



Champions for Health

Supporting children's development during hospital admissions

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UNIVERSITY OF
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wellcome trust

A Collaborative Effort

Baseline Audit Research Team

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Department:
Health
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Young Children & Hospitalisation

- In HIV epidemic contexts, HIV-infected and HIV-uninfected children **face many risks** and receive **very few support services**.
(Richter et al., 2008)
- Health services in particular are **overburdened** and often **insensitive to children's needs**.
(Rochat & Mitchell, 2011; Richter et al., 2011)
- For young children periods of illness and **hospitalization can be devastating**, they have to cope with the effects of an illness itself, the additional **stress of separations** from their family and primary caregivers, in unfamiliar and often in **unfriendly hospital environment**.
(Rochat & Mitchell 2008, Richter et al., 2009, 2011)
- Children need support during hospitalization to **reduce the developmental impact** of illnesses and to **improve health promotion** over time. Hospitalizations offer unique opportunities to educate and support their caregivers.
(Richter 2009)

Which Children Do We Target?

- HIV **infected** children particularly face a lifetime of multiple admissions, painful medical procedures and complex treatment regimes
(Rochat, Mitchell & Richter, 2008)
- Some research in South Africa has shown that HIV **uninfected** children living in families with adults who have HIV have greater vulnerabilities to infectious diseases such as TB than children living in unaffected families *(Cluver et al. 2013)*
- All children in **rural settings** are also vulnerable to **longer periods of hospitalization** even for HIV unrelated admissions due to a lack of access to health services and transport
(Rochat et al. 2010)
- Targeting all children rather than HIV infected children increases our **impact, relevance** and adds to the **sustainability** of our work
(Richter, 2007)

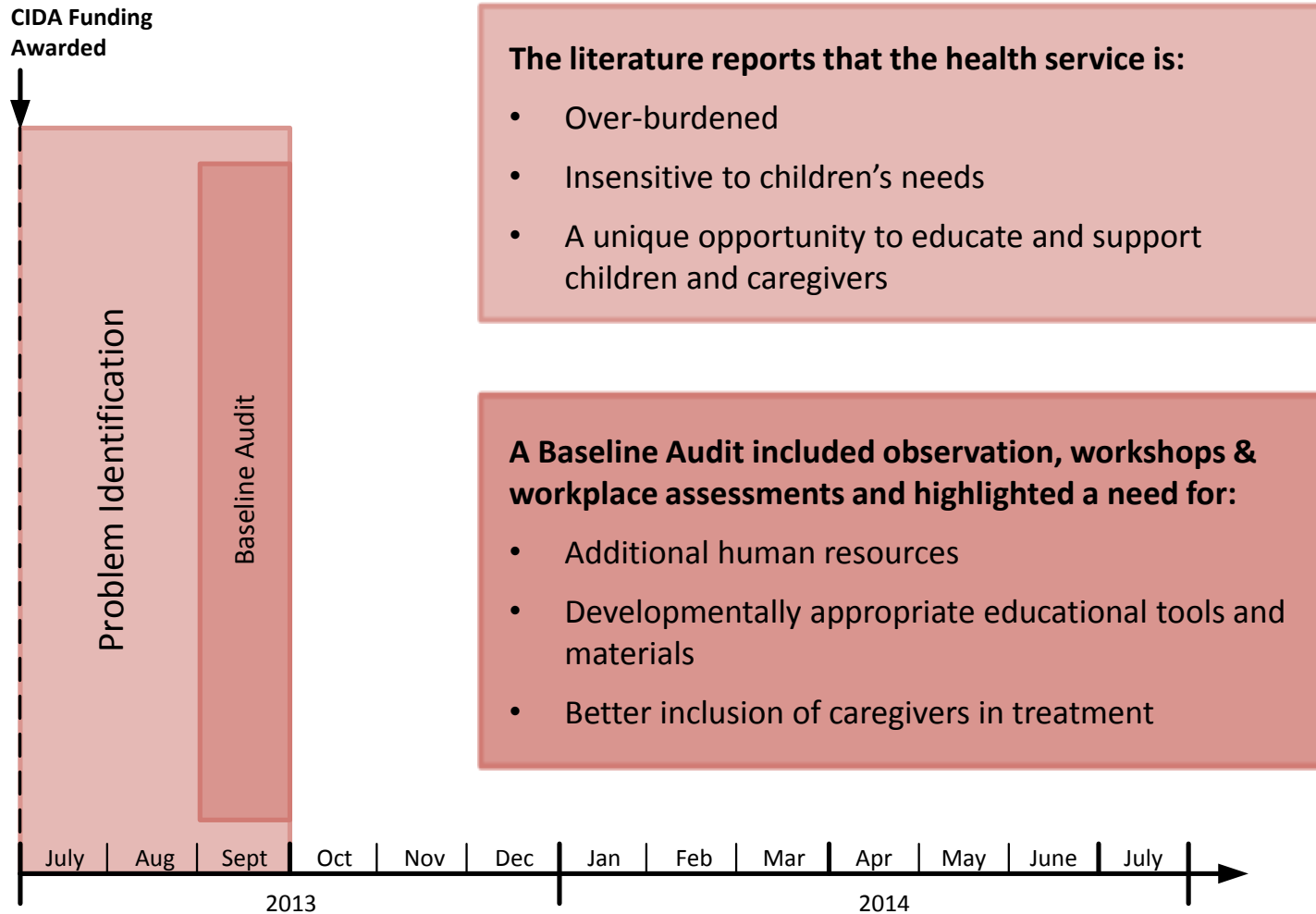
Intervention Principles

- Innovation is required to develop **integrated, low cost, lay counselor led support interventions** to support children's development during hospitalization.
- Amagugu intervention principles, as an approach, **target caregivers** most directly and provide **educational support and activities** for children.
- The intervention focuses on **strengthening caregivers capacity** to support children during hospitalizations and provides **alternative support (play leaders)** for children admitted without a caregiver
- We focus on information innovation and explore printed and digital mediums to make health education **attractive and accessible**, strong focus on implementation partnerships and social innovation.

The Research Context

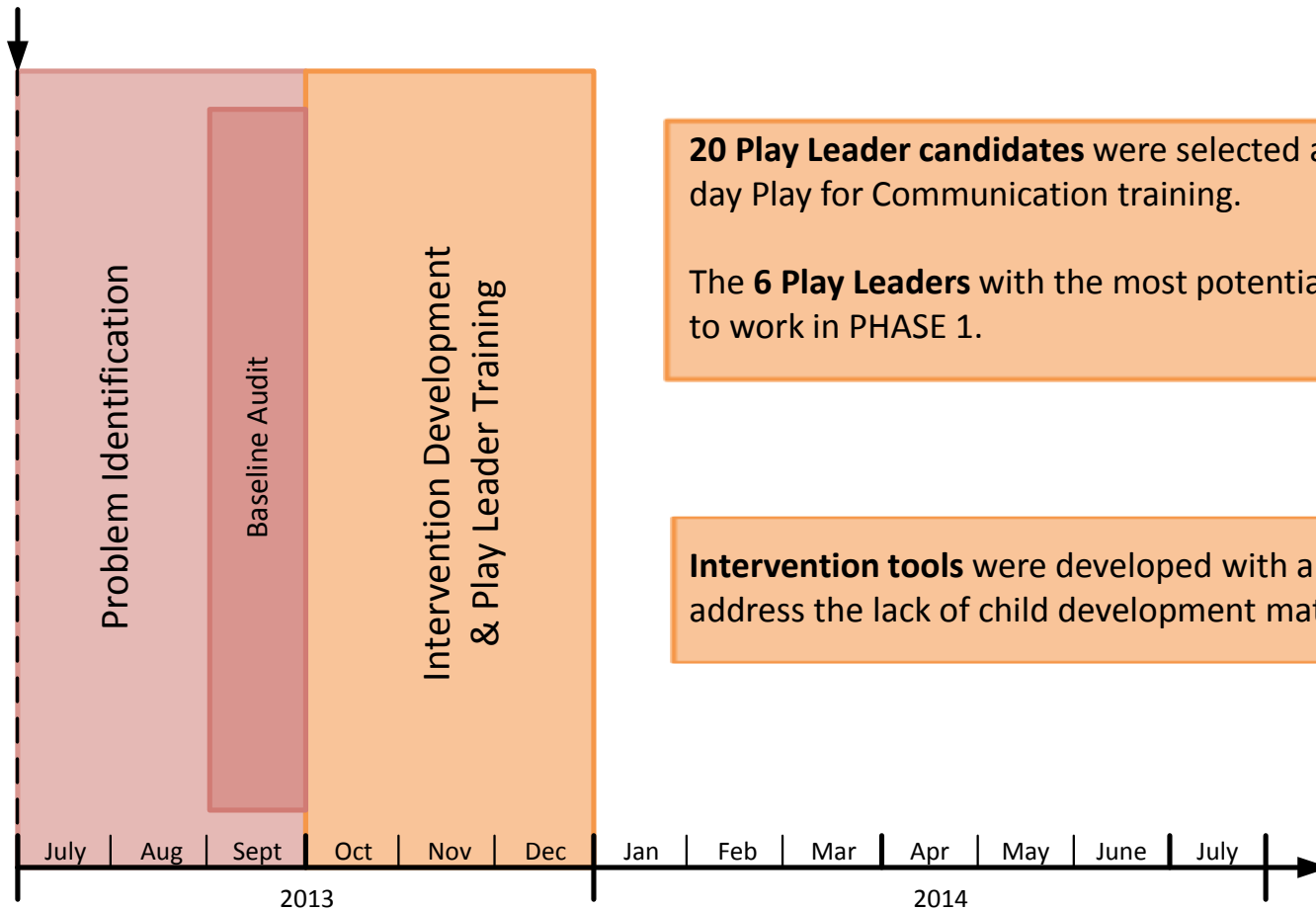
- Hlabisa sub-district is an **HIV endemic region** in rural KwaZulu-Natal, South Africa.
- HIV prevalence among antenatal attendees for the year 2013 was 41.7% (1595/3826) and vertical transmission rates varying between 2.9% and 4.5%
- Hlabisa hospital is the **district level hospital** with 52 in-patient paediatric beds.
- In the year 2013 there were a total of **1430** children admitted to the ward; this included 1085 (517 girl and 568 boy) children aged under 5 years and 345 children over 5 years; **no parents of children older than 2 years are resident with their children during hospital stays.**
- Children with HIV, TB and malnutrition often have extended hospital stays, with no family contact and are in greater need of this support

Problem Identification



Intervention Development & Play Leader Training

CIDA Funding
Awarded



20 Play Leader candidates were selected and sent on a 3 day Play for Communication training.

The **6 Play Leaders** with the most potential were chosen to work in PHASE 1.

Intervention tools were developed with an aim to directly address the lack of child development materials

The Intervention Tools

Creating a child friendly and safe infrastructure



The Intervention Tools

Orientation Poster and Story Book

WHY DO I NEED TO BE IN HOSPITAL? KUNGANI KUDINGEKA NGIBE SESIBHEDLELA?

<p>1 The health team can get treatment into my body quickly Ithimba lasekhozi lingafaka ukuthi imandleni yami ngqibanele</p> <p>There are different ways to get treatment in Kunezindlela ezahlukene zokufaka ukuthi imandleni yami ngqibanele</p> <p>A mask gets oxygen into our lungs quickly so we can breathe better Izimbongo zikho zivisa amagashiwele eku ngqibanele kwezemithambo ngqibanele</p> <p>A drip (IV) gets fluid into our blood stream quickly so we feel stronger I-drip yikho ekhetha amafinyan yethu ngqibanele kwezemithambo ngqibanele</p> <p>An injection gets medicine into our bodies quickly to help us fight infections Ungqonzo ubika ukuthi imandleni yethu ngqibanele kwezemithambo ngqibanele</p>	<p>2 The health team can find out what is wrong with me Ithimba lasekhozi lingathola ukuthi yini engqibanele kama</p> <p>There are different ways to see inside the body Kunezindlela ezahlukene zokubona ngqibanele kama</p> <p>A stethoscope shows us whether we have a chest infection Izimbongo zivakambona ukuthi imandleni yami ngqibanele</p> <p>An X-ray shows us what might be causing pain Izimbongo zivakambona ukuthi imandleni yami ngqibanele kama</p> <p>A blood test shows us whether we need medicines or fluid Ukuhlolwa kwama-isi banyakambona ukuthi imandleni yami ngqibanele kama</p>	<p>3 The health team can mend my body Ithimba lasekhozi lingabamba umzimba wami</p> <p>There are different ways to mend a body Kunezindlela ezahlukene zokubamba umzimba</p> <p>A plaster cast helps mend a broken bone I-ambon yenza ukubamba umzimba ngqibanele</p> <p>Traction helps bones grow back straight Izinto zokubamba zivisa umzimba wami ngqibanele</p> <p>Ointment and bandages help burnt skin to heal Izinto zokubamba zivisa umzimba wami ngqibanele kama</p>	<p>4 The health team will help me rest and heal Ithimba lasekhozi lingabamba umzimba wami ngqibanele kama</p> <p>There are different ways the health team will help Kunezindlela ezahlukene zokubamba umzimba wami ngqibanele kama</p> <p>The nurse will help with my medication and dressings U-ambon yenza ukubamba umzimba wami ngqibanele kama</p> <p>The physiotherapist will help to strengthen my muscles U-physiotherapist yenza ukubamba umzimba wami ngqibanele kama</p> <p>The dietician will help me learn to eat well U-physiotherapist yenza ukubamba umzimba wami ngqibanele kama</p>
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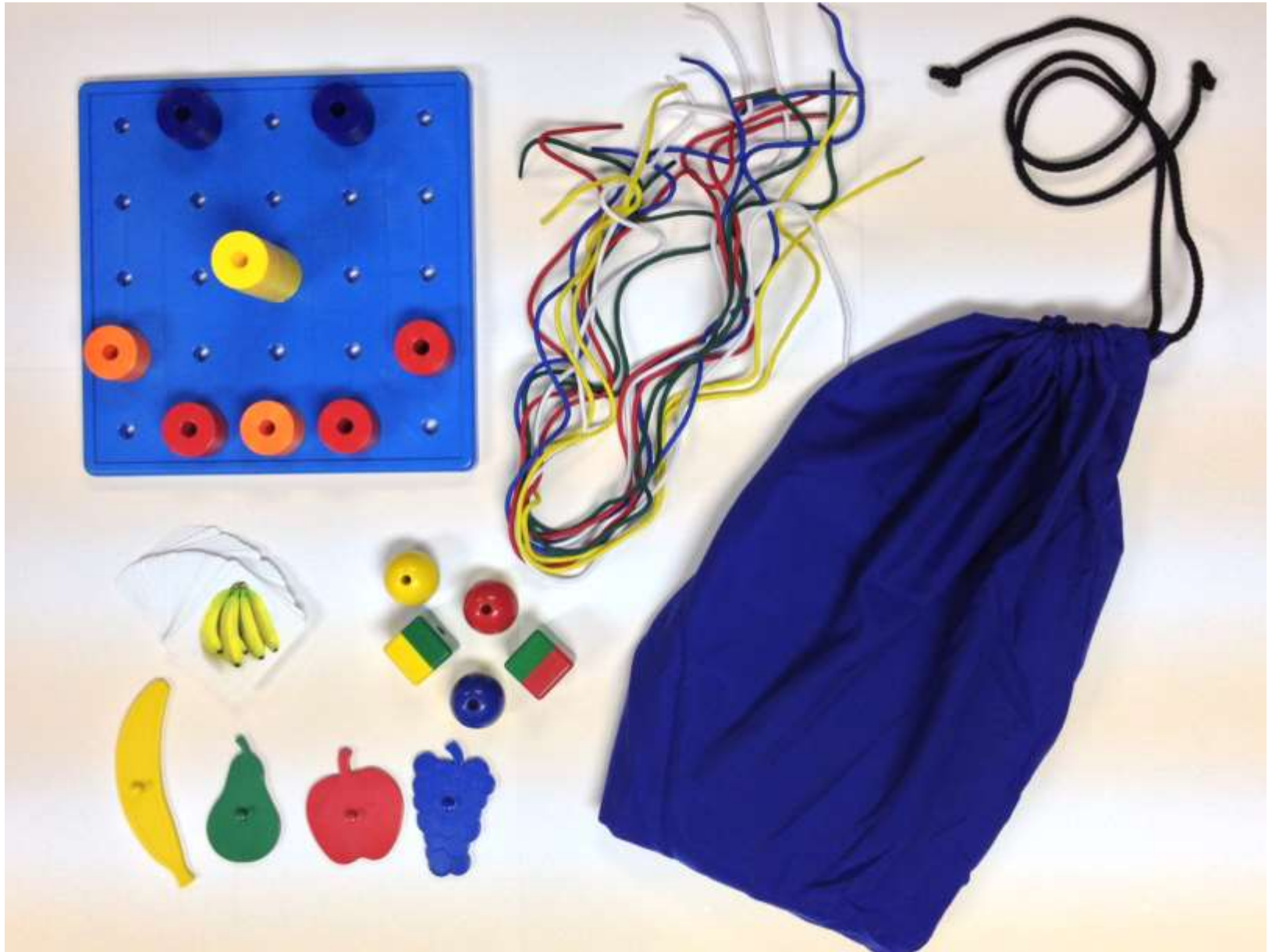
MY HOSPITAL VISIT

UKUVAKASHELA KWAMI ESIBHEDLELA

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The Intervention Tools

Educational Poster and Play Activities



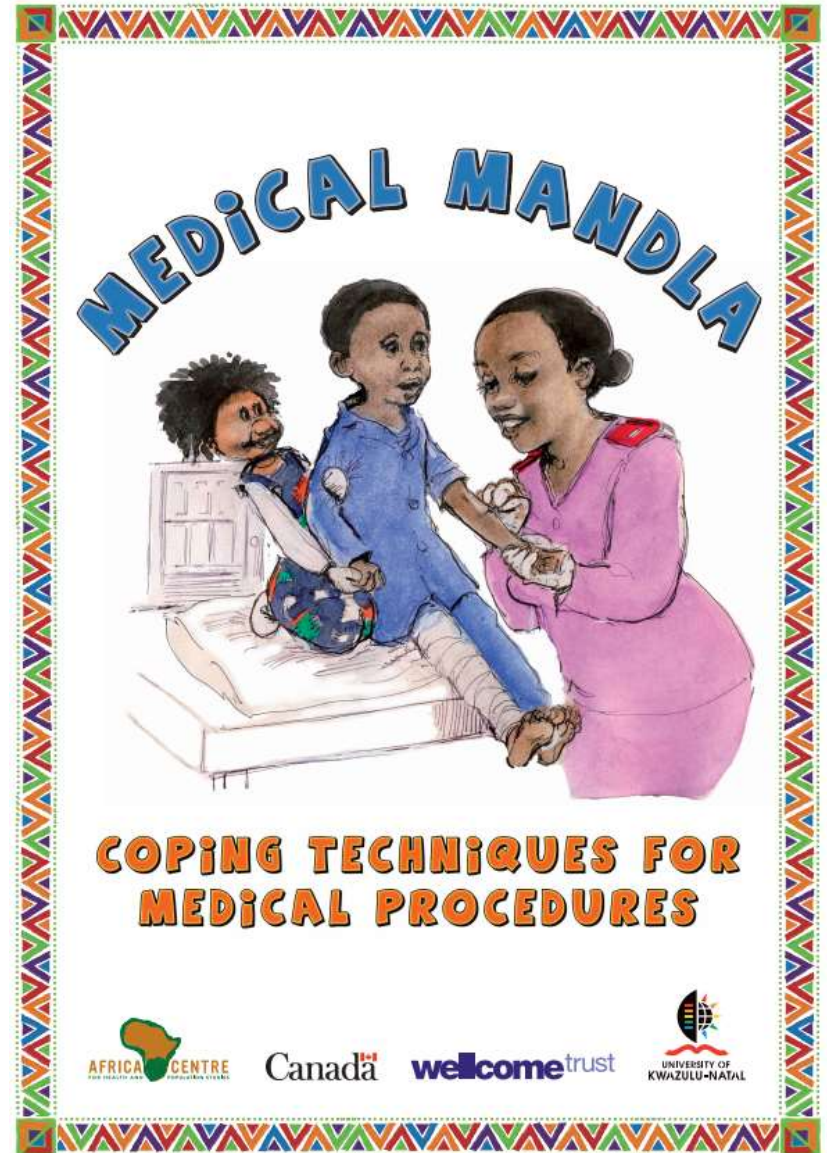
The Intervention Tools

Tablet-Based Health Promotion Game



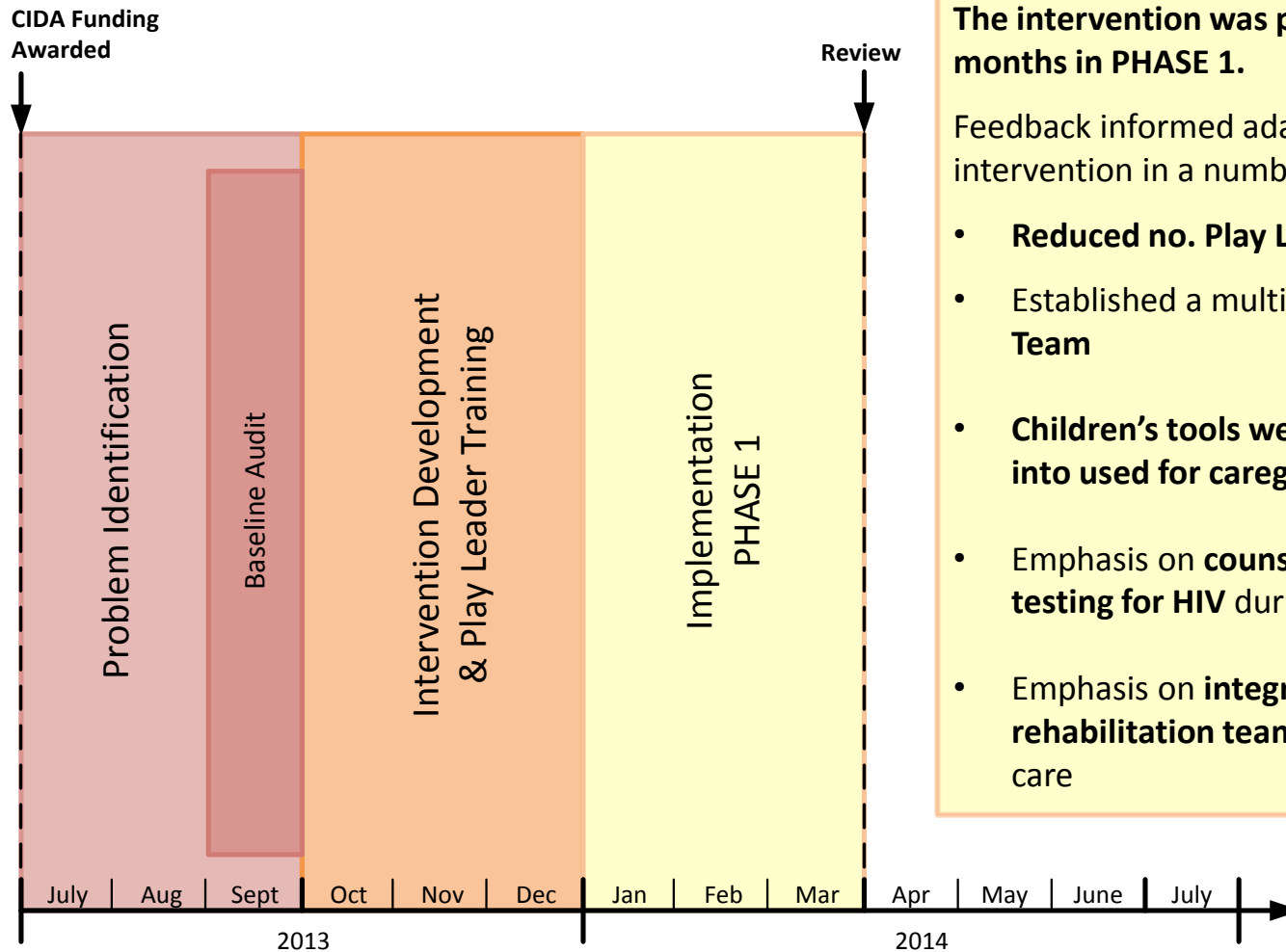
The Intervention Tools

Medical Mandla & Group Sessions



Implementation

PHASE 1



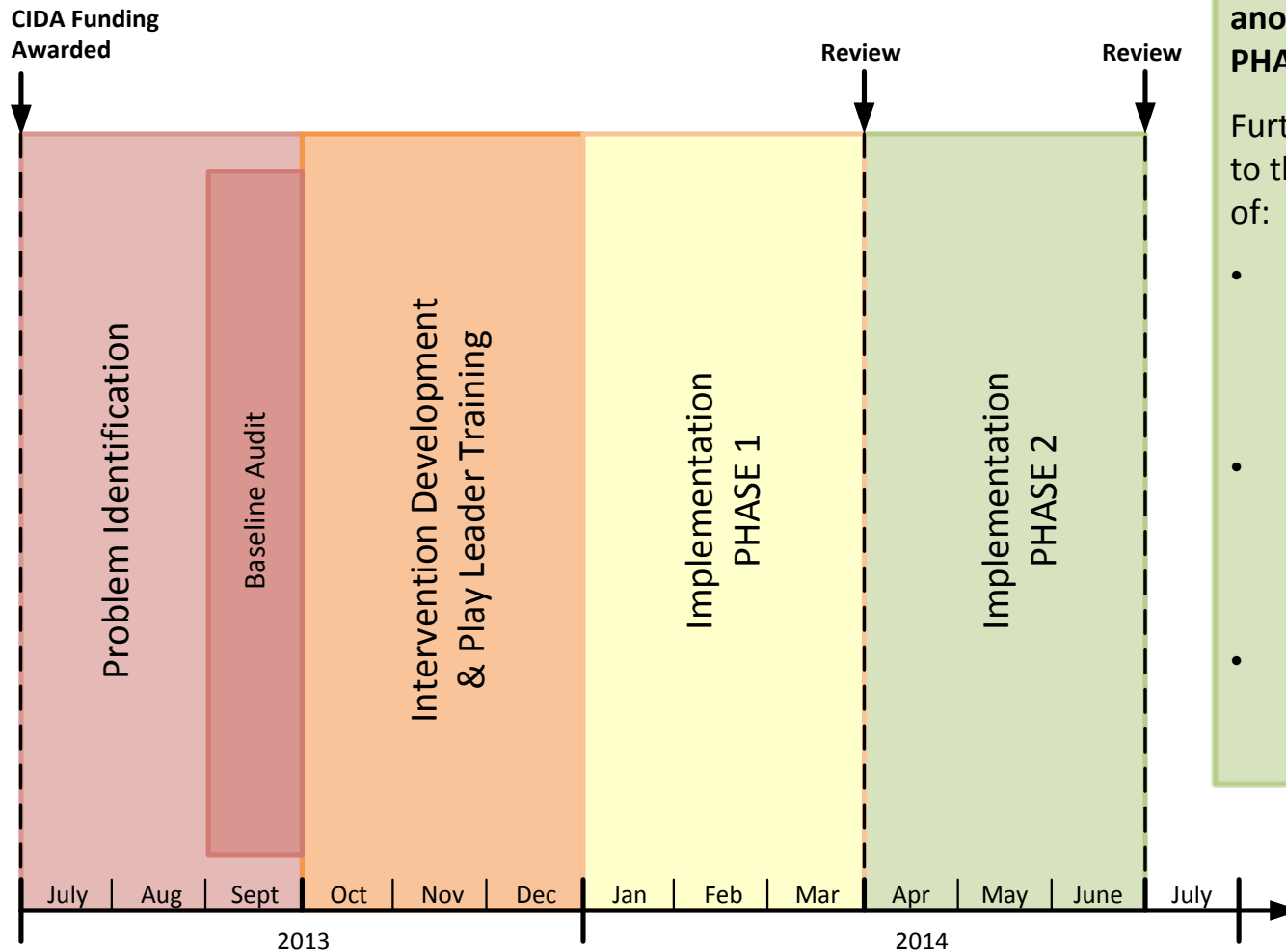
The intervention was piloted for the 3 months in PHASE 1.

Feedback informed adaptation of the intervention in a number of ways:

- **Reduced no. Play Leaders**
- Established a multidisciplinary **Task Team**
- **Children's tools were integrated into used for caregiver's education**
- Emphasis on **counselling and testing for HIV** during admission
- Emphasis on **integrating rehabilitation team** into children's care

Implementation

PHASE 2

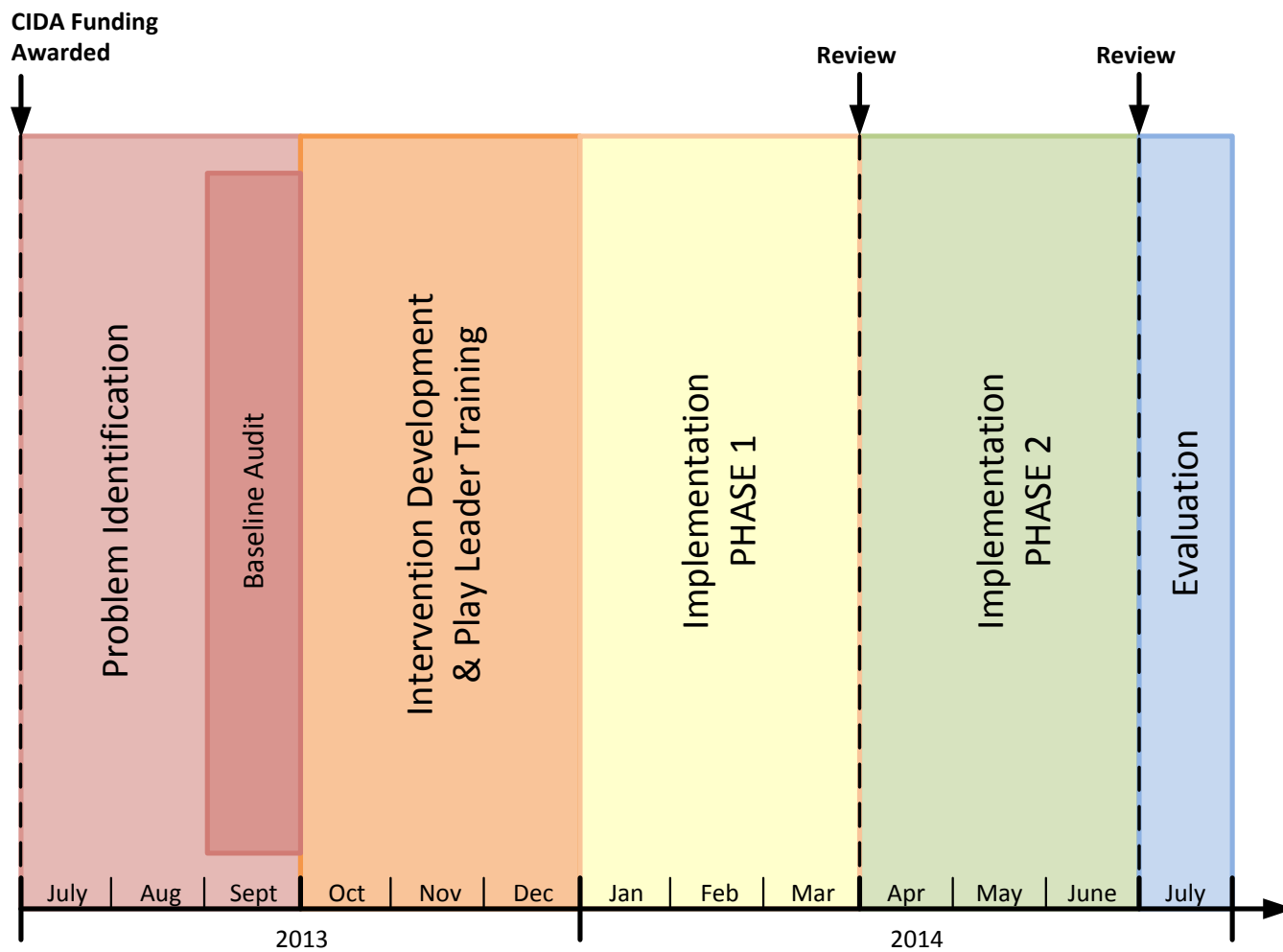


The intervention was piloted for another 3 months in PHASE 2.

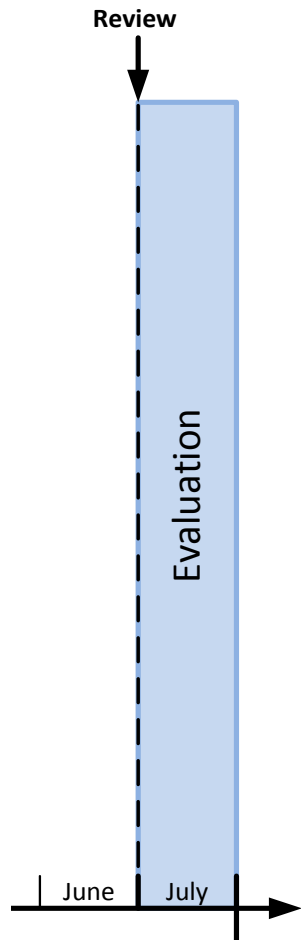
Further feedback led to the introduction of:

- **Group Health Promotion Sessions** held with caregivers
- **Group Medical Mandla Sessions** held with children
- **Small group training** with nurses

Evaluation



Evaluation



Caregiver and children's surveys were used to collect data as a means of evaluating the intervention.

Surveys were completed on the mobile tablet to allow it to be **participatory process** for the informant.

- Caregiver survey – 10 items asked at admission and discharge
 - Understanding why the child is being admitted
 - Feeling confident to ask for help and support
 - Skills to stimulate and soothe the child
 - Confidence in care and safety of child
 - Understanding the Child's health condition and feeling confident to speak to the child about their health condition
- Children's survey - 20 items completed on the tablet by children with picture and sounds to engage the user

This data was linked to the patient's individual health information using the Hlabisa's Hospital Information System.

Sample Characteristics

Total number of children enrolled N=441

Age range 0-15 years

Mean 3.03 95% (CI 2.67 – 3.39) Median =1

Child Characteristic	N (%)
Age	
<1 years (<i>infants</i>)	186 (42%)
1-2 years	82 (19%)
3-5 years	67 (15%)
6-8 years	40 (9%)
9-12 years	61 (14%)
13-15 years	5 (1%)
Gender	
Boys	268 (61%)
Girls	173 (39%)

HIV Status

Most children were unexposed or negative (46%)

A large proportion had no record (46%) to reflect HIV status and were admitted with a caregiver who did not know the child status.

HIV Status (on admission)	Male	Female	Total n (%)
<i>Child HIV unexposed</i>	70	109	179 (41%)
<i>Child Exposed HIV negative</i>	11	10	21 (5%)
<i>Child Exposed (awaiting PCR)</i>	2	3	5 (1%)
<i>Child Exposed HIV Positive</i>	13	11	24 (5%)
<i>Child Unknown (records & caregiver)</i>	5	4	9 (2%)
<i>No record (for testing during admission)</i>	72	131	203 (46%)

Caregiver Pre / Post Surveys

Question	LR (p)
I have a good understanding of my child's illness	8.075 (p=0.018)*
I know some tips about how to sooth and comfort my child in hospital.	9.249 (p=0.026)*
I feel comfortable to talk to my child about their illness	13.497 (p=0.004)**
I feel confident that the nursing staff will explain to me what is going to happen to my child in this ward	10.678 (p=0.014)*
I feel certain that my child will be safe in this ward whether I am here or not.	18.334 (p=0.000)***

Significance *p<0.0050 **p<0.010 *p<0.001**

Preliminary Child Data

- Of all the children enrolled we had valid **play activity data** for 398 – that is more than 80% of admissions.
- Of those children:
 - **133** (33.4%) were able to **use the playroom facilities**
 - **271** (68.1%) received a play intervention **at the bedside**
- The majority of children who received bedside support (**73.8%**) were between the ages of **1-2 years**
- Most of bedside care while facilitated by play leaders was **lead by caregivers**

Animal Stories

Reason for Admission (via the HIS)	Most Appropriate Animal Story	Animal Selected by the Child	Match	Age
Unspecified lower respiratory infection	Zebra	Zebra	Match	7
Fractured neck of femur	Bird	Bird	Match	8
Swallowed foreign object	Bird	Bird	Match	1 (Caregiver)
Malnutrition	Zebra	Zebra	Match	1 (Caregiver)
Uncontrolled epilepsy	Zebra	Zebra	Match	11
Perianal abscess	Giraffe	Giraffe	Match	11
Multiple soft tissue injuries	Lion	Lion	Match	12
Osteomyelitis	Zebra	Lion	No Match	7
Diarrhoea (infectious origin)	Giraffe	Zebra	No Match	0 (Caregiver)
Diarrhoea (infectious origin)	Giraffe	Zebra	No Match	1 (Caregiver)

Discussion

- The strongest effect of the intervention was to improve **caregivers confidence in the child safety**, in particular in their absence.
- Additional low cost, trained lay play leaders are an important human resource.
- The intervention improved capacity of caregivers to **understand and discuss the child's illness**
- Health educational tools may have important potential for improvements in quality of care, in particular since children are more able to identify and understand their own illness which could assist in compliance and adherence to medical treatment
- “Gamification” as part of learning and care may be an important area for future developments

Next Steps

- The intervention had **some effect in strengthening caregiving nursing partnership**, more work is required to document nurse training and fidelity to intervention over time
- The intervention **fell short** in terms of caregiver advocacy and some **aspects of stimulation and support** and this needs further work
- **HIV testing strategies** and support for painful procedures are currently being explored by the task team, mostly in a support group model
- **Further analysis required** adjusting for developmental age, illness severity and hospital duration
- Peer review publication to support further grant applications for a larger scale evaluation, perhaps including biomarkers

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