# Out of Hospital Treatment for Babies who Require Phototherapy for Physiological Jaundice

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## Introduction

Jaundice is caused by high bilirubin levels in the blood. It is one of the most common reasons for readmission in the first 28 days of life (Rennie, 2005). Bilirubin is produced by the normal breakdown of red blood cells. Normally, it passes through the liver, which releases it into the intestines as bile. Jaundice happens when bilirubin builds up faster than a newborn's liver can break it down and pass it from the body. 60% of new-borns develop jaundice in the first week of life (Nice, 2010). If left untreated it can result in brain injury or death.

### Treatment

Is by phototherapy. The skin is exposed to a blue fibre optic or LED phototherapy light. The light changes the shape and structure of bilirubin molecules in such a way that they can be excreted in the urine and stool.


**Fibre optic/LED phototherapy light**

The project aims to provide phototherapy at home for well term babies <28 days of age, rather than in hospital, using a portable fibre optic mattress. These babies will be under the care of the neonatal outreach team.

## Aims & Objectives

**<u>What we will be evaluating</u>:**

**Project lead:**

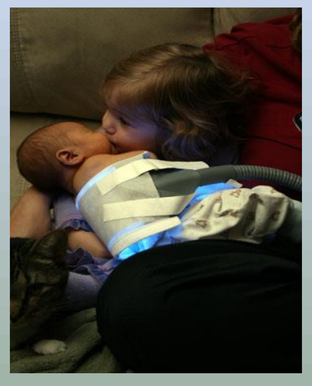
a) Can this service be delivered?
b) Is the service effective?
c) Prevention of prolonged hospitalisation?
d) Result in the reduction in cost of treatment?
e) Prevention of readmission?
f) What will be the impact on length of hospital stay?
g) Health inequalities who will take up this new service?

**Intern:**

a) Lead to increased parental satisfaction?
b) Does it promote infant bonding?
c) Ease of use?

**Neonatal outreach team:**

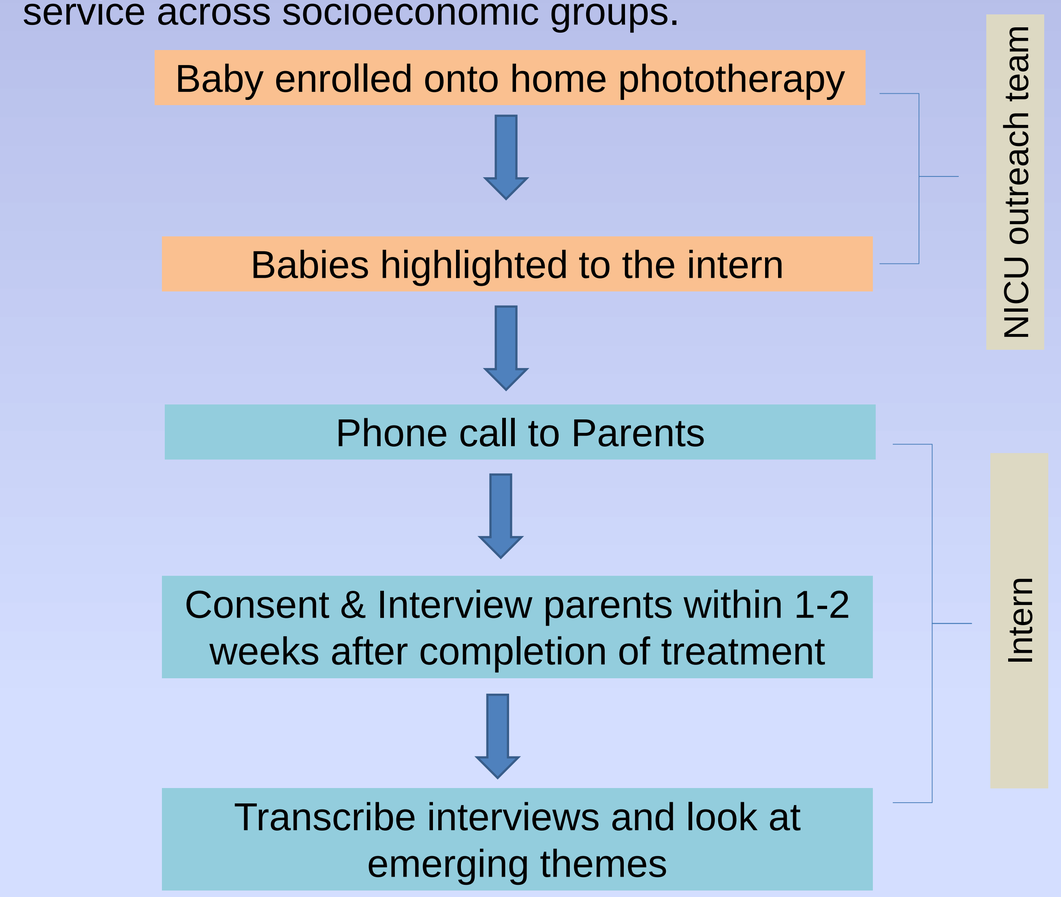
a) Parental education/sign consent
b) Will visit babies on a daily basis to check bloods and give parental support.
c) Refer parents to the intern for parental satisfaction study.



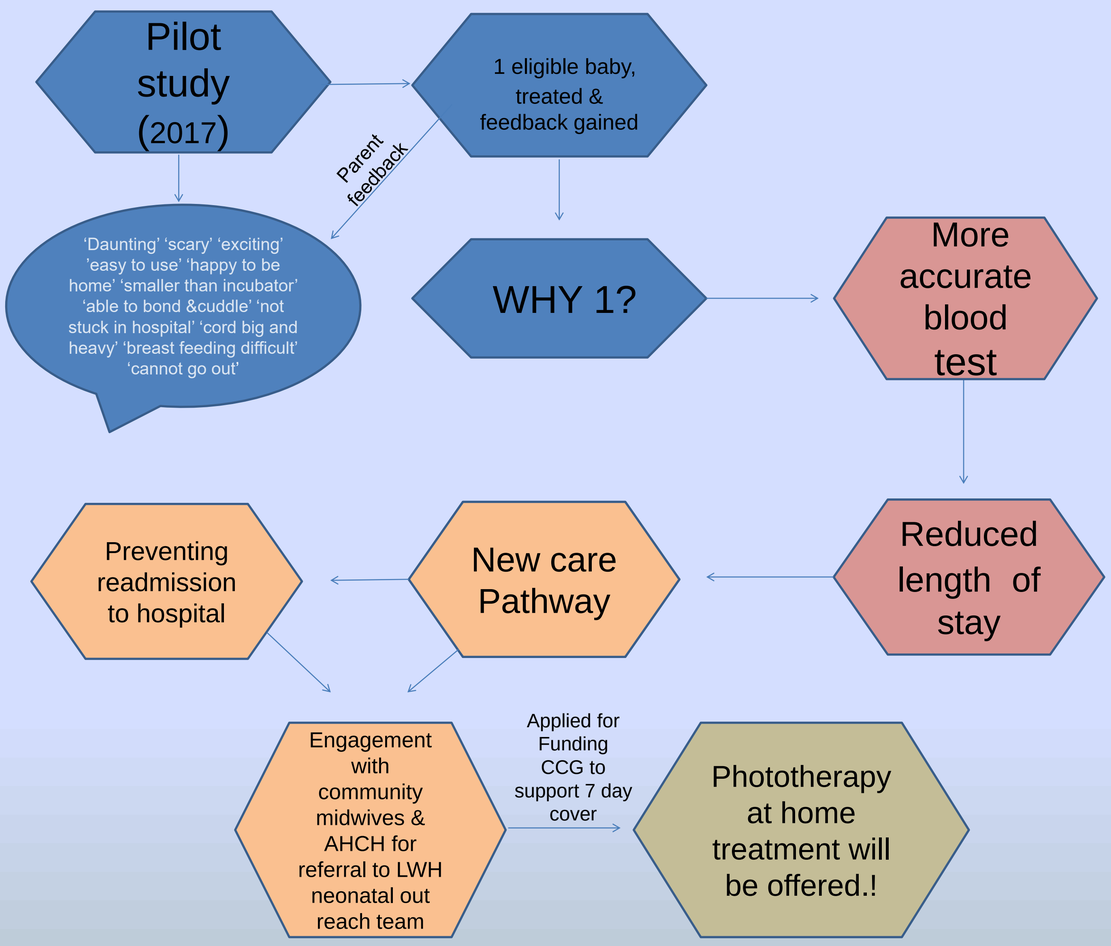
**Portable phototherapy lights**

## Design

Qualitative data from semi structured interviews will be collected by the intern, from the parents whose babies are receiving treatment at home and have consented to take part in the evaluation. Quantitative data will be collected by the project lead, comparing readmission rates. An index of multiple deprivation tool will be used to evaluate the uptake of the new service across socioeconomic groups.




## Early Findings




## REFERENCES

1. https://www.nice.org.uk/guidance/cg98
2. Ives, N.K. Neonatal jaundice. in: J.M. Rennie, N.R.C. Roberton (Eds.) Textbook of neonatology. 3rd ed. Churchill Livingstone, London; 1999:715–732 (4th ed., in press).

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