Safe Child Penarth: experience with a Safe Community strategy for preventing injuries to children

Alison Kemp, Nigel Gibbs, Gail Vafidis, Jo Sibert

Abstract

Objectives—To evaluate the process of establishing a Safe Community project for children.

Design—A descriptive study.

Setting—Penarth, a town (population 20,430) Vale of Glamorgan, South Wales.

Subjects—3943 children and their families in Penarth.

Main outcome measures—Whether the 12 criteria for a Safe Community project (World Health Organisation) were met. Implementation of the safety agenda set by the community.

Results—Safe Child Penarth met 10 of the 12 criteria for the Safe Community network. All the items on the agenda were introduced in the initial two years of the project. There were difficulties, however, achieving sustained community ownership of the project.

Conclusions—The Safe Community concept stimulated work to improve child safety in Penarth. Community safety initiatives should involve all local agencies to identify the problems and work with the community to set and meet the safety agenda. Partnership with the local authority is valuable to improve the safety of the environment. The experience generated from Safe Child Penarth has been used to develop a county wide, all age community safety project.

(Injury Prevention 1998;4:63–68)

Keywords: Safe Child Penarth; Safe Communities; local authority

Injury prevention is a priority both nationally and internationally. This paper describes an attempt to evaluate the Safe Community process, applied to child safety, in a South Wales town.

The Ottawa Charter for Health Promotion sets out the philosophy behind community development.1 “Health promotion works through concrete and effective community action in setting priorities, making decisions, planning strategies and implementing them to achieve better health. At the heart of this process is the empowerment of communities, their ownership and control of their own endeavours and destinies”. In the mid-1970s, public health physicians from the Karolinska Institute in Stockholm, developed this idea with injury prevention in mind and 12 criteria for a safe community were established. Projects in Sweden using this approach have reduced injuries by as much as 20%.2–4

Safe Child Penarth (SCP) was a pilot in which we applied the Safe Community criteria to improve the safety of the children in a small town. In this paper we describe our process evaluation of SCP.

Setting

Penarth, is a town west of Cardiff in South Wales, UK. It has a town council, eight primary and two secondary schools, and its own newspaper. All children under 5 years of age have a named health visitor and all schools, a designated school nurse. In 1991 the total population was 20,430, including 3943 children under the age of 15 years (1246 under 5). The Townsend index5 of relative deprivation for Penarth for 1991 was 0.4 (Wales: 1.6). Fifteen per cent of children lived in homes equivalent to the most deprived in the country (Townsend 1.6, range −4.5 to 8.9). Fifty-eight per cent of households were upper or middle social class (I, II, II Inm) and 37% were lower social class (III m–V).6

Method

SCP was a joint project between the community child health team and the Penarth Town Council. It was launched on 1 March 1993. The bulk of the funding was provided by South Glamorgan Health Authority. It financed a half time project coordinator and secretary and a small publicity budget. Evaluation was undertaken by the Department of Child Health, University of Wales College of Medicine. The evaluation used the Criteria for a Safe Community Network, laid out by the World Health Organisation (WHO) Collaborating Centre for Safe Communities (table 1).

A multiagency steering group was coopted. Membership included the project coordinator, two town councillors, a health visitor, a school nurse, two community paediatricians, a health...
promotion officer, police, home, road and fire safety officers. The project coordinator was responsible for publicity, community liaison, data collection, resources, training, education, and focus group work.

We drew up an injury profile from computerised records of attendees at the local accident and emergency department at Cardiff Royal Infirmary. Data were recorded by injury type and location, child’s age, sex, and home address. Injuries were mapped according to the electoral enumeration district of the home address. Census data from 1991 provider social deprivation indices for each enumeration district, grouped into Penarth based quartiles, according to social deprivation scores.

Child safety provisions and public perception of the injury problem were documented from a number of sources:

1. Preschool and school entry home safety questionnaires. A safety score was allocated to each response.

### Table 1

<table>
<thead>
<tr>
<th>WHO criteria for a safe community</th>
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<tbody>
<tr>
<td>1. The existence of a cross sectorial group responsible for injury prevention</td>
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<tr>
<td>2. Involvement of the local community network</td>
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<td>3. A programme covering all ages, environments, and situations</td>
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<td>4. The programme must show concern for high risk groups and high risk environments and aim at particularly ensuring justice for vulnerable groups</td>
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<td>5. Those responsible must be able to document the frequency and causes of injuries</td>
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<td>6. The programme must be a long term programme rather than a short term project</td>
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The community must also undertake to:

1. Utilise appropriate indicators to evaluate process and the effects of change
2. Analyse the community’s organisations and their possibility of participation in the programme
3. Involve the health care organisation in both registration of injuries and the prevention programme
4. Be prepared to involve all levels of the community in solving the injury problem
5. Disseminate experiences both nationally and internationally
6. Be prepared to contribute to a strong network of safe communities

### Table 2

<table>
<thead>
<tr>
<th>Safety agenda</th>
<th>Intervention</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>In car safety</td>
<td>Interactive education to all primary schoolchildren: in car safety leaflet given to all parents “Parking here could cost a child its life” signs erected. Police advised on traffic control modification at school gates</td>
<td>Seat belt wearing increased to 72% recounted three and six months later Schools with traffic wardens showed improved parking; two schools revised vehicular access</td>
</tr>
<tr>
<td>Safety outside school</td>
<td>Public meeting identified parking problems outside schools; infringements identified outside eight schools on six occasions</td>
<td>“Parking here could cost a child its life” signs erected. Police advised on traffic control modification at school gates</td>
</tr>
<tr>
<td>Child pedestrian injuries</td>
<td>Parent questionnaire to assess the number of children walking to school; 95% of 6 year olds, 92% of 9 year olds were taken to school by adult or older sibling</td>
<td>No intervention warranted</td>
</tr>
<tr>
<td>Fire safety in the home</td>
<td>72% of 257 families had smoke alarms (79% of 168 control families)</td>
<td>One year later 80% of 213 families had smoke alarms (matched responses) (86% of 168 controls)</td>
</tr>
<tr>
<td>Cycle safety</td>
<td>Interactive cycle safety education to all primary schoolchildren. Safe cycle race and cycling proficiency rewarded</td>
<td>No significant increase in cycle helmet ownership/wearing or danger awareness</td>
</tr>
<tr>
<td>Home safety for those 5 and under</td>
<td>Home safety audit: safety provision for 89 (54%) of 8 month olds, 168 (90%) of 5 year olds in Penarth; for 81 8 month olds and 81 5 year olds in control area</td>
<td>Reassessment of home safety provision one year later for 40 Penarth children and 55 controls. Significant improvement in medicine security, curly flexes, smoke alarms and window locks, bicycle helmets. Control group: significant improvement in cycle helmet ownership, no change for smoke alarms or window locks</td>
</tr>
<tr>
<td>Playground safety</td>
<td>All 19 playgrounds reviewed by local authority. Two playgrounds did not meet British safety standards criteria</td>
<td>Parents and children empowered to work with the council to redesign two playgrounds</td>
</tr>
</tbody>
</table>
Process evaluation measured the extent which we were able to:
- Meet the criteria for a Safe Community.
- Implement the safety agenda.

Results

(1) Existence of a cross sectorial group responsible for injury prevention

The steering group met monthly for two years and reported back to the town council and the health authority. A core membership of nine members (75% of the original membership) was sustained over that period. At no time did we have a lay member on the steering group. Ninety per cent of the group were, however, residents of Penarth, half of whom had young children.

(2) Involvement of the local community network

The statutory bodies involved included road safety, police, environmental health, trading standards, and the fire safety department. The voluntary bodies included the National Children's Homes, the National Childbirth Trust, and the scout movement. Four local retail businesses promoted safety resources throughout the project. They sold smoke alarms and bicycle helmets at minimal profit margins through voucher schemes run in the local newspaper.

Local government negotiated for road traffic calming and playground revision at county council level. All eight primary schools, their governors, and parent teacher associations (PTAs) fully participated in a series of safety awareness education programmes, safety outside school programmes, and school entry home safety assessments. The two secondary schools were invited to participate but with less success. All health professionals within the two primary health care teams and the community child health care services in the town supported the project. The three health visitors and the school nurse were key workers in the “5s and under” home safety project.

Despite comprehensive advertising, attendance at a public meeting to set the safety agenda was limited. In contrast, a meeting to examine safety outside school was well attended by head teachers, governors, and PTA representatives from all primary schools. Regular liaison with schools and families, together with fortnightly advertising and articles in the local newspaper, kept the community up to date with project developments.

(3) Programme covering all ages, environments, and situations

This criterion requires an “All age programme”. SCP was, however, specifically designed to work with children. The safety agenda covered a broad range of issues, all of which were introduced in the first two years.

Under 5s—Health visitors delivered a questionnaire and advice on home safety to parents of babies at their statutory 8 month health check. They interviewed 89 Penarth families (54% of all those aged 8 months) in the first year. Forty of these families had follow up interviews in the second year. Eighty one parents in the control town completed the questionnaire (without home safety advice) and 52 were followed up. In year two, the health visitors inserted pages that described age appropriate safety guidance into the parent held record for all infants and toddlers.

Primary schoolchildren—The school nurse administered a home safety review questionnaire and safety advice to 90% of parents of 5 year olds at the school entry health check. The project coordinator, assisted by the relevant safety officer, delivered a school safety promotion programme to all the primary schools (5–11 year olds). This included a series of four interactive education packages on bicycle, fire, road safety, and seatbelt wearing. Two school competitions were organised, one of which resulted in the project logo adopted by SCP. Entries for the infant fire safety colouring competition were exhibited in the town hall. The project provided prizes to reward bicycling proficiency in primary schools.

After the public meeting to address safety outside school the local authority road safety department installed signs outside each school. They read, “Parking here could cost a child its life”. Each school evaluated its own car parking strategy, and together with the police and highways department, considered one way systems and revision of vehicular approaches.

Local residents were also encouraged to identify hazards in the 19 public playgrounds. Two playgrounds fell short of British safety standards. In one, a group of mothers worked successfully with the district council to redesign and rebuild it. In the second, as part of a school project inspired by SCP, schoolchildren identified it as unsafe. The children suggested modifications and SCP approached the district council to finance redevelopment of the site.

We identified road traffic accident black spots from the sites of 42 child road traffic accidents in the last 10 years. We drew these to the attention of the road planning department, with a view to encouraging traffic calming.

Secondary schoolchildren—Despite several approaches to secondary schools we did not manage to secure their involvement. The pupil crime prevention panel, based at one of the comprehensive schools prioritised the need for crime, violence, and drug abuse prevention, but their perception of their personal injury risk was low. They helped to organise a safe bicycle race for younger children and the art department produced a cartoon video to promote road safety.

(4) Programme must show concern for high risk groups and high risk environments and aim at particularly ensuring justice for vulnerable groups

Analysis of the child injury profile showed that 20% of children from social deprivation quartiles 1, 2, and 3 attended the accident and emergency department in a year. This fell to 14% for children from the least deprived quartile of the town. This latter group had a significantly lower rate of fractures, preschool injuries in the home, and playground injuries. The
injury rate in the 5–14 age group, however, was consistent across all social groups. The home safety profile suggested a slightly lower safety provision in the most socially deprived homes.

Parents priorities were identified from 239 preschool and school entry questionnaires as road safety, 56%; safety in the home, 25%; stranger danger, 15%; fire safety, 4%; and dog fouling, 1%. Focus groups with socially disadvantaged parents also recognised a need for first aid training. We set our safety agenda according to the priority issues thus identified.

The project coordinator piloted five first aid training workshops that provided accident prevention messages and empowered parents to approach council or housing associations for improved home safety. These were attended by 10 parents at a family centre (social services facility for families in need).

(5) Those responsible must be able to document the frequency and causes of injuries

Most children with injuries that require treatment attend the accident and emergency department at the Cardiff Royal Infirmary. All attendances are documented on computer. This database is valuable, but was designed for injury management and includes little information about causation. In 1992–4 there were 630, 693, and 704 accident and emergency attendances for Penarth children, respectively. Sixty one percent were soft tissue injuries, and 14.5% were fractures. Seventy five percent of injuries to children under 5 took place in the home, whereas in the 5–15 year olds 43% occurred in the home, 19% at school, 20% in a public place, and 15% during sport.

(6) Programme must be a long term programme rather than a short term project

SCP was a pilot project that aimed to become self sustaining and to achieve community ownership when the funding ceased. As a result of SCP, the health authority has allocated further funding to extend the Safe Community strategy throughout the county of the Vale of Glamorgan (population 140,000).

The community must also undertake to:

(1) Utilise appropriate indicators to evaluate process and the effects of change

All meetings were structured and minuted, and a comprehensive diary was kept. In this way the commitment and activity of steering group members and involvement of different sectors of the community was quantified. We filed all correspondence, newspaper cuttings, questionnaire responses, and focus group responses to gauge the impact the project had on the community in terms of opinion, knowledge, and awareness. Table 2 outlines the performance indicators used and the effects on behaviour and safety provision. We also undertook an outcome evaluation using the accident and emergency attendance figures. In addition each component of the safety agenda was evaluated in terms of its process, impact, and outcome, using, as far as possible, case-control analysis.

(2) Analyse the community’s organisations and their possibility of participation in the programme

Child focused groups were identified and invited to participate in SCP. Safety interventions were incorporated into the established working patterns of the statutory organisations. Health visitors included home safety for those under 5 within the UK child surveillance programme health checks at 6 weeks, 8 and 18 months of age. School nurses included a home safety review at the routine school entry health check. The primary school national curriculum includes safety education, and SCP was able to augment this programme. Safety exhibitions were staged at the annual town summer festivals. SCP published articles in the local newspaper every week. These stimulated regular contributions to the correspondence section that amplified the safety messages. At intervals, the paper carried vouchers offering a reduction on safety resources locally.

(3) Involve the health care organisation in both registration of injuries and the prevention programme

The project was funded by the healthcare sector who undertook the needs assessment and project evaluation. Injuries were registered on the accident and emergency data base. Health care workers were heavily involved with the prevention programme as already described.

(4) Be prepared to involve an level of the community in solving the injury problem

All tiers of the community, from the district and local authority to the families themselves, were involved in identifying the injury problem and addressing the safety agenda. The injury profile and project progress was fed back to members of the public in the local weekly newspaper.

(5) Disseminate experiences both nationally and internationally

The project has been presented widely at various international conferences as well as to many UK forums.

(6) Be prepared to contribute to a strong network of safe communities

SCP was set up as a pilot project to evaluate the safe community method with a view to expanding the concept more widely. We remain committed to publishing and presenting the strengths and weaknesses of our work.

Discussion

SCP met the majority of criteria for the Safe Community network. The project was designed to address the safety of children under 15 years of age and therefore could not meet the criteria of an “all age” project from the outset. We were also unable to achieve community ownership. To sustain the lifetime of the project SCP has, however, become the foundation of a larger “all age” project that has enabled us to extend the concept county wide.

The WHO Safe Community criteria were drawn up to enable international application. Although they provide valuable guidelines for
project design and process evaluation, they lack specificity. We recommend that clear objectives and performance indicators be set for each criterion at the beginning of the project. If the WHO Collaboration Centre is going to continue to use these criteria, we suggest they are rewritten in more objective terms.

There are clear advantages to a cross sectorial steering group, however, the responsibility for injury prevention should lie with the community and not with this group. The nature of a community project is, after all, the empowerment of that community to prevent injuries. The project funding only provided a part time salary of a project worker and some clerical support. The collaborative approach, however, stimulated considerably more activity and encouraged new partnerships in the working practices of many of the agencies.

Children, their families, and our National Health Service bear the cost and suffering of injuries. But the cost of prevention is borne by the local authority. Thus, joint working seems to be the most efficient way to instigate a safer environment. In 1992, the Welsh Health Planning forum published seven protocols for health gain, one of which identified injury prevention as a priority. Health professionals therefore have a designated responsibility in this area. SCP established injury prevention within the work schedules of all the health visitors and school nurses in Penarth. The project started with a steering group and coopted the community partnerships. This approach was “top down” from the outset, and may explain our inability to achieve community ownership. Other Safe Community projects in the UK have a stronger community ownership. More widespread use of focus groups might have overcome this problem.

Criteria three specifies that the programme covers all ages, environments, and situations. This is an all inclusive yet non-specific requirement. SCP clearly focused on a particular sector of the community and therefore did not meet this specification. We suggest that more emphasis is placed on criteria 4: the recognition and targeting of high risk groups, environments, and situations. There are currently 17 projects world wide designated as “Safe Communities”. Much of the work in these prioritise child injury prevention. This is driven by many factors, not least the high child mortality rate from injuries. A safe environment for children and a child population with lower risk taking behaviours is undeniably a good investment for the future. If Safe Communities adopted a more flexible definition of its target population, many more initiatives run in a similar way to ours could be formally recognised. This would have many benefits: the concept would grow more quickly; it would gain increased political recognition world wide, and funding should be easier to obtain. A systematic methodology would become established and work could then begin to standardise evaluation methods.

Primary schoolchildren demonstrated a strong identity with the project and displayed a responsible attitude to improving their own safety. They were receptive to the education programme but we were unable to influence parents to the same extent. Adolescents present greater challenges and our initial approaches to this age group through the schools met with a lack of enthusiasm. We need to revise our approach to them and should consider focus group needs assessments and peer leadership programmes.

We were pleased to be able to make the environment safer in playgrounds, on roads near schools, and through smoke alarms. These changes, although expensive, will have long term benefits. Much of the work was education based, but future projects should have a greater environmental emphasis.

For socially deprived families injury prevention was of lower priority than finance, housing, or crime. We believe that the community method of injury prevention can be expanded to include a much wider programme of child and family health and welfare.

The criteria emphasise process evaluation, which is clearly essential to show effectiveness and to revise methods and justify and secure funding. Projects are often pump primed with resources and sponsors demand early results. Good process evaluation can often demonstrate these benefits. Outcome measures are often not seen until many years later. Funders of projects need to be convinced that it takes a considerable amount of time to undertake a needs assessment, get people on board, and establish working partnerships before implementation can begin. Even more resources and time are needed to provide scientifically sound evaluation. There is an international need to develop standard, low cost community project evaluation methodology. We were disappointed that the community did not adopt and continue Safe Child Penarth but are building on our experience to foster safe community work in a larger area, on an all age basis.

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How could it happen?
California detectives spent yesterday asking the questions: How could a father forget his 13-month-old daughter in the back seat of his Ford Explorer for eight hours in the baking sun? How could he leave her in the shadeless parking lot, in his black vehicle with dark, tinted windows, and not remember? “I don’t know how it’s possible to do that,” said police officer Bob Nicholas. But police said it appears that is exactly what happened Wednesday. And Brianna Rodrigues, 1 year, 1 month, and 4 days old, is dead...with the temperature in the car reaching an estimated 136 degrees or hotter, the unofficial cause of death is hyperthermia. Some days Rodrigues’ wife, Nichol, took Brianna to day care. This day, it was Darren’s turn. Somehow, he forgot. He drove to his business, got caught up in a business problem and forgot about his daughter. Police think nobody noticed the child because of the dark tinted windows. Nichol Rodrigues went to the daycare center after work to pick the child up but Brianna wasn’t there. “She calls him from the day care and says, ‘Where’s the kid?’” said Nicholas. “We’re hoping at least this will remind people not to leave their kids in the car, not even for a few minutes”, said coroner’s deputy Rex Cline (Associated Press, June 1997).

Britain goes it alone with ban on bull bars
A failure to reach European Union-wide agreement on a ban on so-called bull bars, bars mounted on the front of mainly off-road vehicles and some trucks, means that Britain will implement a unilateral ban on “aggressive” metal bars. The bars, which can exacerbate injuries to pedestrians in crashes, are usually fashion accessories for vehicles in Britain. A spokesman for the motoring organisation, the AA, commented, “They were designed in Australia as a defence against wayward kangaroos, but you don’t get many of those in Kensington High Street”. The Transport Research Laboratory estimates that two or three people have been killed and 40 seriously injured as a result of the bars.

Guns handed in close to deadline
As the deadline of 30 September 1997 approached for handing in large calibre guns in Britain, there was a rush of people handing in their weapons. By the end of August, 56 800 guns had been surrendered. This increased to about 120 000 one month later. A ban on weapons of .22 calibre and less will follow at a later date. The cost of compensating guns owners is estimated to be between £169 million and £450 million.

Police fight for more cameras as road deaths fall
“...after cameras were introduced the number of fatal accidents was 19, against 62 in the previous three years. The number of serious accidents fell by more than a quarter” (The Times, July 1997).  

Editor’s note: The government has subsequently announced an increase of £10 in the fixed penalty fines for motorists caught by speed and other cameras to enable more cameras to be used.