child Health and Human Development, Bethesda, MD 20892, USA

(BrennerR@NIH.GOV)

Krug E, ed. *Injury: a leading cause of the global burden of disease.* Geneva: World Health Organization, 1999. www.who.int/violence_injury_ prevention/pdf/injuryburden.pdf [accessed 1 March 2002]

Unicef. A league table of child deaths by injury in rich nations. Florence,

Unicef Innocenti Research Centre, 2001. Sibert JR, Lyons RA, Smith BA, Cornall P, Summer V, Craven MA, et al. Preventing deaths by drowning in children in the United Kingdom: have we made progress in 10 years? Population based study. BMJ 2002;324:1070-1.

Brenner RA, Trumble AC, Smith GS, Kessler DP, Overpeck MD. Where children drown: the epidemiology of drowning in the United States. *Pediatrics* 2001;108:85-9.

Mackie IJ. Patterns of drowning in Australia. Med J Aust 1999;171:587-90. Kemp A, Sibert JR. Drowning and near drowning in children in the United Kingdom: lessons for prevention. *BMJ* 1992;304:1143-6.

Celis A. Home drowning among preschool age Mexican children. Inj Prev 1997-3-959-6

Brenner R, Smith G, Overpeck M. Divergent trends in childhood drownng rates—US 1971-1988. JAMA 1994:271:1606-8.

Harborview Injury Prevention and Research Center. Systematic reviews of hildhood injury prevention interventions: drowning. http://depts.washington.edu/hiprc/childinjury [accessed 25 February 2002].

¹⁰ Smith GS, Howland J. Declines in drowning: exploring the epidemiology of favorable trends. JAMA 1999;281:2245-7.

¹¹ American Academy of Pediatrics Committee on Injury and Poison Prevention. Drowning in infants, children, and adolescents. Pediatrics

¹² Kyriacou DN, Arcinue EL, Peek C, Kraus JF. Effect of immediate resuscitation on children with submersion injury. *Pediatrics*. 1994;94:137-42.

13 Pless IB. The challenge of drowning prevention. *Inj Prev* 1997;3:237-8.