

# EFFECTIVE SCREENING OF PNEUMONIA AMONG CHILDREN IN PUNJAB

**In a nutshell:** Utilization of Multimodal Device (MMD) for screening pneumonia among children under SAANS initiative in Health & Wellness Centres (HWC)

**Nodal agency:** Department of Health & Family Welfare, National Health Mission and USAID Vridhhi, Government of Punjab

Childhood pneumonia continues to be the topmost infectious killer among under five children. As per current statistics, pneumonia mortality in children is 5.1 per 1000 live births and India is aiming to reduce pneumonia mortality in children by 3 per 1000 live births by 2025. In Punjab approximately 15–20% of child death occur due to respiratory causes every year. The government of India launched **social awareness and action to neutralize pneumonia successfully - SAANS** initiative to intensify action for reducing mortality due to childhood pneumonia.

The Department of Health & Family Welfare, along with USAID **Vridhhi** project conducted a pilot in SC-Shakoor, SC-Kamalwala in Punjab to understand the utilization and efficacy of multimodal pulse oximeter for the screening of pneumonia by the staff posted at HWCs.

## Description of the model:

- The pilot, conducted from June 2019 to January 2021, bridges the knowledge and skills gaps by using multimodal device (pulse oximeter with a respiration rate counter) for pneumonia management at community level.
- The health staff faced challenges in counting the respiratory rate in children, which is a diagnosis of pneumonia in children as per Integrated Management of Neonatal and Childhood Illness.
- A training aligned to IMNCI was organized with focus on use of multimodal device.
- In Punjab, during the pilot, a total of 502 children were screened, out of which 138 (27%) children were diagnosed to have severe pneumonia. All these cases were managed as per IMNCI protocol and timely referred with first dose of antibiotic.
- Improved referral and rational use of antibiotics was seen (as per data)
- Based on the success of this pilot intervention, the State decided to scale up this model in all HWCS throughout the State HWCs.
- The State procured 660 multimodal pulse oximeters to screen children under five for pneumonia.
- **Vridhhi** project provided technical support to the State in conducting training based on IMNCI to master trainers.
- **Vridhhi** project also conducted E-IMNCI (Integrated Management of Neonatal and Childhood Illnesses) due to COVID-19 protocols and supported the master trainers in

conducting training on E-IMNCI as well as in handling the multimodal device. This was helpful to measure the respiratory rate as well oxygen saturation of children below 5 years.

- The training aimed to intensify the screening of pneumonia via multimodal pulse oximeter and implementation of the SAANS programme across the State.
- The State provided these devices to all CHCs, selected PHCs, and HWCs.
- Vridhhi project also supported in developing a standard format for record keeping and monthly report formats as per GoI requirement. Report from each center were to be submitted to the State before the 5th day of the following month.
- A multimodal pulse oximeter cannot be repaired at the local level. Hence, districts were requested to share the non-functional devices with the State, and these were replaced.
- The pilot study showed, that the device is robust and did not require any repair and the battery life was also found to be very long - usually more than 1 year.
- Vridhhi project supported the information, education and communication (IEC) cell to develop IEC materials including posters, training guide, registers, and reporting formats for HWCs.
- A WhatsApp group between providers, programme managers and project staff was created to interact and solve any issues with device, patient diagnosis and addressing queries instantly. The district has been sharing pictures and reports in this group. Participants are also encouraged to ask technical and operational questions in this regard.
- All the district nodal officers (DIOs) were instructed to share the monthly reports with MCH division every month.

### Highlights:

- No extra staff were used /recruited. It helped existing staff by providing them more time for clinical care and establishing trust with patients.
- Existing staff of HWCs were trained for managing children with respiratory problems as per SAANS guidelines.
- Technical module, IEC material, reporting, and recording mechanism were established.
- Reporting of SAANS implementation is minimal, monthly reports can be prepared in 10 minutes.

### Outcome

- In this pilot study , Community Health Officers (CHOs) at HWC centers (19) were provided with Multi-modal Pulse Oximeter and trained on IMNCI package. In Punjab it was done in sites of Aspirational District (Ferozepur) Punjab. It has been into action since April 2019.
- A total number of 502 children (with fever and cough) were screened with the help of Multi-modal Pulse Oximeter.

- 27% of them were found positive for Pneumonia out of which 6 had severe pneumonia.
- With the help of IMNCI Training and multimodal device 96% of screened children received the correct diagnosis and 95% received the correct treatment.



Multimodal Pulse Oximeter launch by the Punjab State Officials



SAANS Training by MO Pediatrics to Staff Nurse, ANM, ASHA at District SBS Nagar



Newborn screening using Multimodal Pulse Oximeter