

Role of the primary health care team in preventing accidents to children

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SUMMARY. *Accidents are the most common cause of mortality in children and account for considerable childhood morbidity. The identification of risk factors for childhood accidents suggests that many are predictable and therefore preventable. Numerous interventions have been found to be effective in reducing the morbidity and mortality from childhood accidents. The scope for accident prevention within the primary care setting and the roles of the members of the primary health care team are discussed. Finally, the problems associated with the team undertaking accident prevention work are explored and solutions suggested.*

Keywords: *accidents; children and infants; preventive medicine; health professional's role; primary health care team.*

Introduction

ACCIDENTAL injuries are the most common cause of death in children aged over one year, with approximately 700 children in England and Wales dying annually.¹ There are 120 000 admissions to hospital and two million attendances at accident and emergency departments following accidental injuries each year for children aged under 15 years in the United Kingdom.² For children under five years of age the majority of accidental injuries, both fatal and non-fatal, occur at home,² while for children aged five to 14 years, transport accidents are the most common fatal accident with pedestrian accidents accounting for approximately 60% of all road traffic accident fatalities in this age group.² Over recent years there has been increasing interest in the role of the primary health care team, or members of the team in preventing childhood accidents³⁻¹⁰ and the choice of accidents as a key area for the 'health of the nation' is likely to lead to increasing pressure for the primary health care team to be involved in such work.¹⁰ This paper discusses approaches to accident prevention and their effectiveness. It then concentrates on the role of the primary health care team in preventing accidents, the difficulties the team may face in undertaking such work and offers possible solutions.

Preventing accidental injuries

The term accident implies a chance or unpremeditated event, and suggests that people are powerless to prevent accidents. Epidemiological studies have, however, demonstrated that accidental injuries do not occur randomly and that they are predictable by the developmental stage of the child and by certain risk factors. Children aged under one year and five years and over have fewer accidents than children aged one to four years¹¹⁻¹³ and boys have approximately one and a half times more accidents than girls.^{1,2,14,15} Children are at increased risk of an

accident if they are from economically deprived areas,¹⁶⁻¹⁸ large families (three or more children)^{12,14,19,20} or single parent families,¹¹ if they have teenage mothers²¹ or conversely older mothers²² or are from families experiencing recent stressful events.²³⁻²⁵ Finally, children who have already had an accidental injury requiring medical attention are at greater risk of future injuries than those children who have not.^{13,14,20,26,27} Despite the identification of these risk factors, so far, it has not been demonstrated that targeting accident prevention activities at children with multiple risk factors is effective in reducing injury rates.

Accident prevention activities can occur at three different levels. Primary prevention involves preventing an accident occurring, for example, the use of childproof containers; secondary prevention involves preventing an injury resulting from an accident, for example, wearing cycle helmets; and tertiary prevention involves preventing complications developing from an accidental injury, for example, giving first aid at the site of an injury. Activities can also be categorized as educational, engineering or enforcement approaches.² An educational approach would involve education of parents and children to change behaviour to reduce the risk of accidental injury, for example, educating parents about safety equipment. An engineering approach would involve an environmental change to reduce the risk of accidental injury, such as a traffic calming scheme. An enforcement approach would involve the use of regulations and legislation such as drink driving legislation or trading standards legislation.

In order for the primary health care team to undertake accident prevention, it needs to be aware of the effectiveness of different interventions. Those which have been found to be effective in reducing hazards, changing behaviour or reducing childhood accidental injury rates are detailed below. Interventions involving an environmental change or those which educate parents to change their environment seem to be the most effective.²⁸

- Infant and child car safety seats can reduce the incidence and severity of injuries to child passengers.²⁹⁻³¹
- Car seat loan schemes,³²⁻³⁴ legislation^{35,36} and education can be effective in increasing the use of car child seats.³⁷
- Cycle helmet use can reduce the risk of head and brain injury.³⁸
- Community based education campaigns can increase cycle helmet use.³⁹
- Urban redesign schemes involving the redistribution of traffic or the creation of pedestrian priority areas, or area-wide traffic calming schemes involving measures to limit the speed of traffic can be effective in reducing child pedestrian accidents.^{40,41}
- Smoke detectors can reduce the mortality and morbidity from fires.⁴²
- Free smoke detectors can be installed in over 90% of homes and still be operational one year later in 88% of homes.⁴³
- Education of parents can result in a reduction in hot water tap temperatures in the home.^{44,45}
- Identification of hazards in the home by nurses can reduce the number of such hazards.⁴⁶
- Face-to-face counselling by health professionals can increase the acquisition and use of safety equipment in the home.^{46,47}
- The installation of window guards can reduce the incidence of falls from windows.⁴⁸

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- Childproof containers can be effective in reducing poisoning rates.⁴⁹
- Post-accident follow-up visits to parents by health visitors can reduce repeat accident rates.⁵⁰
- Community intervention programmes based on local epidemiological data using educational and environmental approaches can be effective in reducing childhood accident rates.^{51,52}
- Community first aid training schemes can reduce childhood accident injury rates.⁵³

Role of the primary health care team

The first step in accident prevention for the primary health care team is for it to fully appreciate that accidental injuries are an important cause of mortality and morbidity. In order to do this, the team should collect data on accidental injuries in their practice population from general practitioner and practice nurse records and the local accident and emergency department. Prospective data collection may be easier than retrospective record searching for practice based data as previous work has suggested that details of accidents are often recorded inadequately.⁴ The parent held child record, if adequately completed, may be a useful tool for collecting such information prospectively.^{4,9,26} Health visitors can collect referrals from their paediatric liaison health visitor concerning accidental injuries to children attending hospital accident and emergency departments,⁹ but care must be taken to ensure this data is complete as departments may not notify the health visitor of all attendances. Local school nurses can also be involved by collecting data on injuries occurring at school, and the local public health medicine department may be able to provide data on the use of secondary care services following accidental injury in the area. Collation of such information and the establishment of data collection systems could be undertaken by the practice administrative staff or the practice manager.

The collection of such data may in itself serve to raise awareness among the primary health care team. The data can also be presented to all team members to provide an overview of the nature and extent of the problem of accidental injuries. Similarly it could be used to raise awareness in the community by presenting it at displays in the health centre, publishing it in a public annual report, making it available to local schools or discussing it at postnatal, mother and toddler or women's groups.

Having collected the data the team needs to decide if accidental injuries are one of its priorities for care. This may require the team to assess its current workload and priorities and re-direct resources, including time, to accident prevention at the expense of other areas of care. As members of the team are employed by different organizations, negotiations over priorities for care may also need to be held with the managers of attached staff.

The next step is for the team to assess its current practice, opportunities for prevention and training needs. Assessing current practice should involve examining not only current accident prevention work but also activities which may have some impact on the risk of accidental injury, such as ensuring the health centre is safe for children, and restricting the prescription of drugs for self-limiting conditions or in large quantities at one time as these drugs may be a potential source of accidental poisoning. As part of assessing opportunities for prevention, the team needs to examine its contacts with other agencies with a role in accident prevention, to develop existing relationships and to foster new contacts to ensure it develops communication channels with relevant agencies. If a local accident prevention group exists this may be the quickest way to make such contacts. Alternatively, resources exist which describe the roles and responsibilities of the relevant agencies as well as how to contact them.⁵⁴ Health

visitors have already identified their training needs,³ and training resources have been produced,⁵ parts of which would be suitable for use with the whole team.

Much of the awareness raising and educational accident prevention work the team can undertake can become part of their existing activities. Advice about home safety equipment appropriate to the development stage of the child and the local availability of equipment should form part of routine child health surveillance carried out by general practitioners and health visitors. Both of these professionals are in an ideal position to give advice about dangerous aspects of a child's home on an opportunistic basis when undertaking home visits and parents have been found to expect and welcome such advice.⁵⁵ Lists of environmental hazards for health professionals to identify and discuss with parents on such occasions have already been produced.^{56,57} General practitioners and practice nurses also have the opportunity to undertake accident prevention work when a child presents with an acute injury. The circumstances surrounding the accident should be explored and possibilities for preventing future accidents discussed. Such injuries provide an opportunity to assess the parents' existing knowledge of first aid and to build on that knowledge. This can be reinforced by giving parents simple first aid leaflets as well as first aid charts to display in a prominent place at home, and information about local first aid courses. Health visitors can teach first aid at women's, postnatal or mother and toddler groups. In addition, any member of the primary health care team could train in first aid and then run first aid training sessions in the health centre.

Many health visitors already undertake post-accident follow-up visits to parents to discuss the circumstances of an accident and strategies for preventing future accidents.³ In order to do this they need to be aware of all of the accidental injuries occurring to children on their caseload. In areas where there is no paediatric liaison health visitor or where the health visitor's information is incomplete, general practitioners can pass on referral slips and letters from the accident and emergency department to the health visitor. Owing to the problems of distinguishing non-accidental from accidental injury and dealing with parental guilt following accidents, health visitors may feel more confident in undertaking follow-up visits if they receive specific training in this activity and have an opportunity to discuss the difficulties arising at such visits with colleagues. Training resources have already been produced for this purpose.⁵

The activities discussed so far have concentrated on raising awareness and education which are activities that health care workers are familiar with and possibly feel most comfortable with. As the available evidence on childhood accident prevention suggests that the most effective interventions are those that involve environmental change, the primary health care team may need to use other methods of accident prevention including empowerment and political means. This is not a new idea: Julian Tudor Hart has eloquently discussed the role of the general practitioner in facilitating the community to act on its own behalf on community-wide causes of ill health.⁵⁸ Such approaches may include providing the community with access to data on accidental injuries, teaching first aid courses, providing storage space in the health centre for safety equipment from loan schemes and becoming involved in a local accident prevention group which would plan accident prevention at a community level based on local needs. At a political level the team can identify hazards in the local community based on the accidental injuries which present to them, lobby policy makers at a local and national level and use the local media to apply pressure for environmental change.

Problems and possible solutions

There will be problems for the primary health care team in undertaking accident prevention work. Lack of resources, including time, has repeatedly been identified by health visitors as a factor limiting the amount and scope of their accident prevention work.^{3,6} This may be partly resolved at a local level by negotiations with service managers, but can only be properly addressed by detailing specific accident prevention activities in service contracts,⁷ including contracts with fundholding practices, as there is growing concern that the public health role of the health visitor may be eroded in such situations.^{59,60} Limited resources may also be a problem for other team members, but specifying clear roles for each member may result in activities being shared between team members.

Accident prevention is most likely to be successful if the primary health care team works as a team. Individual members will need a good knowledge of the roles of other team members and a clearly identified area of responsibility. Many primary health care teams do not function in this way; the team is often a structure rather than a way of working.⁶¹ Consequently, activities which require new ways of working may be perceived as too challenging and activities which are less important in terms of mortality and morbidity may be undertaken in preference to accident prevention. Educational opportunities for multidisciplinary training and team building⁶² or primary health care facilitators may be able to provide some of the support necessary to facilitate new methods of working.

Finally, there is still conflict in primary care between prevention and treatment. The role of the primary health care team is changing as prevention becomes increasingly important and evidence for the effectiveness of the team in preventing ill health mounts.⁶³⁻⁶⁶ The importance of prevention is also recognized by the health promotion banding system in which remuneration is now linked to preventive work. The 'health of the nation' key area handbook on accidents suggests that specific accident prevention activities are the responsibility of primary care.¹⁰ In such a climate primary health care teams are likely to be increasingly encouraged to undertake such work.

Even though there will be difficulties, the time has come for the primary health care team to address the issue of accident prevention. In the words of the Irving report of the Royal College of Surgeons: 'Accidental injury is probably the most serious of all the major health problems in the developed countries yet it appears to be ignored by governments, populations and professionals alike'.⁶⁷ A recent study, however, is more optimistic, demonstrating that general practitioners believe they do have a role in child accident prevention and that many already undertake some accident prevention activities.⁶⁸ Hopefully, in the future, increasing numbers of primary health care team members can be encouraged to have similar beliefs and to act upon them.

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