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Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people (Protocol)

Coren E, Hossain R, Pardo Pardo J, Thomae M, Veras MMS, Chakraborty K



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Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people (Protocol)
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TABLE OF CONTENTS

| | |
|------------------------------------|----|
| HEADER | 1 |
| ABSTRACT | 1 |
| BACKGROUND | 3 |
| Figure 1. | 5 |
| Figure 2. | 6 |
| OBJECTIVES | 8 |
| METHODS | 8 |
| ACKNOWLEDGEMENTS | 14 |
| REFERENCES | 14 |
| HISTORY | 16 |
| CONTRIBUTIONS OF AUTHORS | 16 |
| DECLARATIONS OF INTEREST | 16 |
| SOURCES OF SUPPORT | 16 |

[Intervention Protocol]

Interventions for promoting reintegration and reducing harmful behaviour and lifestyles in street-connected children and young people

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ABSTRACT

This is the protocol for a review and there is no abstract. The objectives are as follows:

Primary research objectives

To evaluate and summarise the effectiveness of interventions for street-connected children and young people that:

- promote inclusion and reintegration ;
- increase literacy and numeracy;
- increase access to education and employment;
- promote mental health, including self-esteem; and
- reduce harms associated with early sexual activity and substance misuse.

Furthermore, to explore what can be known about the processes of successful intervention and models of change in this area, and understand how intervention effectiveness may vary in different contexts.

Secondary research objectives

1. To explore whether effects of the intervention differ within and between populations, and whether an equity gradient impacts on these effects including and importantly, extrapolating from all findings relevance for low-middle income countries (Peters 2004).
2. To describe other health, educational, psycho-social, and behavioural effects, where appropriate outcomes are available.
3. To explore the influence of context in the design, delivery, and outcomes of the interventions.
4. To explore the relationship between the number of components, duration, and effects of the interventions.

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5. To highlight implications for further research and research methods to improve knowledge of the interventions in relation to the primary research objective.

This review will also consider potential adverse or unintended outcomes. Some outcomes identified in the literature include negative effects of poorly planned or forced interventions (CSC 2011) and detrimental outcomes frequently documented in association with reintegration of children in non-family care into their families of origin (Thoburn 2009). A possible adverse outcome that may, however, not easily be captured in study evaluations is an increase in street-connected children and young people's mistrust of adults in the context of interventions that may be ad-hoc and short-lived due to lack of funding and other structural support. Study designs that do not provide genuine opportunities for children and young people's participation throughout the research process are most likely to fail in assessing the full range of outcomes of an intervention (Panter-Brick 2002; Slesnick 2007).

BACKGROUND

Description of the condition

The number of street-connected children and young people worldwide has been estimated at around 100 million (UNICEF 2002), although this figure is widely contested. It is recognised that exact numbers are unknown and estimates vary, due in part to political motivations (CSC 2011). Numbers differ depending on whether estimated by governments or non-government organisations (NGOs), and the definition and status of the problem has traditionally differed for Europe and other high income countries, although some of the structural antecedents such as inequalities or social exclusion may be similar. For example, a minimum of 66,000 first-time runaways per year is recorded in England (CSC 2009), and Canada's street-connected children and young people may be runaways who have escaped sexual or physical abuse. Data for the US estimate 1 to 2 million 'street involved youth'. The difficulty in estimating numbers is in part due to wide variations in definitions of which young people are included and the lack of formal identity papers, for most street-connected children and young people.

The definition of 'street-connected children and young people' can overlap with other categories such as runaways and homeless youth, children who have been trafficked, child labourers, migrant children, children who live in slums, and children living in institutions (Ennew 2003; UNICEF 2005). Many commentators argue that the issues prevalent in the lives of street-connected children, including the risks, do not differ for other children living in urban or rural poverty, and that approaches to the issue of street-connected children and young people should not be disconnected from approaches to ameliorate poverty and social exclusion more generally (CSC 2011; Panter-Brick 2002). This review however focuses on street-connected children.

Definitions, too, are much debated and contested, particularly in light of the research that highlights young people's agency and resilience (Beazley 2003; Van Blerk 2006). Qualitative studies conceptualise agency as an element of young people's resilience-building capacity, enabling street-connected children and youth, for example, to negotiate for their basic needs, draw on social support networks, and explore pathways to achieve their personal goals in a resourceful manner (Theron 2010). A summary from the overview by the Consortium for Street Children (CSC) states: "street children are recognized to be young people who experience a combination of multiple deprivations and 'street-connectedness'" (CSC 2011). Children and young people may live and work on the street or in public spaces, work on the street and return to family homes or hostels at night, or a combination of these at different time periods. For the most part, they experience complex social and economic circumstances that "defy easy definition" (CSC 2011). Current thinking sees this process as non-linear, with many street-connected children and young people transitioning off the streets (Panter-Brick 2002). This definition opens the door to studies of

young people living in slums/squatter settlements or in hostels, who are also working on the street. In our systematic review, the term 'street-connected children and young people' is used to refer to children who work and/or sleep on the streets and may or may not necessarily be adequately supervised or directed by responsible adults, and includes (but not exclusively), the coexisting categories referred to by the United Nations International Children's Emergency Fund (UNICEF) as those 'on the street' and those 'of the street' - 'children for whom the street is a reference point and has a central role in their lives' (CSC 2011; Redes Rio Crianca 2007; UNICEF 2001a). In the historic UNICEF definition, 'children of the street' are homeless children who live and sleep on the streets in predominantly urban areas, living with other street-connected children and young people or homeless adults. 'Children on the street' earn their living or beg for money on the street and may return home at night, and maintain contact with their families. Such definitions may include children who are stateless or migrating, with or without their families.

Important risks faced by street-connected children and young people are physical, psychological and sexual exploitation, violence, economic exploitation, social exclusion, no skills-based employment, substance misuse, widespread addiction, and HIV (Ennew 2000; West 2003). Many street-connected children and young people experience health difficulties, coercion and control by adult gangs, criminality and lack of education (West 2003). However, street-connected children and young people are not a homogeneous group. Current research demonstrates that girls and young women may experience risks differently to boys and young men (Beazley 2003; Van Blerk 2006). Other groups, such as disabled youth or those from minority ethnic groups, may also have different experiences.

Children live and work on the streets in different ways and for different reasons (UNICEF 2005). Most street-connected children and young people are not orphaned but are in contact with their families and may augment the household income (UNICEF 2005). Current research also emphasises the resilience of street-connected children and young people and the fact of children and young people's agency and citizenship, making their own decisions and with a need for participation, not solely protection (CSC 2011; Panter-Brick 2002).

Description of the intervention

Interventions aiming to improve the situation of street-connected children and young people include educational projects (Ouma 2004), vocational training (Ali 2004), harm-reduction (Poland 2002), HIV prevention (Rotheram-Borus 2003), and projects focused on substance use, social stability, and physical and mental health (Slesnick 2007). They often take the form of single projects, drop-in centres or peer education interventions, and many of these projects will be underpinned by the 'children's rights' discourse, more recently taking a holistic approach to the needs of the young

people (CSC 2011; Ennew 2000). Indeed, it has been argued that some interventions may not succeed if they ignore children's voices and do not include their participation in planning and management (Panter-Brick 2002).

Educational projects offer street-connected children opportunities to break out of the cycle of poverty. Occasionally, these projects help children/youth to sit formal examinations and obtain recognised certificates (Ouma 2004), while vocational training aims to develop skills to lead children/youth into the world of non-exploitative work. Often these programmes aim, through health and nutrition programmes, to increase the 'educatability' of children/youth before or while they are attending schools. They can also take the form of non-formal education, consisting of any form of systematic learning activity outside the framework of the formal system. Such provision may be run alongside formal schooling, or separately.

Several considerations are relevant with reference to the intervention population. So far, we have particularly identified gender, ethnicity, religion, disability, citizenship, legal status, and age of the street-connected children and young people as relevant individual factors that may impact on outcomes of interventions. There are also relevant contextual factors, which include the experience of sexual abuse, violence, addiction, low literacy, migration (including rural-to-urban), poverty, and mechanisms of exclusion (such as negative community responses to the children's migratory/refugee status, and labelling them as 'vagrants', 'illegal vendors', or 'truant').

It is also important to consider the nature of strategies for engaging young people at street level that, according to a wealth of qualitative literature drawing on ethnographic data and practitioner perspectives, form the basis of successful intervention programmes (CSC 2011; Ennew 2000; Karabanow 2004; Panter-Brick 2002). "To determine the 'type' of intervention needed, engagement enables a relationship and trust to be built. Participatory models of engagement ensure that sufficient time and space is given to children to demonstrate to outsiders why they came to the street, and what their background is. Participatory engagement allows children themselves to tell their histories rather than have to directly answer questions about their past" (Walker 2011 [pers comm]).

How the intervention might work

We have developed two preliminary logic models to capture the broad range of different approaches found in interventions for street-connected children and young people (Figure 1 and Figure 2). According to the Kellogg Foundation's Logic Model Development Guide, a logic model is "a systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program [sic], the activities you plan, and the changes or results you hope to achieve" (Kellogg Foundation 2004). A logic model illustrates the connection between the work planned in an intervention and its intended results.

Figure 1. Logic model for harm-reduction and reintegration of street-connected children and young people into education.

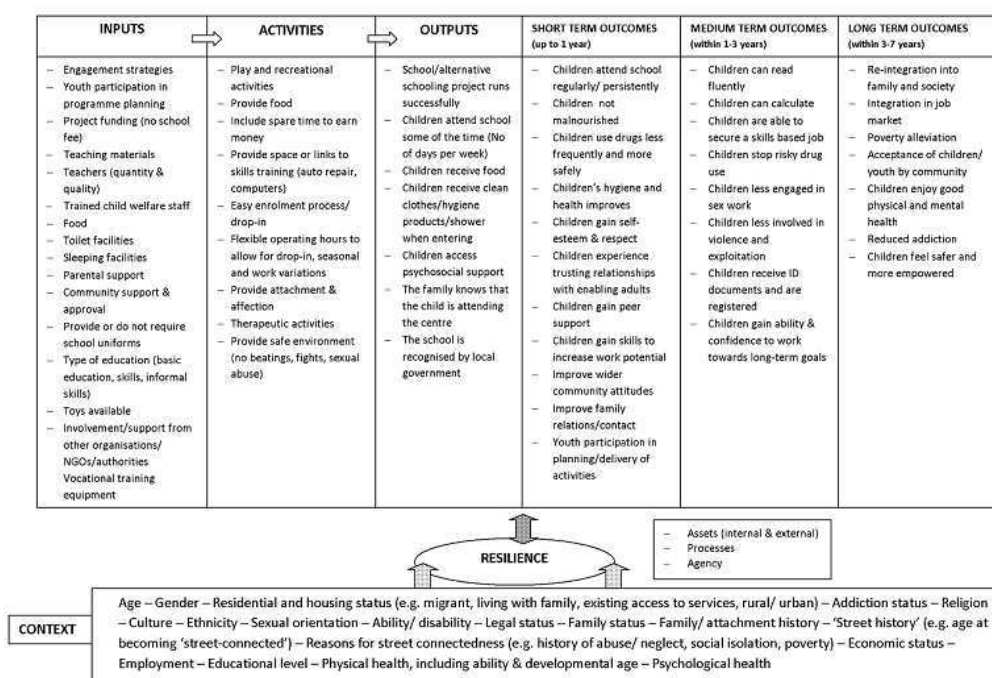
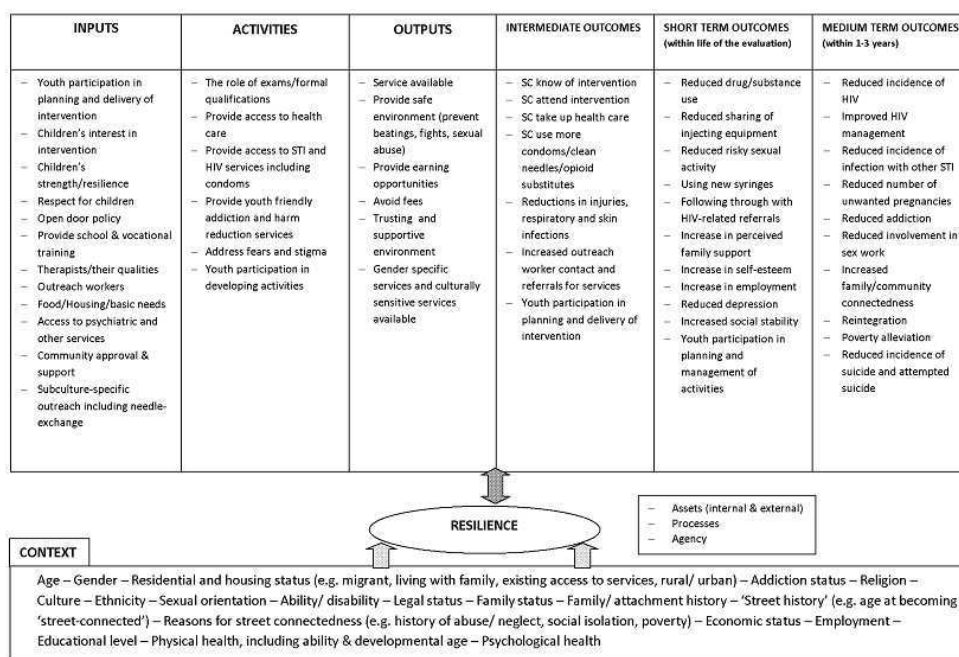


Figure 2. Logic model for harm-reduction and reintegration of street-connected children and young people in terms of reducing health problems and early sexual activity and associated harms.



Anderson 2010 described how logic models could be used at different stages of a systematic review, from conceptualising the review focus, to clarifying the interpretation of results. They argue that logic models offer a particularly useful tool in the analysis of complex interventions that operate at individual, group and social system levels in the fields of education, health, and social welfare. Drawing on this approach, we aim to use logic models in a dynamic way, developing and adapting our chosen models in response to relevant stages of our review (e.g. identifying effect mediators or moderators; subgroup analysis) and different audiences (e.g. policymakers and practitioners). This will aid us in communicating the results from what we anticipate, on the basis of previous studies (Altena 2010; Slesnick 2007), to be very heterogeneous data, in a format that is both methodologically and theoretically informative and increases the accessibility of our findings.

Inputs in the two logic models in Figure 1 and Figure 2 describe the resources which are needed to implement an intervention for street-connected children and young people. The term 'activities' refers to what any intervention might do with these inputs. They are the processes, tools, events, technology, and actions that are an intentional part of the intervention implementation. Out-

puts are the direct products of the intervention activities and may include types, levels, and targets of services to be delivered by the intervention. Outcomes are specific behavioural, knowledge, skills, status and functional changes in the intervention participants. Sources differ in their proposed timeframes for distinguishing short, medium, and long term outcomes. In the two logic models we define short term outcomes as outcomes which occur within the lifetime of the intervention, and medium term outcomes as outcomes which occur within one to three years of the intervention. Long term outcomes can also be defined as 'impact', which is the fundamental intended or unintended change occurring in organisations, communities, or systems as a result of intervention activities within three to seven years (Kellogg Foundation 2004). These may however be difficult to identify or attribute to intervention inputs.

The logic models (Figure 1 and Figure 2) can be read from left to right, and in this way describe intervention impact over time, from planning through to results. According to Kellogg Foundation 2004, it is useful to read logic models following the chain of reasoning ("if...then..."), connecting the different parts of any in-

tervention. The two logic models we present are drawn from a range of qualitative, quantitative and narrative/overview sources (Gleghorn 1997; Kipke 1997; Kristof 2009; Ouma 2004; Slesnick 2007). An (limited) example of reading the logic model in Figure 1 would be:

In order to engage street-connected children and young people in education, an intervention would need teachers and teaching materials, but also food, toilets and possibly sleeping facilities (inputs). If these are available, then the intervention could provide the children with opportunities to play and earn money. The intervention would also need to overcome the need for school uniforms by either providing them free of charge or not making uniforms a requirement (activities). The immediate output of this intervention may be that lessons are taking place (output). The intermediate outcome would be that children/young people attend these lessons. A short term outcome (i.e. within several months to one year) might be that children attend the lessons regularly, are not malnourished and gain self-esteem. Within one to three years these children can read and calculate, and are able to secure employment (medium term outcomes). In an even longer term perspective, this may lead to reintegration and greater inclusion in families and/or society and possibly reduce future poverty (impact).

The lower box highlights contextual factors that affect the impact of an intervention or programme on individual children/young people, via the moderating effects of resilience factors conceptualised as internal and external assets, processes, and agency (Theron 2010). These contextual factors include age, gender, religion, legal status, addiction status, and other factors. They constitute factors present at the start of an intervention that may impact on outcomes or take-up of interventions.

The logic model depicted in Figure 2 is more varied in its focus and includes aspects of health care, HIV prevention, pregnancy prevention, but also access to employment. As in Figure 1, the model needs to incorporate street-connected children and young people's interests, but also their strength and resilience in order to become involved in the intervention. Inputs include the availability of services (outreach workers, mental health services) but also ways of addressing basic needs such as housing and nutrition (inputs). If these inputs are achieved, activities need to include ensuring that the new environment is safe, includes learning opportunities, but also access to health care and condoms (for example). Outputs that need to be achieved are that street-connected children and young people know of and attend the intervention project, take-up health care and use more condoms. Within the life of the intervention, these components should lead to reduced risky drug use, health improvements, and increases in employment opportunities (short term outcomes). Within one to three years the intervention should then result in a reduced number of infections with HIV and other sexually transmitted infections (STIs), but also in a reduced number of pregnancies and generally better health. The intervention's longer terms impact (three to seven years) may be

reintegration into families, communities and society, and reduced poverty. It may however be difficult to measure or demonstrate these longer term impacts.

A final point to be made is that the circumstances of street-connected children and young people as noted above, may be non-linear, and young people may continue to live/work on the streets whilst engaging with interventions, and may take many years to reintegrate fully or become re-included within mainstream society.

Why it is important to do this review

The rationale for this review is to assess the effectiveness of interventions for improving outcomes for street-connected children and young people and reducing the risks of the most adverse outcomes, to promote access to and integration into education, training, and employment opportunities, and more healthy and settled lifestyles. Such lifestyles include access to universal human rights such as survival, development, participation, and inclusion, although these may be difficult to measure.

By addressing the above-mentioned outcomes, we explicitly aim to synthesise the evidence on reintegration approaches, including harm-reduction programmes. We propose to focus on inclusion, reintegration and harm-reduction interventions targeted at children and young people while they are living on or closely connected to the streets.

For the purposes of this review, we define reintegration as the children and young people entering a residential and/or educational environment that has the potential to provide them with elements of physical safety, medical care, nutrition, counselling, education, inclusion in social and economic opportunities, and room for recreation and personal and spiritual growth that may impact positively on longer term life chances. Reintegration does not mean returning the children to the situations from which they may have escaped. Family reintegration is potentially a highly valuable outcome for many street-connected children and young people. However, the effectiveness as well as ethical implementation of interventions aiming at family reintegration, are premised on access to appropriate resources for assessment, support and follow-up, in recognition of the potentially significant risks associated with processes of family reintegration (Thoburn 2009).

'Harm-reduction' is an umbrella term to describe the interventions aimed at reducing harms associated with lifestyles of street-connected children and young people, including for example, those associated with early or risky sexual activity and substance use (UNICEF 2001b). Expressed in general terms, these would be interventions aimed at street-connected children and young people, and aiming to protect and promote both their welfare and their well-being while they are on the street so that they are able to benefit from more focused reintegration approaches when it is appropriate and possible for them to do so. All the long term recommendations we found at the UNICEF evaluation database are structural. However, the short term recommendations by UNICEF are based on principles of child protection that can be described as

matching the harm-reduction approach. This is open to interpretation, but seems in line with the opinion of people working with street-connected children and young people consulted by members of our team: protection may be a necessary stage on the path to reintegration, alongside development and participation.

We will use the World Health Organization (WHO) definition of 'inclusion'.

'The primary aims of policies/action aimed at reversing exclusionary processes should be to:

- promote full and equal inclusion in social systems;
- provide universal access to living standards which are socially acceptable to all members of a society, including access to the same level and quality of health and educational services, safe water, sanitation and 'decent work', as defined by the International Labour Organization (ILO);

- respect and promote cultural diversity;
- address unequal inclusion as well as situations of extreme exclusion' (WHO SEKN 2008).

We believe that the results of a systematic review such as the one proposed here might be relevant to a large number of street-connected children and young people worldwide. The review will examine interventions that enable children to live safe and healthy lives that promote their rights, and support their pathways to adulthood. It will also highlight gaps in the current evidence base. We identified few rigorous reviews on the effectiveness of interventions to support street connected children and young people through a scoping search. Descriptive reviews of interventions which include literature on lower-middle-income and low-income countries Peters 2004 include CSC 2011; Dybicz 2005; Karabanow 2004; and Slesnick 2007. Moore 2005 and Sanabria 2006 present descriptive reviews focusing exclusively on US-based interventions. While these reviews provide useful analyses and classifications of the literature, their search strategies are often poorly described or limited in scope. Furthermore, they do not contain rigorous evaluation of studies.

We identified one review which included interventions for 'homeless youth', described as systematic Alena 2010, where studies were reported to have been systematically rated for study quality using a consistent tool. This review is both recent and inclusive of literature in developing countries (language criteria not specified). It searched the following databases: PsycINFO, ERIC, MEDLINE, Cochrane, Google Scholar, EMBASE and CINAHL, for studies conducted 1985-2008. Out of 557 unique search results, twelve studies were included for final evaluation. In comparison, the current systematic review is considerably broader in scope, both in terms of the number of databases searched and the breadth of our search terms. However, to avoid duplication our systematic review takes into account the existence of a Cochrane review on HIV/AIDS prevention with homeless youth Naranbhai 2011, as discussed below.

OBJECTIVES

Primary research objectives

To evaluate and summarise the effectiveness of interventions for street-connected children and young people that:

- promote inclusion and reintegration ;
- increase literacy and numeracy;
- increase access to education and employment;
- promote mental health, including self-esteem; and
- reduce harms associated with early sexual activity and substance misuse.

Furthermore, to explore what can be known about the processes of successful intervention and models of change in this area, and understand how intervention effectiveness may vary in different contexts.

Secondary research objectives

1. To explore whether effects of the intervention differ within and between populations, and whether an equity gradient impacts on these effects including and importantly, extrapolating from all findings relevance for low-middle income countries (Peters 2004).
2. To describe other health, educational, psycho-social, and behavioural effects, where appropriate outcomes are available.
3. To explore the influence of context in the design, delivery, and outcomes of the interventions.
4. To explore the relationship between the number of components, duration, and effects of the interventions.
5. To highlight implications for further research and research methods to improve knowledge of the interventions in relation to the primary research objective.

This review will also consider potential adverse or unintended outcomes. Some outcomes identified in the literature include negative effects of poorly planned or forced interventions (CSC 2011) and detrimental outcomes frequently documented in association with reintegration of children in non-family care into their families of origin (Thoburn 2009). A possible adverse outcome that may, however, not easily be captured in study evaluations is an increase in street-connected children and young people's mistrust of adults in the context of interventions that may be ad-hoc and short-lived due to lack of funding and other structural support. Study designs that do not provide genuine opportunities for children and young people's participation throughout the research process are most likely to fail in assessing the full range of outcomes of an intervention (Panter-Brick 2002; Slesnick 2007).

METHODS

Criteria for considering studies for this review

Types of studies

Interventions targeting outcomes for street-connected children and young people have used a variety of approaches and designs. We will include randomised controlled trials (RCTs), clinical controlled trials (CCTs), controlled before-and-after trials (CBA), interrupted time-series studies (ITS) and quasi-randomised trials. With quasi-randomised trials we refer to studies which allocate the children and young people to treatment/control conditions depending on methods determined as not truly randomised, for example, on their date of birth or the day of the month they enter the intervention site. Where retrieved studies include other non-randomised designs, such as regression discontinuity designs, the aim will be to include them where it is possible to access appropriate methodological input.

Even though we do not aim to synthesise papers discussing the needs and issues of street-connected children and young people and best practice recommendations, we aim to use such literature in order to identify possible explanatory variables that function as mediating or moderating variables in the relationship between the intervention and the outcome of the intervention.

We will not include qualitative data in our outcomes synthesis. However, we used qualitative intervention evaluations in order to design the logic model and will continue developing the logic model with the help of qualitative data and the identified included studies in the progress of the review. We will also use qualitative data, including sibling or companion studies of included quantitative studies, to illuminate the impact of context and also mechanisms of change and any process factors. We will not conduct separate searches for qualitative literature, other than for companion studies of included studies and those needed to highlight any particular questions arising in relation to context, mechanisms, and process, etc., according to themes outlined in the logic models. The best way to locate these studies will be to retrieve them from the list of references or from studies citing the study. We will include both elements in the search. In addition, we plan to contact authors directly, requesting information on companion studies.

Types of participants

We aim to include all studies focussing on street-connected children and young people between the ages of 0 and 24 years (inclusive), as consistent with the United Nations' (UN) definition of youth as including those aged 15 to 24, regardless of location, reason for street connectedness or gender. Research participants include: street-connected children and young people, their families/carers, professionals working with children, young people and their families, the police, and employers.

Street-connected children and young people, and possibly their families/carers will be the intervention recipients. Families and car-

ers are included as potential intervention recipients, firstly because street-connected children and young people remain members of families and also because some interventions (such as conditional cash transfers) might be targeted at families to promote school attendance, literacy, and reintegration of the children. However, we will exclude any studies that do not report separate outcomes data on street-connected children and young people in the context of systemic interventions.

Families/carers, the community, professionals, and employers may also be involved in the delivery of interventions. Families/carers, the community, employers, and professionals will be an important part of the 'input' component of the intervention to the extent that they are needed to support the intervention and are part of it. Our definition of professionals and community will include NGOs, faith-based organisations, orphanages, social workers, and police.

For the purposes of this review we define street-connected children as in [Description of the intervention](#) above: "Children and young people may live and work on the street or in public spaces, work on the street and return to family homes or hostels at night, or a combination of these at different time periods. For the most part, they experience complex social and economic circumstances that 'defy easy definition' (CSC 2011). Current thinking sees this process as non-linear, with many street-connected children and young people transitioning off the streets, more than once, with this also, a non-linear process".

Types of interventions

We will include any interventions that:

- involve harm-reduction, inclusion or reintegration programmes for street-connected children and young people, intended to reduce harms associated with risky sexual activity and substance misuse;
- increase literacy, numeracy and self-esteem;
- increase participation in education and skills-based employment;
- provide shelter, housing and drop-in support.

We will include any type of intervention including behavioural, social, policy, structural, or other interventions explicitly aimed at reducing risky sexual activity and substance misuse. Interventions may be delivered to individuals, families, small groups or entire communities. Furthermore, recognising the complexity of the issues facing many street-connected young people, there has been a developing focus on multifaceted interventions that incorporate a range of approaches including housing, education, training and health ([De Benitez 2008](#)).

For this review, the included studies require a comparator; either groups who do not receive an intervention, who receive standard practice interventions, or who receive a different type of interven-

tion. Where relevant, we will also examine the relative effects of different intervention components.

Types of outcome measures

Since a recent Cochrane review and a systematic review conducted for the WHO have evaluated AIDS and HIV as target outcomes (Naranbhai 2011; Ross 2006) we will not include AIDS and HIV risks as outcome variables. However, we will assess to what degree the included studies of these reviews overlap with our scope/population and if relevant, we will consider the trends in the results of these reviews when interpreting the results of our review.

Primary outcomes

The primary outcomes will be inclusion and reintegration (reintegration by the above definition does not mean returning children to situations from which they may have escaped).

Secondary outcomes

We will also extract the following analysable data of other related measures of health, well-being and educational/occupational achievement.

1. Safer or reduced sexual activity.
2. Safer or reduced substance use (e.g. reduced sharing of injecting equipment).
3. Increased use of hostel/shelter type services.
4. Literacy.
5. Numeracy.
6. Self-esteem.
7. Depression.
8. Participation in education.
9. Participation in skills-based (rather than exploitative) employment.
10. Reduced use of violence.
11. Increased contact with family.
12. Participation in intervention planning and delivery.

We will include intervention studies if they aim to achieve any one of the listed primary or secondary outcomes, or both. Secondary objectives may be particularly relevant where interventions are administered within an existing service setting. A cursory glance at the evidence we obtained from our preliminary searches seems to indicate that there are not many eligible studies; a requirement of including only studies that aim to achieve all of our stated outcomes would probably result in a very small number of eligible studies, or none.

Process Measures

We will extract measures relating to the process of implementing an intervention and intervention approaches. We will also extract

information consistent with the characteristics listed in the logic model in order to develop an explanatory framework.

We will include a descriptive map of all studies considered for eligibility for inclusion in the review, in order to present as fully as possible a description of the existing evidence base in this topic. We will include this as adjunctive to the main review in the interests of completeness of data, rather than being used as a tool for narrowing the review focus.

Search methods for identification of studies

We have worked with information specialists from Campbell's International Development Co-ordinating Group and the Cochrane Musculoskeletal Group to develop a search strategy.

We will use the following search strategy in MEDLINE:

Database: Ovid MEDLINE(R) In-Process and Other Non-Indexed Citations and Ovid MEDLINE(R) <1948 to Present>
Search Strategy:

--
1 "Homeless Youth"/ or (homeless\$ adj2 (child\$ or youth\$ or young or teen\$ or adolescen\$)).tw
2 "Runaway Behavior"/
3 runaway\$.tw.
4 (street adj4 kids).tw.
5 (street adj4 youth).tw.
6 Child, Abandoned/
7 abandoned child\$.tw.
8 Child, Orphaned/
9 (orphan\$ adj3 child\$).tw.
10 Child, Unwanted/
11 (unwanted adj4 child\$).tw.
12 (street adj4 child\$).tw.
13 Crianças de rua.tw.
14 Meninos de rua.tw.
15 (street adj3 urchins).tw.
16 (Pavement adj3 dweller\$).tw.
17 (railway adj2 children).tw.
18 (unaccompanied adj4 (refugee\$ or migrant\$)).tw.
19 (unaccompanied adj4 minor\$).tw.
20 Tikyan.tw.
21 (niños adj3 calle).tw
22 (ninos adj3 calle).tw
23 (enfants adj3 rue).tw
24 (jeunes adj3 rues).tw
25 or/1-24
26 children.tw.
27 Adolescent/
28 teenager.tw.
29 baby.tw.
30 adolescent.tw.
31 adolescents.tw.

32 adolescence.tw.
 33 teen\$.tw.
 34 babies.mp.
 35 toddler.mp.
 36 toddlers.mp.
 37 youngster.mp.
 38 youngsters.mp.
 39 young people.mp.
 40 offspring.mp.
 41 offsprings.mp.
 42 youth.tw.
 43 youths.tw.
 44 juvenile.mp.
 45 juveniles.mp.
 46 newborn.tw.
 47 newborns.tw.
 48 Infant, Newborn/
 48 Infant/
 50 infant.tw.
 51 infants.tw.
 52 infantile.mp.
 53 Child/
 54 child.tw.
 55 neonate.tw.
 56 neonates.tw.
 57 pediatrics.mp.
 58 pediatric.mp.
 59 kid.tw.
 60 kids.mp.
 61 Pediatrics/
 62 or/26-61
 63 exp Vulnerable Populations/
 64 human trafficking.mp.
 65 Squatters.tw.
 66 Prostitution/
 67 Homeless Persons/
 68 beggar\$.tw.
 69 (human adj4 traffick\$).tw.
 70 (sex adj4 trade).tw.
 71 (sex adj4 work\$).tw.
 72 or/63-71
 73 (62 and 72)
 74 73 or 25
 75 exp animals/ not humans.sh.
 76 74 not 75

Electronic searches

We will search the following bibliographic databases for eligible empirical studies published between the databases' inception and the search date:

Cochrane Central Register of Controlled Trials (CENTRAL) (database inception to search date)
 MEDLINE and PreMEDLINE (1948 to search date)
 EMBASE and EMBASE Classic (1947 to search date)
 CINAHL (1966 to search date)
 PsycINFO (1806 to search date)
 ERIC (1950 to search date)
 Sociological Abstracts (1952 to search date)
 Social Services Abstracts (1979 to search date)
 Social Work Abstracts (1977 to search date)
 Healthstar (1966 to search date)
 LILACS (database inception to search date)
 System for Grey literature in Europe (OpenGrey) (database inception to search date)
 ProQuest Dissertations and Theses (database inception to search date)
 EconLit (1969 to search date)
 IDEAS Economics and Finance Research (database inception to search date)
 JOLIS Library Catalog of the holdings of the World Bank Group and IMF Libraries (database inception to search date)
 BLDS British Library for Development Studies (1987 to search date)
 Google, Google Scholar - we will record search terms used, the search date, and we will the first 50 results per search.
 We will screen items suggested by experts and authors of included studies, including companion studies.
 We will not limit the search by outcomes, however we will apply the inclusion criteria at the screening phase. We will not limit the searches by language.

Searching other resources

We will screen items suggested by experts, advisory group members, and authors of included studies, including companion studies. We will also check reference lists of included studies from the electronic database search. We will use search terms from the electronic search which describe our population, and adapt them as appropriate to search the Internet-based resources. We will use relevant studies to perform a citing studies search using SCOPUS or Web of Science and PubMed's related article function to track references to the included articles, relevant reviews and annotated bibliographies.

We will contact experts in the field, including the top five authors identified via the electronic search.

We will conduct a targeted Internet search on the following relevant sites:

§ www.pep-net.org/
 § [http://www.ccemg.webapp3.uea.ac.uk/resources/C1%20Singapore`2009/Introduction%20to%20search%20methods/Specialist`health`economics`literature`databases.pdf](http://www.ccemg.webapp3.uea.ac.uk/resources/C1%20Singapore%2009/Introduction%20to%20search%20methods/Specialist%20health%20economics%20literature%20databases.pdf)

§ J-PAL website
§ UNICEF database of evaluations
§ Eldis <http://www.eldis.org/>
§ Department for International Development <http://www.dfid.gov.uk/>
§ Inter-American Development Bank <http://www.iadb.org>
§ Asian Development Bank <http://www.adb.org>
§ African Development Bank <http://www.afdb.org>
We will not limit the search by outcomes; we will apply the inclusion criteria at the screening phase. We will not limit the searches by language. We will search the tables of contents of books on street children for relevant chapters. Examples of books that we will include in the search are [Ennew 2000](#) and [HRW 1996](#). We will also search for published or unpublished studies by identifying contacts and literature via ‘snowballing’ techniques (following one link that leads to another) and bibliographic back-referencing of studies identified for review. We will make email contact with individuals and organisations working in this field. We will handsearch the last 12 months of the five journal titles appearing most frequently in the list of selected papers, and will search the websites of organisations actively involved in interventions for street children (such as Save the Children, UNICEF, Consortium for Street Children (CSC) and INSSW (International Network of Social Street Workers)).

Data collection and analysis

Selection of studies

The initial search strategy is expected to produce a listing of several thousand citations. At least two authors will undertake an initial screening of titles and abstracts to remove those which are obviously outside the scope of the review; they will be over-inclusive at this stage. We will obtain and scrutinise full manuscripts of short-listed studies to establish eligibility based on design, participants, intervention, and outcomes reported by two independent reviewers. For the English language literature, EC and RH working with a local team will establish study eligibility. In case of ambiguity not resolved with the third reviewer (JPP), we will contact the authors of the original manuscript for further information. For Spanish and Portuguese language literature, JPP and MV will establish study eligibility, with EC acting as a third reviewer who will be involved in ambiguous cases. For literature in other languages, we will determine eligibility by English language abstracts, and where necessary, by translation into English or Spanish/Portuguese. We will maintain records of eligibility adjudication, exclusion and inclusion per normal Cochrane guidelines ([Higgins 2011](#)).

Data extraction and management

We will include all studies considered eligible in the review. Two independent reviewers (EC and RH) will extract the data from eligible studies on standardised data collection forms and will enter these data in Review Manager 5 using double-data entry ([RevMan 2011](#)). We will tailor the data extraction to the requirements of this review, using the PROGRESS II checklist as developed by the Cochrane-Campbell Equity Methods Group ([Kavanagh 2008](#)), and working to the logic model. We will assemble and compare multiple reports and publications of the same study for completeness and possible contradictions, and extract data from companion studies that report findings on the process evaluation of the intervention. Three review authors will pilot the data extraction form to assess its ability to capture study data and inform assessment of study quality. We will resolve any problems identified through discussion and will revise the form, as required.

Assessment of risk of bias in included studies

Two review authors (English literature: EC, RH; Spanish/Portuguese literature: JPP, MV) will assess the risk of bias. For analysis of non-RCTs, we will follow the recommendations in Chapter 15 of the *Cochrane Handbook for Systematic Reviews of Interventions* ([Higgins 2011](#)). In case of disagreement between reviewers’ risk of bias assessment, a third review author will appraise the study independently and the three review authors will resolve any discrepancies. This third reviewer for the English language literature will be JPP, and for the Spanish/Portuguese literature will be EC. We will assess the risk of selection, performance, attrition, and detection bias. We will evaluate and rate as ‘adequate’, ‘inadequate’ and ‘unclear’, sequence generation, allocation concealment, blinding of participants, personnel and outcomes, incomplete outcome data, selective outcome reporting, and other sources of bias. In the case of disagreements, we will consult a third reviewer to resolve the issue.

Measures of treatment effect

Measures of Intervention Effect

We will express the effect sizes for dichotomous outcomes as a risk ratio (RR) in the first instance. We will use the weighted mean difference (WMD) between the postintervention values of the intervention and control groups to analyse the size of the intervention effects for continuous outcomes. In addition, for outcomes measured on different scales, we will use the standardised mean difference (SMD).

Where possible, we will report continuous outcomes on the original scale. We will standardise outcomes measured on different scales as required for the analysis. We will only conduct a meta-analysis if the data are sufficiently similar. If data are available, sufficiently similar and of sufficient quality we will perform statistical analyses using Review Manager 5 software ([RevMan 2011](#)).

We will not combine evidence from differing study designs and outcome types in the same forest plot.

Unit of analysis issues

In order to avoid double-counting where a study presents results for several periods of follow-up, we will undertake separate meta-analyses for the various time points: immediate post-test, six month follow-ups and 12 month follow-ups. Where a study presents data from a different time point to the other studies, we will present these data separately.

Where multiple treatment/control group types are presented in study reports, we will seek to present the data from each study as consistently as possible with the primary comparison of treatment compared with the control group. We will present and separately analyse data from studies comparing different types of treatment/control groups.

If cluster designs arise, we hope that study investigators present their results in the units in which participants were analysed. Where it is unclear whether this has taken place, we will contact the study authors for further information. If we are unable to obtain further information, we will seek statistical guidance from the review group as to which method to apply to the published results in order to manage data errors arising from clustering, for example by identifying an intra-class correlation coefficient to utilise in adjusting the data.

Dealing with missing data

Due to the fluctuating nature of attendance at likely programmes, we will not exclude according to degree of incomplete data for assessment, but will incorporate this both narratively and in the risk of bias assessment. At data extraction stage, if missing data are unclear or have not been fully reported, we will contact the authors. In general, we will report the occurrence of missing data both in the data extraction form and in the risk of bias table, while the data extraction form will also capture where missing data have been retrieved.

Assessment of heterogeneity

We will assess homogeneity using the Chi^2 tests, with a $P < 0.01$, and use the I^2 statistic to assess statistical heterogeneity. We may conduct subgroup analyses as a means of investigating heterogeneous results.

The review implies considerable heterogeneity as we will include studies from diverse settings and contexts, in particular from countries with very differing levels of income and development, and different cultural and religious environments. As noted elsewhere, we will consider all aspects of heterogeneity; we intend to make full use of the logic model to assist us in teasing out different elements of treatment effect, and will be seeking advice from experts in relation to confounding factors. Whilst that is primarily for quality

appraisal of nonrandomised studies, it will be of importance in considering heterogeneity as well.

At this stage, we do not envisage the possibility of conducting a meta-analysis, and so it is unlikely that assessments of statistical heterogeneity will have any bearing on synthesised point estimates, but rather on the spread and direction of effect of any numerical data, which we will be analysing discursively. If we do perform a meta-analysis, it is likely that due to the anticipated heterogeneity, we will use a random-effects model.

Assessment of reporting biases

If a sufficient number of studies are found we will investigate reporting biases using a funnel plot. We will also address narratively any imbalance within the included studies in both the conduct of evaluations and publication of reports between high income and low and middle income countries.

Our study selection includes RCTs, as well as controlled before-and-after (CBA) studies and other nonrandomised designs that include a control or comparison group. To assess risk of bias, we will therefore use the risk of bias tool developed by the Cochrane Effective Practice and Organisation of Care (EPOC) Group (EPOC 2009), which lends itself to a range of studies with a separate control group (with the exception of interrupted time series (ITS) studies). This tool includes the standard Cochrane risk of bias tool items, as well as an additional item to consider the likelihood of contamination. Importantly for nonrandomised studies, it also includes additional items to assess the risk of selection bias and subsequent confounding ('were baseline outcome measurements similar?' and 'were baseline characteristics similar?'). We will supplement this with another additional item, 'did the study authors appropriately adjust for important confounders in their analysis?'. The review team, advisory group and other experts will approve an agreed list of confounders.

Data synthesis

Where possible, we will report continuous outcomes on the original scale. We will standardise outcomes measured on different scales, as required for the analysis. We will report binary outcomes as risk ratios in the first instance.

If data are available, sufficiently similar, and of sufficient quality we will perform statistical analyses using Review Manager 5 software (RevMan 2011), using a random-effects model. We will not combine evidence from differing study designs and outcome types in the same forest plot.

We will analyse the synthesis of data from studies not included in statistical analyses according to features of the logic model, extracted through the data extraction process. We will group data according to the aims and outcomes of the interventions, as well as according to contexts, particularly regarding income status and cultural environment of the different countries included in the

review. We will further consider groupings around age, gender, ethnicity, and where possible, the reasons for children and young people being street-connected (e.g. migration status, economic activity, history of abuse).

Subgroup analysis and investigation of heterogeneity

If sufficient studies are included to make this meaningful, we will explore heterogeneity by analyses per subgroup for populations that are significantly dissimilar. These analyses may include analyses by age, gender, location of studies, high, low and middle income countries and intervention approaches. We will identify a comprehensive range of subgroups relevant to low and middle income countries, and incorporate effects of subgroup characteristics into our logic models.

Sensitivity analysis

As the studies are likely to vary methodologically, for example, in terms of allocation concealment, we will conduct a sensitivity analysis to discover the influence of these variations on the summary measures, in particular the overall quality assessment and risk of bias assessed in each study.

We will also test the robustness of findings using sensitivity analysis to consider any differences in findings arising between studies conducted in high income countries and in low and middle income countries. We will assess differences between studies according to national income levels for all data types included in the review, and regardless of the ability to conduct a statistical meta-analysis.

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* *Indicates the major publication for the study*

HISTORY

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CONTRIBUTIONS OF AUTHORS

Esther Coren (EC), Rosa Hossain (RH), and Manuela Thomae (MT) drafted the protocol with input from other authors and from the advisory group. Jordi Pardo Pardo (JPP) developed the search strategy with input as above and consulted on the development of the logic model. Mirella MS Veras (MV) contributed to refining the search and Portuguese language terms, and will be closely involved in detailed screening of Spanish and Portuguese language texts retrieved in the search. Kabita Chakraborty (KC) contacted organisations and NGOs in the field for unpublished data, and made a contribution to screening.

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