

Tackling Unintentional Injury: What Works?

The information below is a summary from selected academic journal papers and is intended to complement the work done by RoSPA to gather existing practise in Scotland (case studies) and details on what each local authority / Community Planning Partnership's work on unintentional injury is locally. The below is evidence from a variety of studies into what works in tackling unintentional injury – both specific programmes and approaches.

Note that a number of publications mention the importance of the following when preventing unintentional injury:

- Leadership
- Partnership
- Community led work
- Injury surveillance
- Targeting physical prevention mechanisms and education to populations and areas
- Technology and legislation

General falls prevention strategies mention the importance of medication reviews, healthy and active ageing including exercise and improving balance, physical hazards within the home and medical issues such as sudden drops in blood pressure which are risk factors for falls.

General road safety prevention strategies mention the importance of speed limits, mandatory helmets, separating traffic types, child restraints, reducing drink driving, improving how children see and are seen, enhancing road infrastructure, vehicle design, graduated driving schemes to reduce risk in young drivers and improved hospital care.

There are a number of other preventative strategies mentioned throughout this document.

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1. GENERAL PREVENTION

- *Leadership and advocacy for safety* within statutory agencies – specifically health (mainly public health) within Government and Healthboards. Complex multi-agency and multidisciplinary nature of UH is noted though.
- *Comprehensive and integrated multi-agency safety strategy* – WHO has repeatedly called for the same. Some evidence that those countries and agencies adopting these strategies have achieved greater progress in promoting safety than those opting for a piecemeal approach.
- *Adequate and routine statistical information.*
- *Focal point for planning, implementation and development of UH prevention* e.g. injury prevention centre. BMA have called for something similar at a UK level.
- *Increase resource allocation* – data from UK Clinical Research Collaboration quoted by Nicholl show that injury contributes 6.6% of UK DALYs yet receives only 0.3% of health research funding in 2004-05; a 22-fold discrepancy.
- *Enhance capacity and infrastructure for injury prevention* – specialist skills and training required.

1.2 Unintentional injury prevention: what can paediatricians do?

Source: Unintentional injury prevention: what can paediatricians do? D H Stone, J Pearson published in BMJ 2009

This evidence-based opinion piece discussed the role of the NHS and specifically paediatricians in preventing unintentional injury. It also discussed a variety of approaches to safety and unintentional injury prevention.

Active vs Passive Approach

The active approach to safety requires individuals to take positive actions or to change behaviour. The passive approach requires neither but creates the conditions where safety is promoted regardless of human judgement or behaviour. Examples of the former are avoiding drink driving, supervising children at play and using seat belts. Examples of the latter are domestic water thermostats, automatic sprinklers attached to smoke detectors and impact absorbing playground surfaces. In general, passive approaches to injury prevention have been found to be more effective than active ones, presumably because they minimise the necessity for human decision-making. This finding has important implications for preventive policy making.

Three levels of prevention

Primary prevention refers to the removal of circumstances, risks and hazards that lead to injury. Examples are child resistant packaging, the manufacture of fire-resistant nightwear, the fitting of thermostatic mixing valves and intensive parenting interventions.

Secondary prevention refers to the reduction of injury severity in incidents that do happen. Examples are the fitting of seat belts (see supplementary file online for a summary of child car restraints), the wearing of motorcycle or bicycle helmets and the use of impact absorbing playground surfaces.

Tertiary prevention refers to the optimal treatment and rehabilitation of the injured person to minimise the impact of injury. Examples are the administration of effective first aid, the rapid evacuation of injured patients to specialist care facilities, acute surgery and intensive care for trauma victims and the provision of services for the disabled injury victims.

The three (or four) Es

An alternative and widely quoted conceptualisation of injury prevention is the so-called three Es: education, enforcement of legislation and engineering (or environmental) measures (in reverse order of efficacy).

Education: Unless people are educated about safety, it is unreasonable to expect them to avoid injury through intuition or guesswork. Education may be directed at various groups – children, parents or carers, professionals and politicians – and may involve a range of methods to raise awareness, including media and advertising campaigns.

Early intervention, in the form of multifaceted parent education and training programmes, has been shown to improve maternal psychological health, child behaviour and parenting practices. A recent Cochrane review of 15 studies (of which 11 were randomised controlled trials), has demonstrated that such interventions may be effective in reducing the risk and incidence of unintentional child injury. All the included studies provided the intervention to individual parents of young children and four worked with groups of parents. The mechanism of the apparent preventive effect of the interventions is unclear.

Enforcement: Passing legislation that is not enforced, for whatever reason, is pointless. Enforcement, however, is labour intensive and requires sustained commitment on the part of the statutory agencies such as the police and trading standards officers.

Engineering/environment: Advances in technology, building (including home design), road design, consumer product safety and other forms of engineering, in the broadest sense, all play a role in preventing injury. The wider environment – physical, social and emotional – is crucial to the generation or avoidance of injury risk. An important environmental dimension is poverty; the gradient of risk across children of different social classes is steeper for injury mortality than for many other causes of death in childhood a phenomenon that may reflect the more hazardous environment of poorer localities.

Generic interventions: Promote parenting/early years interventions and target the poorest/highest risk households.

Monitoring interventions: There is a wide consensus in the injury prevention community that A&E based surveillance is important for local preventive practitioners including public health departments, and indeed for national policy making. Undertaking research, monitoring and evaluation is also important.

1.3 European Child Safety alliance report cards published in 2012

<http://www.chilfsafetyeuropa.org/reportcards/info/scotland-country-profile.pdf> and <http://www.chilfsafetyeuropa.org/reportcards/info/scotland-report-card.pdf>.

Scotland was assessed as performing well on particular aspects of child and adolescent safety and poorly on others. Areas noted for improvement (all areas except road safety) are around developing evidence-based policy, improved national leadership and prioritisation and funding for injury prevention measures (particularly within more deprived areas). Improvements noted for road safety were predominantly legislative. Much existing knowledge based on high quality research about what works in injury prevention has indeed found its way into policy but a wide implementation gap remains even in the world's wealthiest countries.

1.4 Community-Based Injury Prevention Interventions

Source: Community-Based Injury Prevention Interventions by Terry P. Klassen, J.Morag MacKay, David Moher, Annie Walker, Alison L. Jones. The Future of Children 2010
https://www.princeton.edu/futureofchildren/publications/docs/10_01_03.pdf

Community-based interventions are those that target a group of individuals or a geographic community but are not aimed at a single individual. This definition includes cities, municipalities, and schools. It excludes interventions delivered in clinical settings and interventions targeting areas as large as states or countries.

Community-based interventions offer a promising solution for reducing child and adolescent unintentional injuries. By focusing on altering behaviour, promoting environmental change within the community, or passing and enforcing legislation, these interventions seek to change social norms about acceptable safety behaviours. The community-based approach may have particular relevance for children, as interventions often target the safety awareness, attitudes, and behaviours of the child and the parents. Gradually, as families engage in safety behaviours or use safety devices more frequently, new norms reflecting the goals of the intervention emerge within a community. The process is similar for youths; however, peer pressure also plays a considerable role in promoting or inhibiting the adoption of safety behaviours within this population. Acceptance of new behaviours by the peer group may be crucial to a program's success.

This article systematically reviews 32 studies that evaluated the impact of community-based injury prevention efforts on childhood injuries, safety behaviours, and the adoption of safety devices. Interventions targeted schools, municipalities, and cities. Most relied on an educational approach, sometimes in combination with legislation or subsidies, to reduce the cost of safety devices such as bicycle helmets.

Results indicate that community-based approaches are effective at increasing some safety practices, such as bicycle helmet use and car seat use among children. The evidence is less compelling that such interventions increase child pedestrian safety, increase adolescent vehicle safety by reducing drinking and driving behaviours, or reduce rates of several categories of childhood injuries. Strong evidence supporting the effectiveness of community-based interventions is lacking, in part because few studies used randomized controlled designs or examined injury rates among children and youths as outcome measures. Nonetheless, this review identifies common elements of successful community-based approaches that should be replicated in future studies.

First, the use of multiple strategies grounded in a theory of behaviour change is critical (see text box). Second, to maximize success, interventions should be integrated into the community and approaches should be tailored to meet unique community needs (e.g. ethnicity or socio-economic status). Third, community stakeholders should be included in the development of community-based strategies. This community involvement and ownership of the intervention increases the likelihood of modelling and peer pressure, leading to widespread adoption of a safety behaviour. Finally, when possible, a randomized controlled design should be used to maximize the trustworthiness of reported findings and aid decisions about where to invest resources in community-based approaches to injury prevention.

Selected Health Behaviour Frameworks Used in Community-Based Interventions

Health Belief Model: States that an individual's readiness to alter behaviour depends on four conditions: (1) perceived threat or susceptibility to the condition; (2) perceived severity of the condition; (3) perceived benefits of the health action in reducing susceptibility and/or the severity of the condition, weighed against; (4) perceived barriers or personal costs of the health action. According to the Health Belief Model, community-based interventions should be designed to convince the target population of the threat of injury and their risk while simultaneously instilling confidence that a particular action is effective in reducing their risk.

Social Learning Theory: Recognizes that behaviour change occurs within a social context and is influenced by both active involvement in the learning process and identified consequences of the behaviour change. Strategies such as modelling behaviour (that is, having someone physically demonstrate the desired behaviour) and promoting external reinforcement (for example, offering money) or internal reinforcement (for example, instilling a feeling of pleasure or pride) are key to successful behaviour change. The ways in which social groups alter behaviour support social learning theory; members change their behaviour as a result of modelling or reinforcement by others, or by their own active involvement in the group.

PRECEDE Model: Stands for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation. The three constructs work together toward behavioural change. Predisposing factors include attitudes, beliefs, and values of the target population. Reinforcing factors include support for behaviour change, such as support from family, peers, teachers, or health care providers. Continuance of a behaviour relies on reinforcement. Enabling factors consist of the individual skills necessary to adopt the proposed change, as well as the availability and accessibility of external resources to facilitate change. The educational diagnosis is the examination of predisposing, enabling, and reinforcing factors in the specific context of the proposed behavioural change. Evaluation is the quantification of the program's impact.

1.5 Parent's self-reported responses to home safety questions

Source: Jodie M. Osborne, Rania Shibl, Cate M. Cameron, Denise Kendrick, Ronan A. Lyons, Anneliese B. Spinks, Neil Sipe & Roderick J. McClure (2015): *Validity of parent's self-reported responses to home safety questions*, *International Journal of Injury Control and Safety Promotion*

<http://www.tandfonline.com/doi/abs/10.1080/17457300.2014.992348?journalCode=nic20>

This paper looked at how reliable surveys of parents in relation to home safety questions may be and shared some warnings about using parent surveys alone to assess home safety practises – many studies find parents over-report certain safety practices (interestingly one UK study found the opposite). Consistent with evidence of parent's over-reporting certain safety practices in the literature (Chen et al., 2003; Lee et al., 2012; Robertson et al., 2005; Shields et al., 2013), over-reporting of safe practice was demonstrated in approximately half of the items, while under-reporting occurred for one-third of items. Over-reporting was demonstrated in questions under the categories of 'poisons', 'access', 'sharps', 'strangulation', 'electrocution', 'crushing' and five of the 'falls' items ('non-slip mats/handrails in bath', 'stair gates installed', 'play equipment in yard', 'stair hand railings 86.5 cm or above' and 'footholds on stairs'). They recommend surveys *in combination* with observation is the best way to evaluate home safety practises.

<http://injuryprevention.bmj.com/content/early/2014/03/03/injuryprev-2013-041006> is a similar article.

2. PHYSICAL UNINTENTIONAL HARM

Specific recommendations:

- Home safety audits in the course of routine home visits, particularly to disadvantaged families. Access to follow-up equipment is a necessity here. Also notes joining up with SFRS visits.
- Install thermostatic devices to hot water sources in all premises – note the study supporting this also delivered safety advice and leaflets to the group with TMVs installed – and it was an opinion survey on 62 households re safety of bathwater temperature rather than a larger study of whether it reduced scalding incidents as a result of the TMV only.
- Install, monitor and maintain hardwired smoke detectors and sprinklers in all premises – or at least find evidence for installing them in premises of higher risk and premises of people who are higher risk.
- Improve consumer product safety procedures and extend use of child-resistant packaging; especially in conjunction with legislation and education.
- Daytime running lights – all new vehicles have them and evidence suggests universal use of them could reduce crash rates by around 10-15% across all latitudes - or encouraging use of side-lights during daylight hours or winter months
- Traffic calming – 20mph – being rolled out in some LAs in Scotland shows a reduction of around two thirds in the incidence of pedestrian injuries.
- Ensure cycle helmet wearing – evidence from USA suggests they could reduce the incidence of serious head injury in cycling crashes by 85%.
- Lowering of current driver blood alcohol limit and adopt zero tolerance approach to drink driving – former has been done.
- Appropriate use of rear safety belts and correct child safety seats – when used properly child passenger restraints have been shown to reduce injury by 90-95% for rear-facing systems and 60% with forward facing.
- Better risk and safety education – focusing much more on how to assess and manage risk (e.g. Kerbcraft approach) rather than reducing exposure to risk.

- Better guidelines on safety in sport.
- More stringent occupational safety standards.

2.2 Unintentional injury prevention: what can paediatricians do?

Source: *Unintentional injury prevention: what can paediatricians do?* D H Stone, J Pearson published in *BMJ* 2009

Interventions that target road traffic injuries

- ▶ Encourage universal bicycle/motorcycle helmet wearing
- ▶ Encourage correct use of child restraints/seat belts
- ▶ Encourage implementation of area wide urban safety measures
- ▶ Promote traffic speed reduction and 20 mph speed limits in areas of higher pedestrian activity
- ▶ Community based education/advocacy measures to protect pedestrians
- ▶ Encourage participation in local child pedestrian training schemes and safe travel plans.

Interventions that target injuries at home

Fires

- ▶ Encourage home risk assessments, safety checks and escape plans
- ▶ Promote installation/upkeep of smoke alarms/sprinklers
- ▶ Target deprived groups, particularly children in privately rented and temporary accommodation, and households in which people smoke
- ▶ Promote the purchase and wearing of fire-resistant sleepwear.

Falls

- ▶ Home safety checks by healthcare professionals
- ▶ Installation/use of window bars/safety mechanisms
- ▶ Installation/use of stair gates at tops of stairs
- ▶ Discourage use of baby walkers.

Scalds

- ▶ Thermostatic mixing valves for bath hot taps.

Poisoning

- ▶ Promote use of child resistant closures and packaging
- ▶ Promote the secure storage of medicines and poisons.

Drowning/submersion

- ▶ Promote fencing of private swimming pools.

Interventions that target injuries during play/recreation

- ▶ Promote use of playgrounds with impact absorbing surfaces
- ▶ Promote use of playground equipment of appropriate height (1.5 m for young children)
- ▶ Promote use of buoyancy aids/life-jackets for water recreation
- ▶ Increase presence of trained lifeguards at pools and beaches.

2.3 European Child Safety alliance report cards published in 2012

Moving forward it is important to both continue to enhance road safety and give equal attention to injuries occurring in and around the home. Thus more can be done in evidence-based policy introduction, implementation and enforcement to support prevention of drowning, falls, poisonings, burns and scalds and choking/strangulation.

There is a need to support and fund injury prevention measures in a combined approach of education, engineering and enforcement of standards and regulations. The report card highlights areas in Scotland's current policy where changes could be made, however it recognises that progress of child injury prevention may be limited due to current levels of legislative powers.

Specific recommendations:

- Enhancing pedestrian safety by introducing laws placing the burden of proof on the vehicle driver in crashes involving a child pedestrian and supporting efforts to modify
- European vehicle design standards to reduce risk of injury to children (e.g., pedestrian friendly bumper heights).
- Enhancing passenger/driver safety by introducing national laws requiring that children remain seated rear facing in cars until age 4 years (this is underway and will be fully implemented in 2018) and that children and adolescents be seated in the back seat of a motorised vehicle until 13 years of age and by introducing graduated licensing for newly licensed drivers (this is being considered by the Road Safety national group).
- Enhancing cycling safety by the introduction of a law requiring bicycle helmet use while cycling for all ages.
- Increasing drowning prevention efforts by the introduction of laws requiring fencing around public and private pools and the use of personal floatation devices/life jackets while on the water (not just presence of protective equipment but actual use) and a policy making water safety education (including swimming lessons) a compulsory part of the school curriculum.
- Enhancing fall prevention by increasing enforcement of the national safety standard for playground equipment and banning the marketing and sale of baby walkers.
- Enhancing poisoning prevention by continuing to support the educational efforts of poison control centres.
- Enhancing burn prevention by expanding current national law requiring a scald preventing maximum temperature (not higher than 50°C) for tap water in new and refurbished dwellings to all domestic settings.
- Enhancing choking/ strangulation prevention by introducing/enhancing standards and regulations governing product safety for children such as a ban or redesign of specific products such as latex balloons and blind cords (the latter has been developed).
- Continuing with actions to increase public awareness of child and adolescent injury risks in the home and effective prevention solutions
- Other recommendations focus on having a national ministry/ government department with mandated responsibility for child and adolescent safety, a Government approved national injury prevention strategy with specific targets and timelines related to child and adolescent injury prevention.

2.4 From Electrical Safety First's Manifesto

<http://www.electricalsafetyfirst.org.uk/mediafile/100413075/Electrical-Safety-First-Key-Policies-for-Scotland.pdf>

Reducing Deaths and Injuries in Scottish Homes, it calls for an extension of regular safety checks to all social housing and owner occupied flats – and it highlights the need for improved home safety for older people.

The recent Scottish Housing Act included a requirement for landlords to ensure five-yearly electrical checks, by a registered electrician, of the wiring and any electrical appliances supplied in privately rented homes. The Charity had lobbied hard for this requirement, which it now wants to see expanded to encompass other housing tenures.

The Charity's manifesto is also calling for enhanced electrical safety for Scotland's ageing population, including statutory electrical safety checks in all care homes and the option of a free, five-yearly electrical safety check for all households with one person aged over 75.

And it wants a key safety measure – for RCDs, also known as residual current devices, which quickly cut of the current to prevent an electric shock - to be installed in all rented homes. They also call for a ban on evictions arising from tenants' complaints about electrical faults or appliances.

2.5 Risk factors unintentional injuries due to falls in children

Source: Risk factors for unintentional injuries due to falls in children aged 0–6 years: a systematic review A Khambalia, P Joshi, M Brussoni, P Raina, B Morrongiello, and C Macarthur. Inj Prev. 2006 Dec; 12(6): 378–381.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2564414/>

Findings indicate a need for more population-based case–control studies on contributing factors for fall injuries in young children on the basis of a determinants of health framework; studies to assess the value of pediatric fall injury rates as a community public health indicator; and evaluative studies on the effectiveness of environmental and policy decisions (eg, safe playgrounds, voluntary ban on walkers, no upper bunk beds for those under six years old) on fall injury rates in young children.

2.6 Child Pedestrian casualties and deprivation

Source: Child Pedestrian casualties and deprivation – James Green, Helen Muir and Mike Maher. Accident analysis and prevention 43 (2011)

<http://www.sciencedirect.com/science/article/pii/S0001457510002952>

Engineering measures that modify the physical and traffic environment therefore are useful where accidents occur, and implement wider social policy measures in the places where the casualties come from.

2.7 Prevention – RoSPA at Royal College of Emergency Medicine

Source: A presentation given by RoSPA CEO Tom Mullarkey at the Royal College of Emergency Medicine on 4 March 2015

<http://slideplayer.com/slide/10869435/>

Falls prevention – over 75s:

- Regular, social exercise including balance classes.
- Practical advice e.g. Decluttering, lighting, slippers, meds, comms.
- Typical reduction 30-40%
- The Return on Investment (RoI) was 1:30

Under 5s Safe At Home (SAH):

- Between 2008 and 2010 we ran SAH with the Dept for Education.
- In Liverpool, we reduced A&E admissions by 51%.
- In the Top 10 areas, we reduced A&E admissions by 29%.
- The Return on Investment (RoI) varied from 1:100 to 1:30

2.8 Home visits to older people

Source: Campbell Systematic Reviews 2014:3 Home Visits for Prevention of Impairment and Death in Older Adults: A Systematic Review by Sean Grant, Amanda Parsons, Jennifer Burton, Paul Montgomery, Kristen Underhill, Evan Mayo Wilson

<http://www.campbellcollaboration.org/library/home-visits-for-prevention-of-impairment-and-death-in-older-adults-a-systematic-review.html>

This study reviewed home visits in older adults and was unable to identify reliable effects of home visits overall or in any subset of the studies in this review. It is possible that some home visiting programmes have beneficial effects for community-dwelling older adults, but poor reporting of how interventions and comparisons were implemented prevents more robust conclusions. While it is difficult to draw firm conclusions given these limitations, estimates of treatment effects are statistically precise, and further small studies of multi-component interventions compared with usual care would be unlikely to change the conclusions of this review. If researchers continue to evaluate these types of interventions, they should begin with a clear theory of change, clearly describe the programme theory of change and implementation, and report all outcomes measured.

Sixty-four studies with 28642 participants were included. There was high quality evidence that home visits did not reduce absolute mortality at longest follow-up. There was moderate quality evidence of no clinically or statistically significant overall effect on the number of people who were institutionalised or hospitalised during the studies. There was high quality evidence of no statistically significant effect on the number of people who fell. There was low quality evidence of statistically significant effects for quality of life and very low quality evidence of statistically significant effects for functioning, but these overall effects may not be clinically significant. However, there was heterogeneity in settings, types of visitor, focus of visits, and control groups. We cannot exclude the possibility that some programmes were associated with meaningful benefits.

2.9 National Children's Bureau research

Source: National Children's Bureau research 2010 – Reducing Injuries in Childhood, a research review by Rebecca Fauth and Anthony Ellis

Effective strategies to prevent unintentional injuries in childhood

- Car seatbelts, child restraints and legislation enforcing the use of these reduced incidents of car injury. The use of bicycle helmets reduced cycling-related injuries; however, the evidence was not definitive on effective strategies to promote their use among young people.
- There is evidence that area-wide traffic calming measures that altered the physical environment, such as road closures, dead ends and speed humps were successful in reducing pedestrian injuries. The effectiveness of speed reduction zones and enforcement devices was mixed – the evidence suggests they were more effective in reducing injuries to car occupants than to pedestrians or cyclists.
- There was limited extant evidence on effective strategies to prevent and reduce the incidence of drowning, poisoning and fall related injuries.
- The presence of functioning smoke alarms in the home was linked to a reduction in injuries caused by fire. Providing them for free or at low cost to poor families is important to ensure their presence. More evidence is required to ascertain the potential impact of UK legislation mandating that all homes are equipped with smoke alarms. There was limited evidence around the impact of equipment and legislation designed to prevent scalds from hot water.
- In terms of educational and information campaigns, the evidence broadly suggested that while mass media campaigns and educational programmes designed to prevent injuries were successful in increasing knowledge about injury prevention, they did not necessarily lead to reductions in child injury rates.
- Similarly, research on educational programmes designed to increase children’s awareness of road safety and their pedestrian skills indicated that these programmes were successful in improving children’s knowledge and awareness; however, there was a lack of evidence to suggest they led to a reduction in injuries. These programmes seemed to have greater impact on younger rather than older children.
- Evaluations of interventions using presentations and videos to children and parents to raise awareness of injuries from outdoor play reported positive results; once again, however, there was little evidence of actual reductions in injuries.
- Studies exploring the effectiveness of home-based safety educational interventions found that participating families were more likely to have a functioning smoke alarm and fire guards and were more likely to store medicines and cleaning products safely. Interventions such as these were found to be more effective when delivered in home or community settings rather than clinical settings. The evidence suggested that the effects of home safety education diminished over time.
- Evidence on the effectiveness of more general parenting interventions (i.e. not focused on unintentional injury prevention *per se*) found that participating families had a significantly lower risk of experiencing an injury than families in the control group who did not receive the intervention. Families in receipt of the intervention were also more likely to have higher quality home environments and fewer hazards present in their homes.

2.10 Reducing unintentional injury in sports

Source: An evidence review from Accidental injury, risk-taking behaviour and the social circumstances in which young people (aged 12-24) live: a systematic review (2007)

http://www.drugs.ie/resourcesfiles/ResearchDocs/Europe/Research/2015/EPPI_Accidental_injury_risk_taking_behaviour.pdf

- The greatest numbers of sports-related injuries occur to young people playing football (27%) and rugby (10%), because these are the most widely played sports. When activity rates are taken into account, rugby is by a long way the most dangerous mass-participation sport. Stick-based sports, such as hockey, also have high injury rates, and eye injuries are more common in racquet sports. One study found that half of all injuries to young people in an accident and emergency department were sports related, and most studies which examined differential injury between sexes found that young men suffered more injuries than young women. The Health Survey for England found that sport/exercise accident rates peaked in young people between the ages of 13 and 15 years old.
- Athletics injuries are reduced if a coach is present, and there is some evidence to suggest that adult/guard supervision can reduce injuries at swimming pools and beaches.
- The use of custom-fitted mouthguards was found to reduce oral injuries in rugby and changes to the rules reduced very serious injuries in rugby and ice hockey. Similarly, the use of protective equipment reduced injuries to players of American Football, the use of belts benefited weightlifters, and eye/face protectors reduced squash injuries. For those with previous ankle sprains, ankle supports and taping were beneficial in reducing future sprains (in soccer and other sports, such as basketball). Specially designed baseball bases, which come away from the ground easily when players slide into them, were effective in lowering injury rates. Despite considerable research, there is little strong evidence to help runners avoid injury. Neither stretching nor warm up/down regimes appear to be associated with reduced rates of injury.
- The environment in which sport takes place can affect injury rates. Smaller rinks are associated with more injuries in ice hockey, and the design of swimming pools can also change injury patterns. Removing monkey bars and increasing the depth of protective bark in public playgrounds can reduce injuries significantly. Reducing potential hazards in school playgrounds has also limited rates of injury.

Source: The Guardian

There have been recent rule changes designed to make the sport less dangerous. For example, junior players in the UK no longer clash shoulders when they engage in a scrum. Competitive lineouts are now introduced gradually. At some ages, in particular forms of rugby – specifically seven-a-side – there is a weight limit for players. Most of the unions have introduced campaigns to more accurately identify concussion and improve its treatment.

2.11 Existing Asset-Based Approaches

- Rescue assets on Loch Awe – if 999 dialled by waters local people with access to a boat are also notified in order to mount a rescue too if appropriate. (From Paddy Tomkins 2009 report).

- Good community and assets examples in Highland with Older People's Safety which is a peer-delivered safety event.
- There are community resilience teams in Mid-Argyll and youth teams who could be assets for some Phase 2 delivery experiments.
- There is a text service for Cramond Island tide times (people frequently get stranded on the island or causeway).

3. PSYCHOLOGICAL UNINTENTIONAL HARM

3.1 The Strengths and Difficulties Questionnaire and Risk of Unintentional Harm

The SDQ¹ may prove useful as a predictor in all aspects of unintentional harm i.e. there is much evidence to suggest that those who score high on the hyperactivity scale are more likely to suffer from accidental injuries and road traffic accidents.

Sources:

- Utility of self-reported mental health measures for preventing unintentional injury: results from a cross-sectional study among French schoolchildren. Constant et al. BMC Pediatrics 2014 **14**:2 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3890598/>
- The role of risk-taking and errors in children's liability to unintentional injury Richard Rowe, Barbara Maughan. Accident Analysis & Prevention Volume 41, Issue 4, July 2009 <http://www.sciencedirect.com/science/article/pii/S0001457509000529>
- Accident Proneness in Children and Adolescents Affected by ADHD and the Impact of Medication; Lange et al Journal of Attention Disorders January 27, 2014 <http://jad.sagepub.com/content/20/6/501.abstract>
- Previous Injuries and Behavior Problems Predict Children's Injuries David L. Jaquess and Jack W. Finney. Journal of pediatric psychology (1994) 19 (1): 79-89. <https://www.ncbi.nlm.nih.gov/pubmed/8151497>

3.2 Go Well annual report 2014-15



GoWell_Annual_Report_201415_web.pdf

GoWell is a research and learning programme that aims to investigate the impact of investment in housing, regeneration and neighbourhood renewal in Glasgow on the health and wellbeing of individuals, families and communities.

¹ The Strengths and Difficulties Questionnaire (SDQ) provides diverse measures of child mental health problems (emotional symptoms, hyperactivity/inattention, conduct problems, peer relationship problems and prosocial behavior).



Neighbourhood design and amenities play an important role in facilitating social contact and breaking down social barriers within communities. Given that perceptions of the local area and social networks and behaviours are linked to people's experiences of loneliness, it is clear that local regeneration activities have a role to play in reducing loneliness in communities.

In the absence of family and friendship networks, public and third sector organisations have an important role to play in providing practical and emotional support for people. Greater prominence given to these issues within local plans and priorities could help to reduce the experiences of loneliness that have been seen within these Glasgow communities and in turn positively impact on health and wellbeing.

- In summary, the following characteristics are most widely agreed on as being part of successful interventions:
 - Older people are active participants rather than passive recipients
 - Older people are involved in the planning and implementation of support
 - Support is flexible and adaptable to the needs of the participants
 - Support consists of group activities, particularly those with a defined goal
 - Support is rooted in the community
 - The intervention has a theoretical basis

There is less supportive evidence around one-to-one interventions and those involving the use of technology; however, the majority of researchers recommend further investigation into these areas rather than dismissing them as potential interventions.

Research indicates that widowhood is one of the biggest predictors of loneliness in older people (Luanaigh and Lawlor, 2008; Golden et al, 2009), so it is likely to be worth assessing loneliness in bereaved older people.

It is particularly important for health professionals to be aware of the strong relationship between loneliness and depression in the case of older patients presenting with the latter (Cacioppo et al, 2006).

The evidence indicates that building community capacity, using existing community resources and making sure that older people are linked in to these can assist in tackling loneliness and isolation of older people (Findlay, 2003; Windle et al, 2011). NB signposting and social prescribing e.g the GP project in two Fife surgeries etc.

Other work has concentrated on what communities, groups and individuals can do to reduce loneliness in their neighbourhoods. The Loneliness Resource Pack (<http://www.jrf.org.uk/publications/loneliness-resource-pack>)

3.3 Loneliness and how local authorities can tackle it, Local Government Association



LGA A guide for local authorities combating

- Loneliness is amenable to a number of effective interventions, which are often low cost, particularly when voluntary effort is harnessed.
- Taking action to address loneliness can reduce the need for health and care services in future.
- Effective action to combat loneliness is best delivered in partnership.
- Action to combat loneliness should take place in the context of a wider strategy to promote older people's wellbeing.

Framework for action

- Include 'addressing loneliness' as an outcome measure of council strategies for ageing – ensuring that it is recognised and acted upon across every area of the authority's work.
- Work at the neighbourhood level, to understand and build on existing community capacity and assets.
- Recognise and respond to individual needs and circumstances by both making sure general services are geared up to meet the needs of those who are lonely, as well as providing specific interventions as required.

First steps

- Engage with other partners – loneliness is a multi-faceted issue and effective responses should be delivered in cross authority partnerships including the voluntary and community sectors.
- Define the local loneliness issue – understand the nature of the problem and who is at risk in your area.
- Agree a plan of action to reduce loneliness, and a way of measuring progress over time.
- Involve older people, including those experiencing or at risk of loneliness, in mapping local assets, determining responses, and co-producing solutions.