



**Innovations in the respiratory ecosystem  
to support safe oxygen use with CPAP for  
Small and Sick Newborn Care to achieve  
ENAP Target 4**

May 10, 2023, 11:50 - 13:05



**International  
Maternal Newborn  
Health Conference**

**T-GETHER** **20  
23**

**Aligning TOGETHER.  
Accelerating TOGETHER.  
Saving lives TOGETHER.**

**May 8 – 11, 2023 | Cape Town, South Africa  
Cape Town International Convention Center**

- To achieve the 2030 SDG-era targets, IMNHC 2023 aimed to lead with evidence, share effective implementation strategies, review joint progress, and nurture collaboration and innovation within the maternal and newborn health community

# Quick Facts

Four days

Over 1600  
attendees

Over 180 different  
sessions held

Over 95 countries  
represented

Official delegations  
from the Ministries  
of Health of 28  
countries



# Conference Objectives

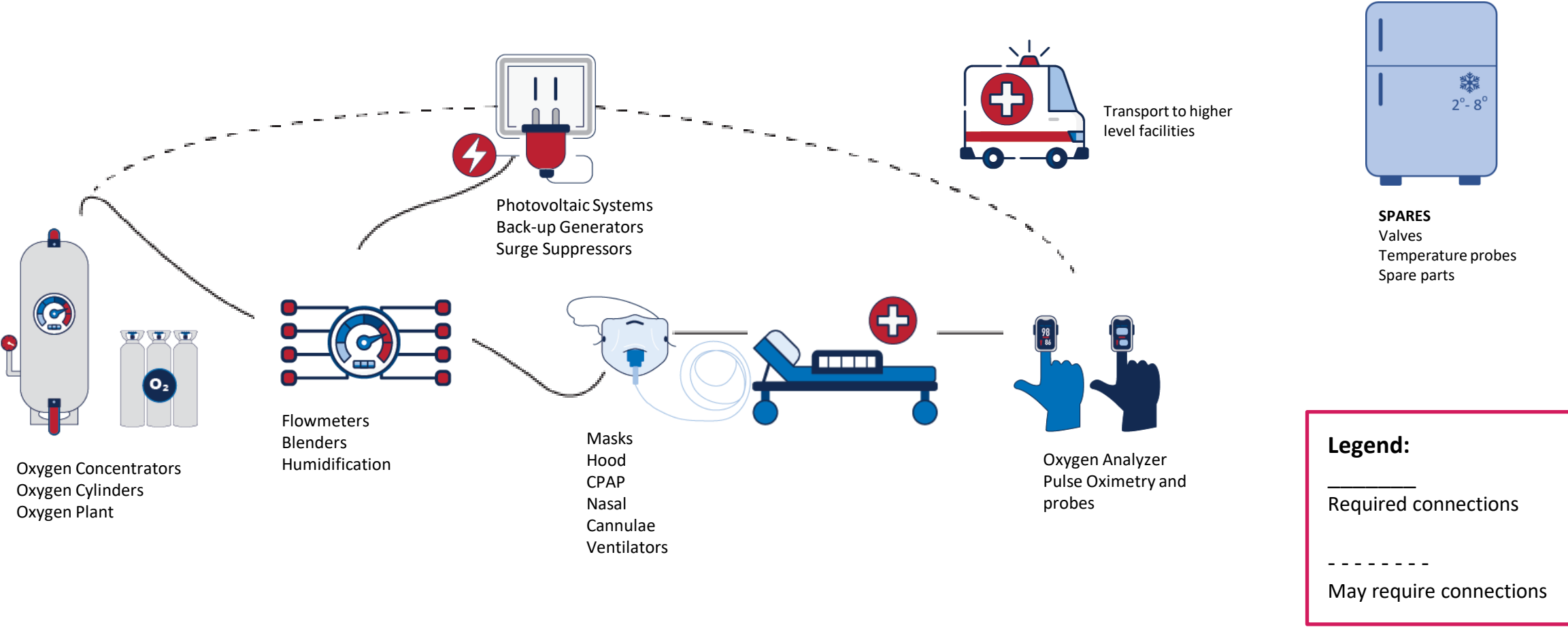
- 1 Enable pathways to drive collaboration, coordination, cross-country learning, and alignment within the maternal and newborn health community.
- 2 Lead with evidence, share successes and effective implementation strategies, and identify promising solutions to improve maternal and newborn health and prevent stillbirths.
- 3 Review and recognize country, regional, and global progress toward MNH targets and milestones.
- 4 Prioritize actions to accelerate progress towards meeting the 2030 Sustainable Development Goals.
- 5 Build a dynamic community, including engaging the next generation of leaders.



# Conference Themes



# Oxygen Ecosystem for ALL





## **Chasing the ENAP target with safe and effective oxygen from the Respiratory Ecosystem lens**

**Dr. Leah Greenspan, Senior Newborn Advisor and Neonatologist, USAID Global Health Bureau**

Dr. Leah Greenspan is a board-certified Pediatrician and Neonatologist. She has worked clinically in the Washington DC area for almost 20 years. Dr. Greenspan has extensive experience working in Global Health with a focus on newborn health in Sub Saharan Africa and Asia. Prior to joining the team at USAID as Sr. Newborn Advisor in March of 2020, she worked with multiple NGOs as a Newborn Consultant developing and implementing programs both in the rural and urban settings to build the capacity of medical professionals and strengthen health systems around the continuum of maternal newborn care. As a member of the Newborn Team at USAID, Leah is a Senior Newborn Advisor focusing on advancing small and sick newborn care globally as well as being a key member of the MCHN Office Commodities and Supply chain team, co-lead of Every Newborn Action Plan-Commodities team and co-lead for the MCHN oxygen coalition.

# Why?

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63

Countries off track to meet the SDG for Newborn Mortality Rate (NMR)

30

Million newborns require inpatient care each year

1 in 5

Children that reach a health facility needing oxygen support actually receive it

Prematurity is the number one cause of neonatal mortality with respiratory distress syndrome contributing to **45%** of case-fatality rates

1

CPAP is the **one** intervention with the greatest impact on preterm mortality

Cochrane review found that CPAP reduces the risk of mortality by **48%**

100%

Oxygen use, improvised circuits and unregulated pressures can lead to ROP, BPD and brain injury





# Newborn specific global guidance



**Quality statement 8.3: Equipment designed specifically for the medical care and developmental and emotional support of small and sick newborns is available at all times**

- CPAP therapy is recommended in preterm infants with clinical signs of RDS
- CPAP therapy is considered immediately after birth for very preterm infants (<32weeks) with/without signs of RDS
- For preterm infants who need CPAP therapy, bCPAP may be considered rather than other pressure sources



Level 1  
Immediate and essential  
newborn care

Immediate newborn care (delayed cord clamping, drying, skin to skin etc.)  
**Neonatal resuscitation for those who need it**  
Breastfeeding early initiating and support  
Essential newborn care identification and referral of complications  
Targeted care as needed (e.g., PMTCT of HIV)

Level 2  
Special newborn care

Thermal care including KMC for all stable neonates < 2,000gms  
Assisted feeding and IV fluids  
**Safe administration of oxygen**  
Detection and management of neonatal sepsis with injection antibiotics  
Detection and management of neonatal jaundice with phototherapy  
Detection and management of neonatal encephalopathy  
Detection and referral/management of congenital abnormalities

Transition

**Management of preterm respiratory distress with CPAP**  
Follow up of at-risk newborns  
Exchange transfusion

Global target

80% of countries have a national implementation plan that is being implemented in at least half the country, with an appropriate number of functional level-2 inpatient units linked to level-1 units to care for small and sick newborns, with family-centered care.

National and Subnational  
targets

80% of districts (or equivalent subnational unit) have at least one level-2 inpatient unit to care for small and sick newborns, with respiratory support including provision of continuous positive airway pressure



# Safe and effective oxygen use

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Oxygen is essential for life but it can also be toxic – **FIRST, DO NO HARM**

## Common practices that can harm newborns:

- 100% oxygen administration
- Unmonitored oxygen
- Prophylactic administration without clinical indication
- Interrupted oxygen administration



## Oxygen toxicity can lead to:

- ROP and vision impairment
- **#1 cause of child blindness**
- BPD increases the risk of long-term respiratory complications with increased hospitalizations, greater need for respiratory medications and respiratory morbidities

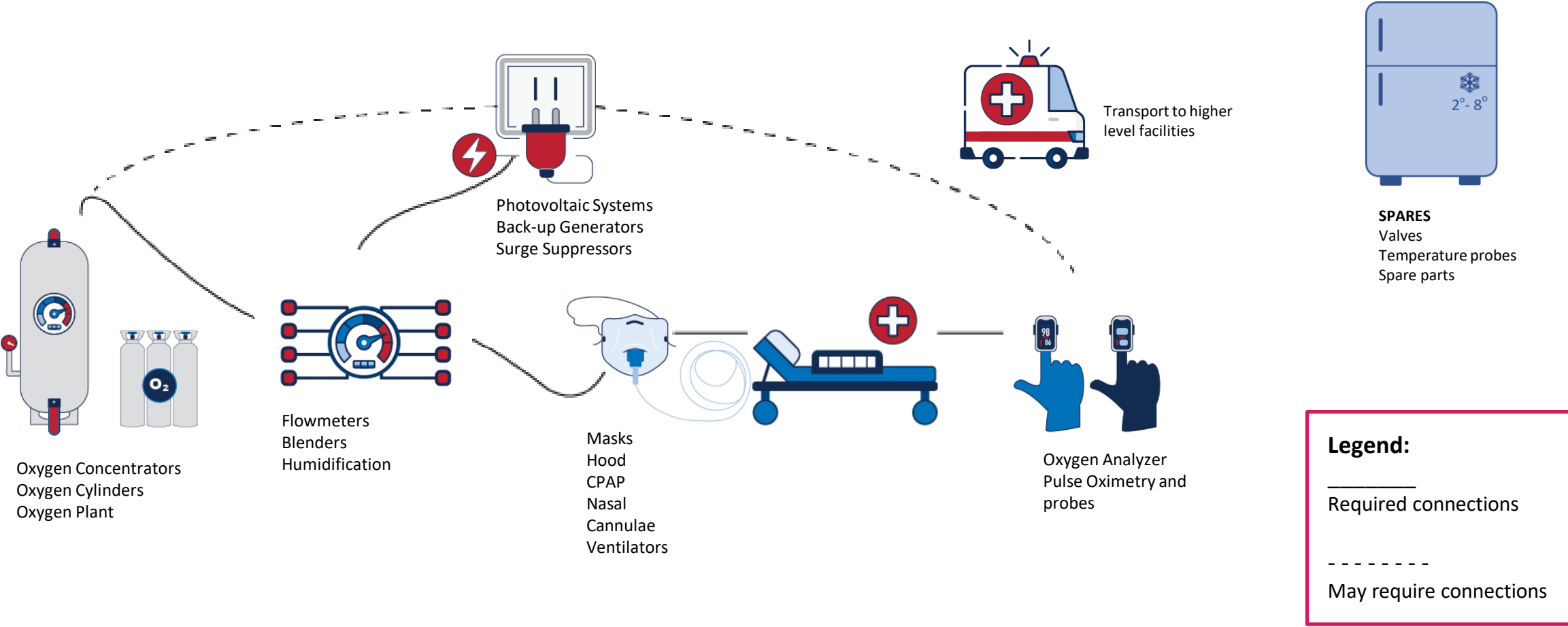




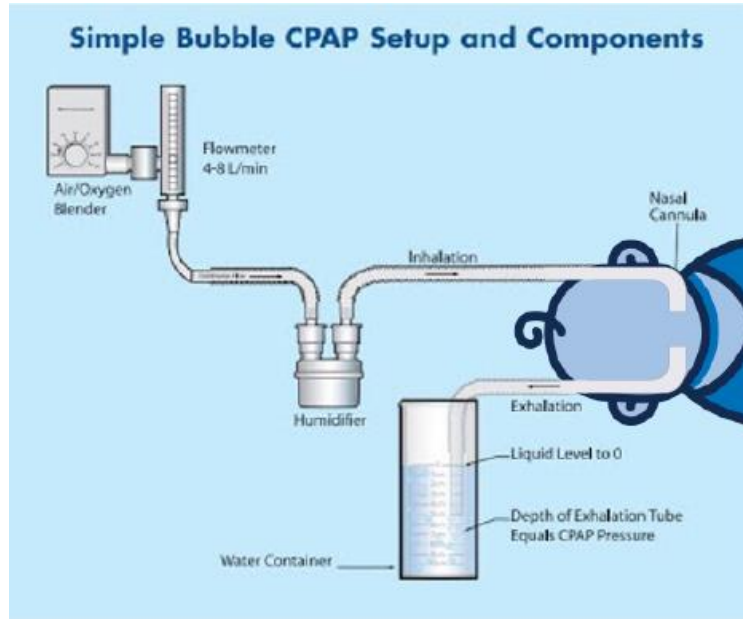
## What is the respiratory ecosystem?

- Respiratory ecosystem is a set of processes, tools, and technologies deployed to address respiratory conditions across the MNCH continuum of care
- For newborns, it includes a bundle of interventions for safe and effective oxygen provision

# Oxygen Ecosystem for ALL



# Respiratory Ecosystem for the NEWBORNS



Resuscitation

DO NO  
HARM

Global  
Guidance



Surfactant  
Caffeine Citrate

Respiratory  
Distress  
Syndrome



Oxygen saturation targeting



Bubble CPAP

Surveillance  
And referral  
systems





## **Situational analysis of prevalence of improvised Bubble CPAP (bCPAP), 100% oxygen use and pulse oximetry monitoring use in level 2 facilities in Ghana**

**Tamah Kamlem, Senior Technical Advisor, MNCH, GHSC-PSM**

Tamah Kamlem is the Senior Technical Advisor for Maternal, Neonatal, and Child Health (MNCH) Task Order at the Global Health Supply Chain Program – Procurement and Supply Management (GHSC-PSM). The focus of his work includes policy, procurement, data analytics, and technical project implementation in multiple countries.

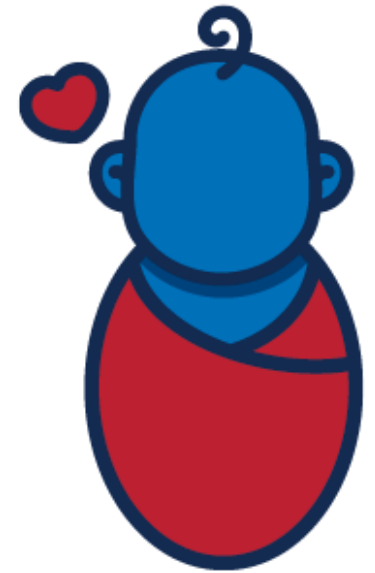
Mr. Kamlem is a multilingual development professional with over ten years of work experience in supply chain, global health, project implementation, and Monitoring, Evaluation and Learning. He brings experience in the areas of MNCH (maternal neonatal and child health), control tower operations, forecasting, and health system strengthening. As an analyst for the GFPVAN, he supported the onboarding of over 20 countries in sub-Saharan Africa, South-east Asia and the LAC region. Tamah has worked on projects addressing child health, HIV/AIDS, human resources for health, and non-communicable diseases. Tamah has co-authored multiple scientific publications, most recently on containing the spread of HIV/AIDS in West Africa and the use of health communication for epidemic prevention. He holds a Master of Public Health in global health policy from the George Washington University.

# Background

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- A 2018 Ghana statistical survey showed a **14%** reduction in the neonatal mortality rate, from **29 to 25** per 1,000 live births between 2014 and 2017
- Neonatal mortality rates in Ghana **remain high**
- Previous assessments indicated **challenges around availability** of medical equipment necessary for the care of SSNB

**Preliminary findings: A comprehensive assessment of newborn medical devices, commodities, and providers' capacity in the public health sector of Ghana**





## Primary Objective

To conduct a comprehensive assessment of newborn medical devices, commodities, and providers' capacity with focus on a comprehensive review of the respiratory ecosystem.

## Specific Objectives

Conduct situational analysis of the prevalence of improvised bubble CPAP (bCPAP), 100% oxygen use and pulse oximetry monitoring use in health facilities in Ghana

Identify data gaps regarding respiratory support and oxygen ecosystem for the care of small and sick newborns (SSNBs)

Investigate health staff capacity to manage and maintain devices critical to ensure adequate respiratory support for small and sick newborns  
Evaluate maintenance protocols for medical devices for newborn care

# Methodology

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A mixed method approach was adopted for the study

## Quantitative

- Geographic coverage: The Northern and Upper West Regions
- Census of all hospitals and polyclinics within the public health sector
- Purposive selection of health centres and CHPS compounds that recorded at least 300 deliveries in 2022
- 51 health facilities selected (24 hospitals, 5 polyclinics, 18 health centers and 4 CHPS compounds)

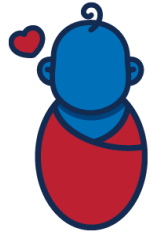


## Qualitative

- Semi-structured interview guide used with key informants to obtain secondary data on newborn devices and oxygen ecosystems for facilities
- Two independent qualitative experts conducted data transcription and analysis
- Transcription data analyzed using thematic review



# Preliminary Findings: Neonatal Unit



Neonatal Services Provided



- Infrastructure
- Electricity

Neonatal Admission



- Infection Prevention and Control
- Waste Management
- Sources of water

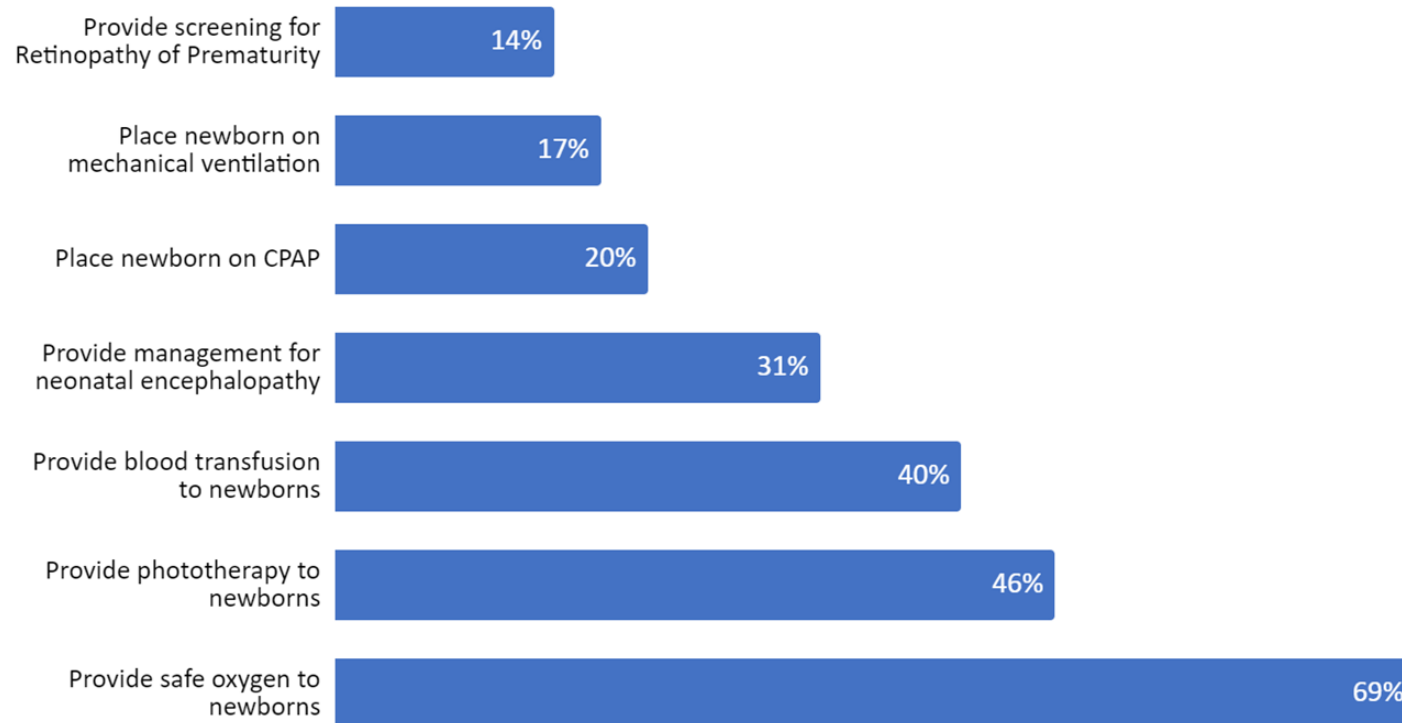
- Inventory and Forecasting of Consumables
- Newborn Care Equipment and Supplies

Human Resources



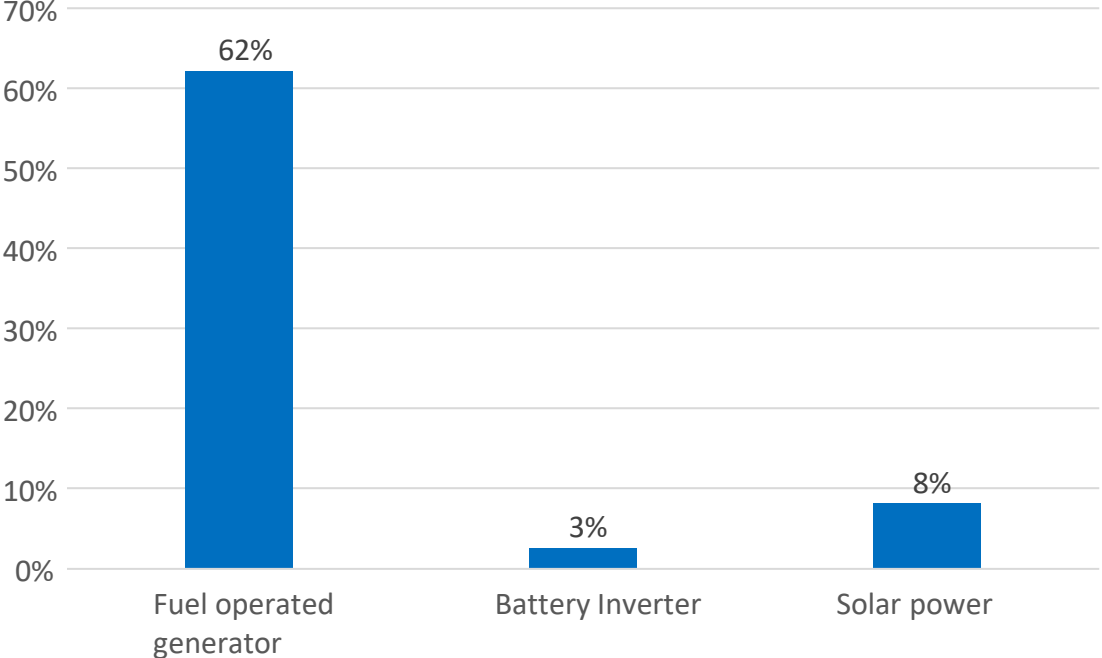
# Neonatal Services Provided

Neonatal care services provided in the past 4 weeks prior to survey

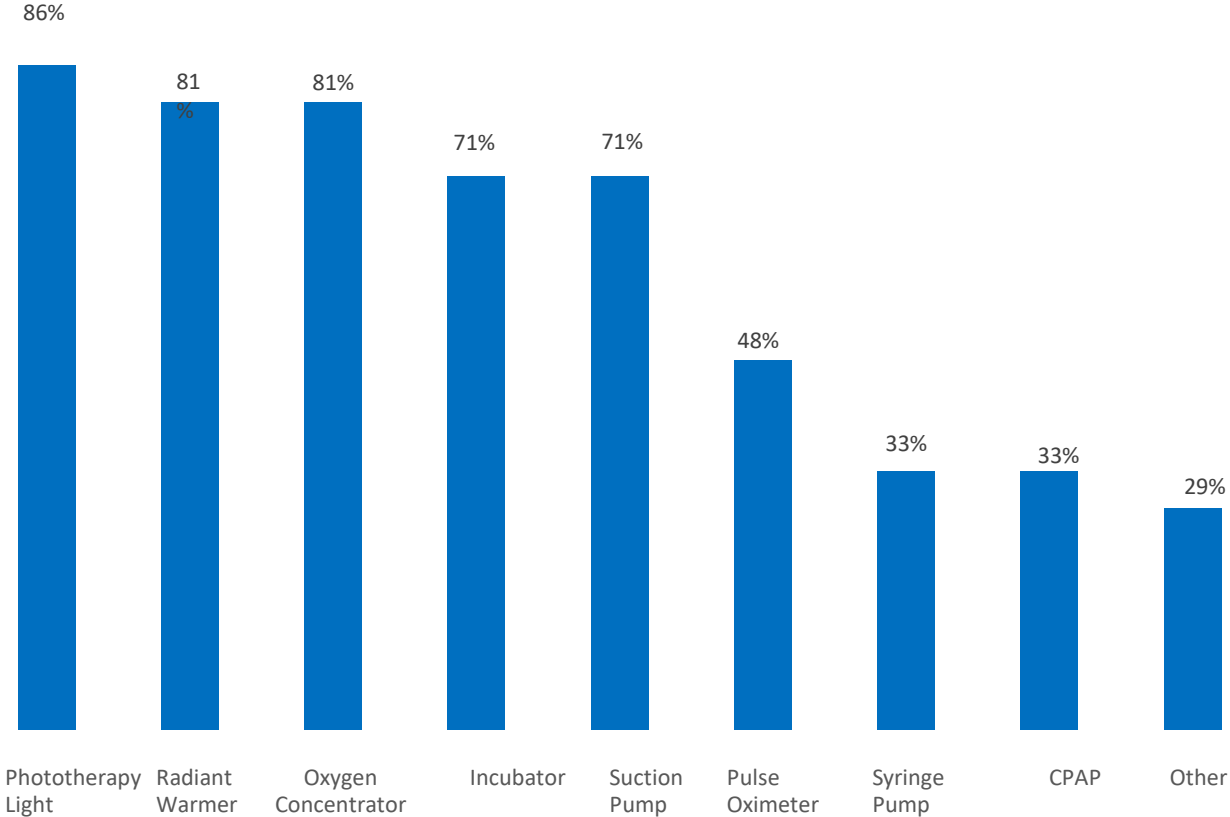


# Neonatal Unit Electricity

Availability of back-up electrical power for facilities

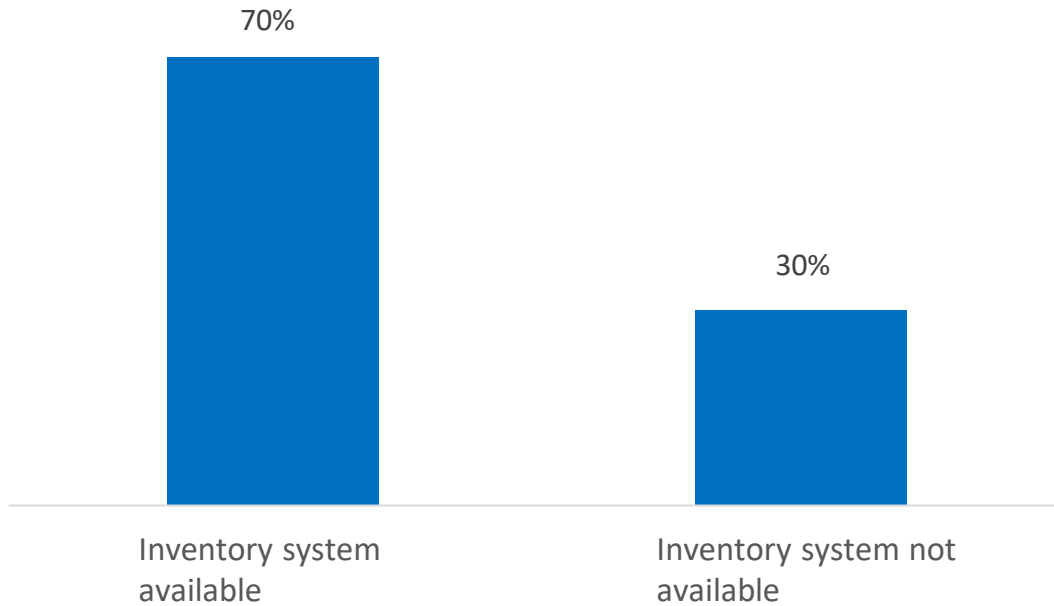


Types of equipment covered by fuel-operated generator

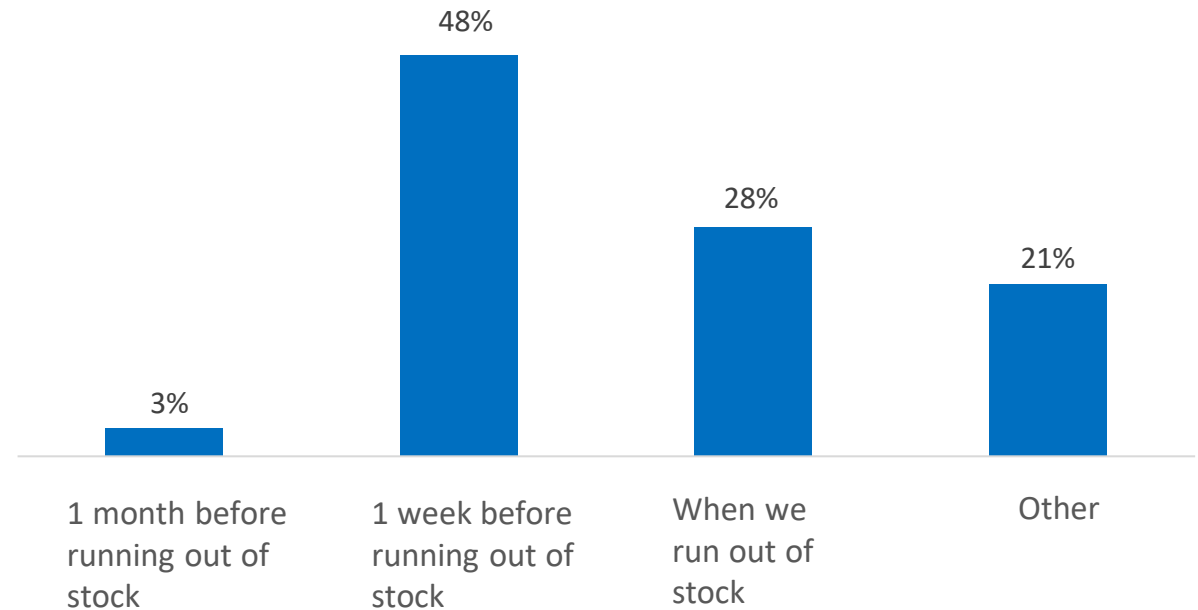


# Inventory and Forecasting of Consumables

Availability of consumables inventory register/  
system at neonatal unit

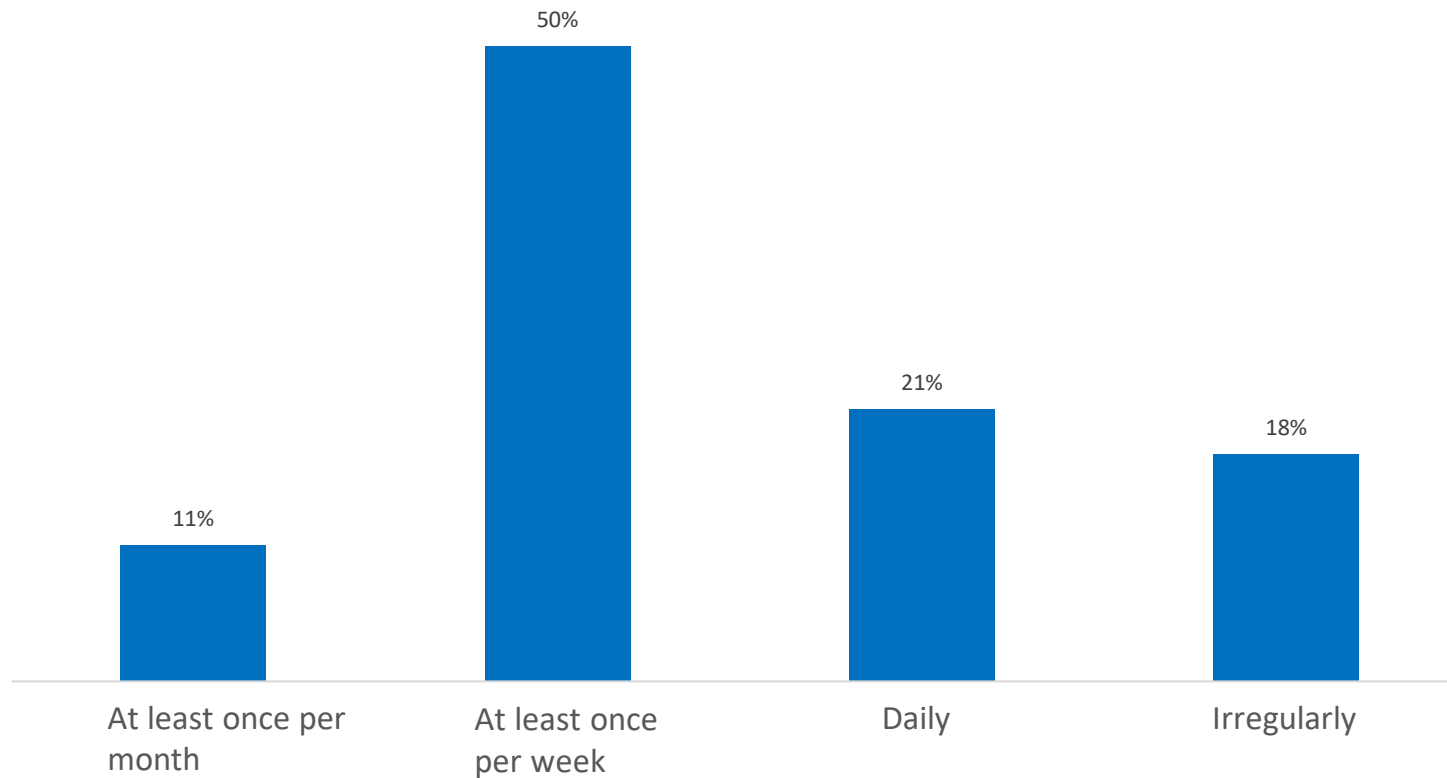


Ordering frequency for consumables at  
neonatal unit



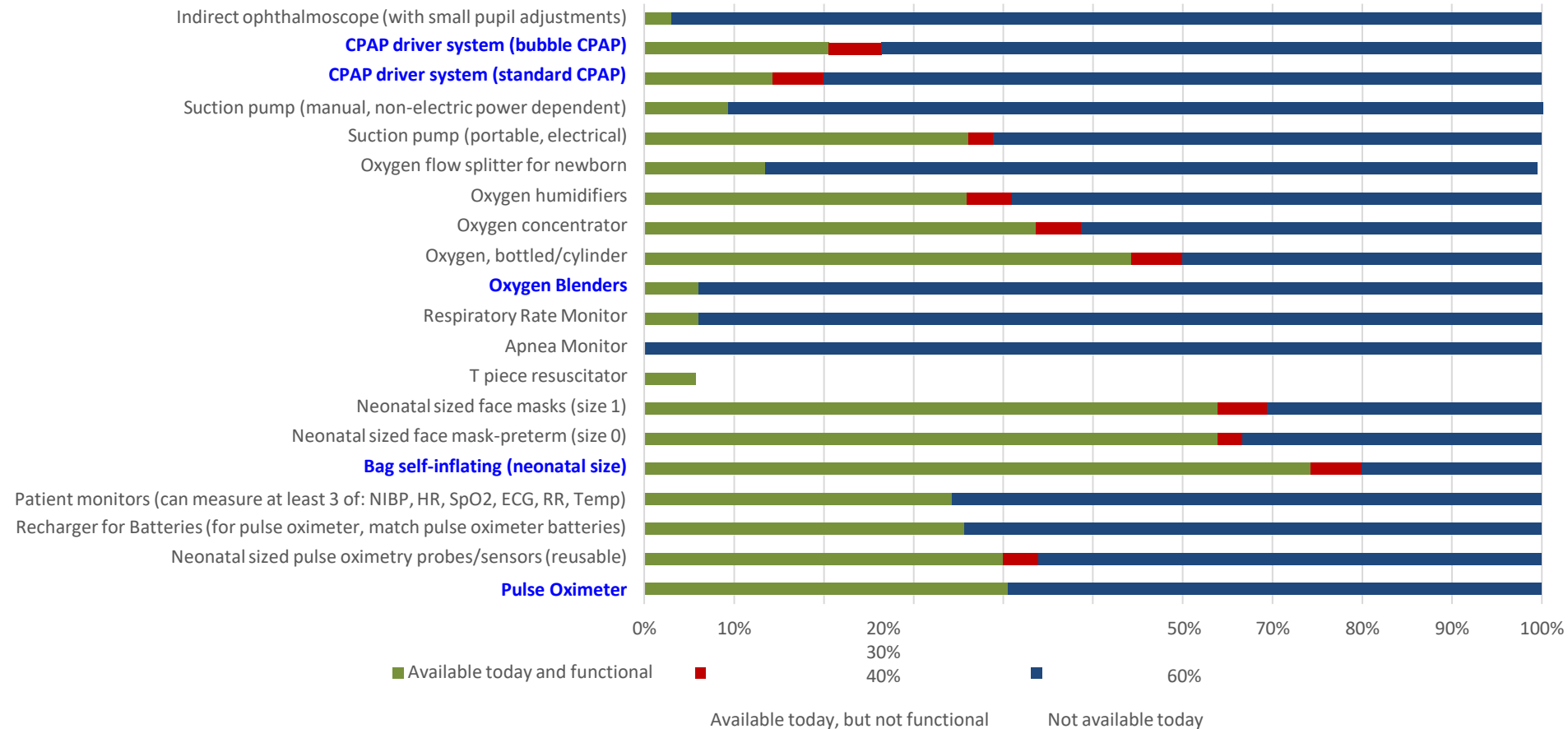
# Inventory and Forecasting of Consumables

Frequency of inventory count for consumables at neonatal unit



# Newborn Care Equipment and Supplies

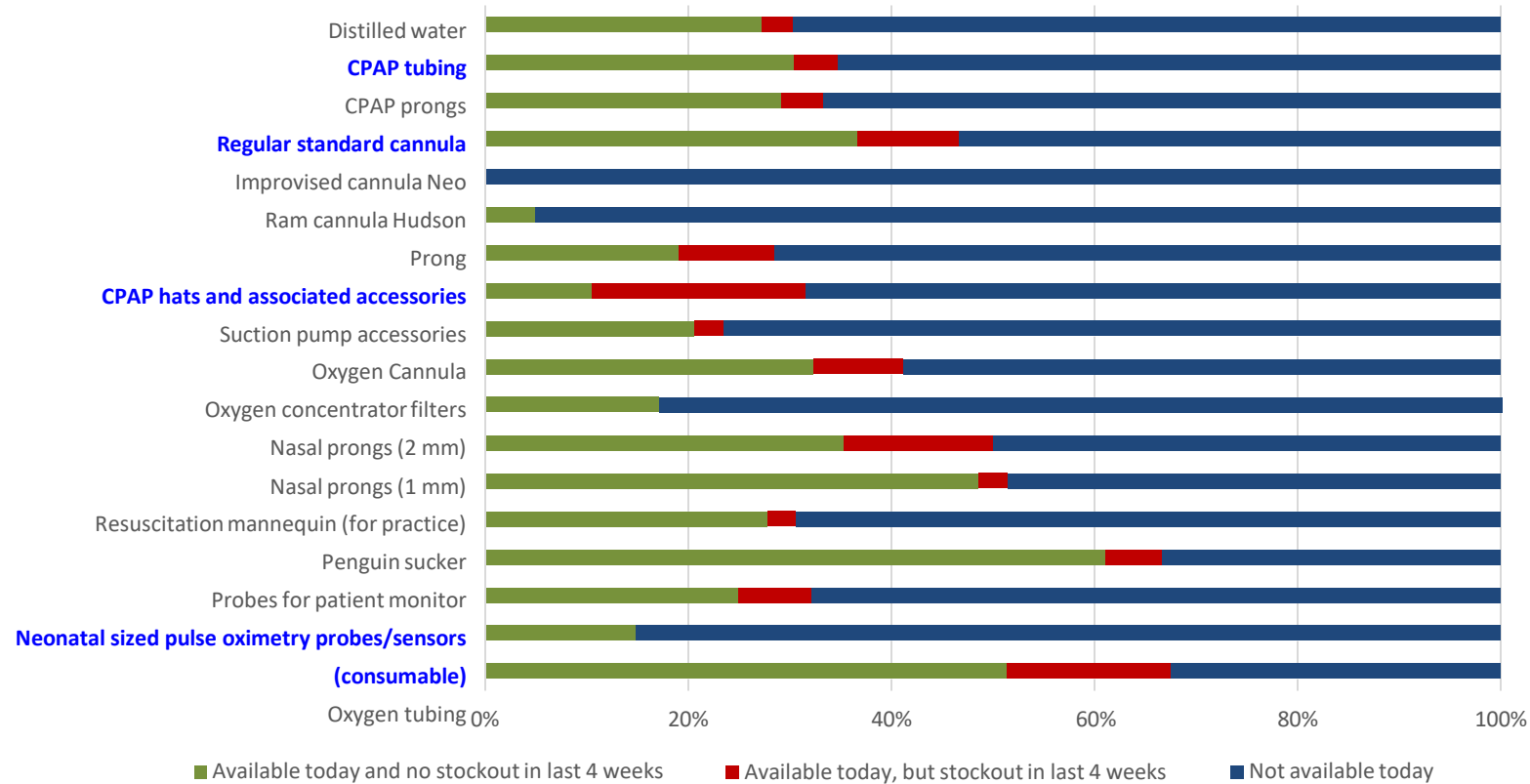
## Availability of devices/equipment for newborn care





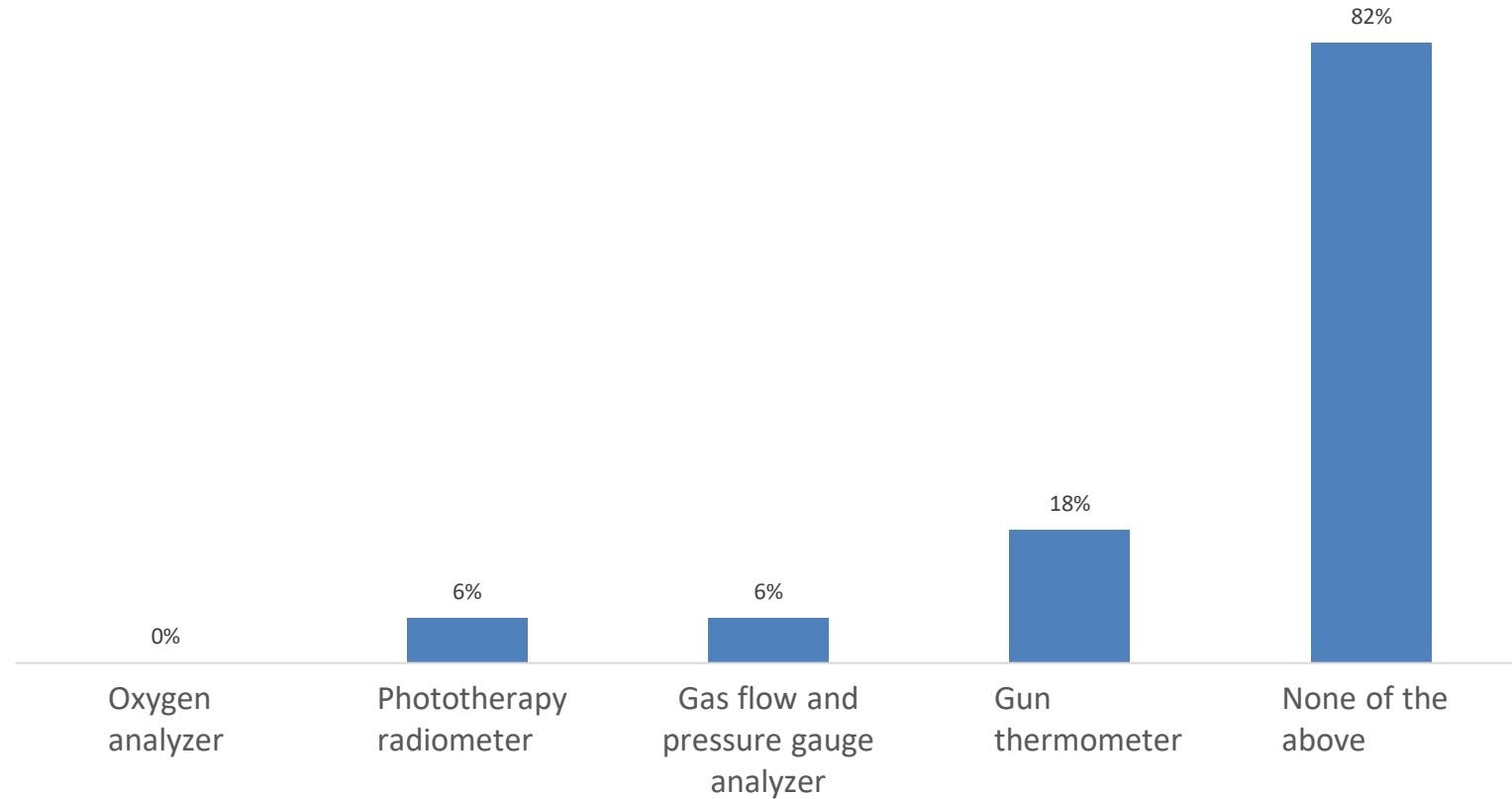
# Newborn Care Equipment and Supplies

## Availability of consumables for neonatal care



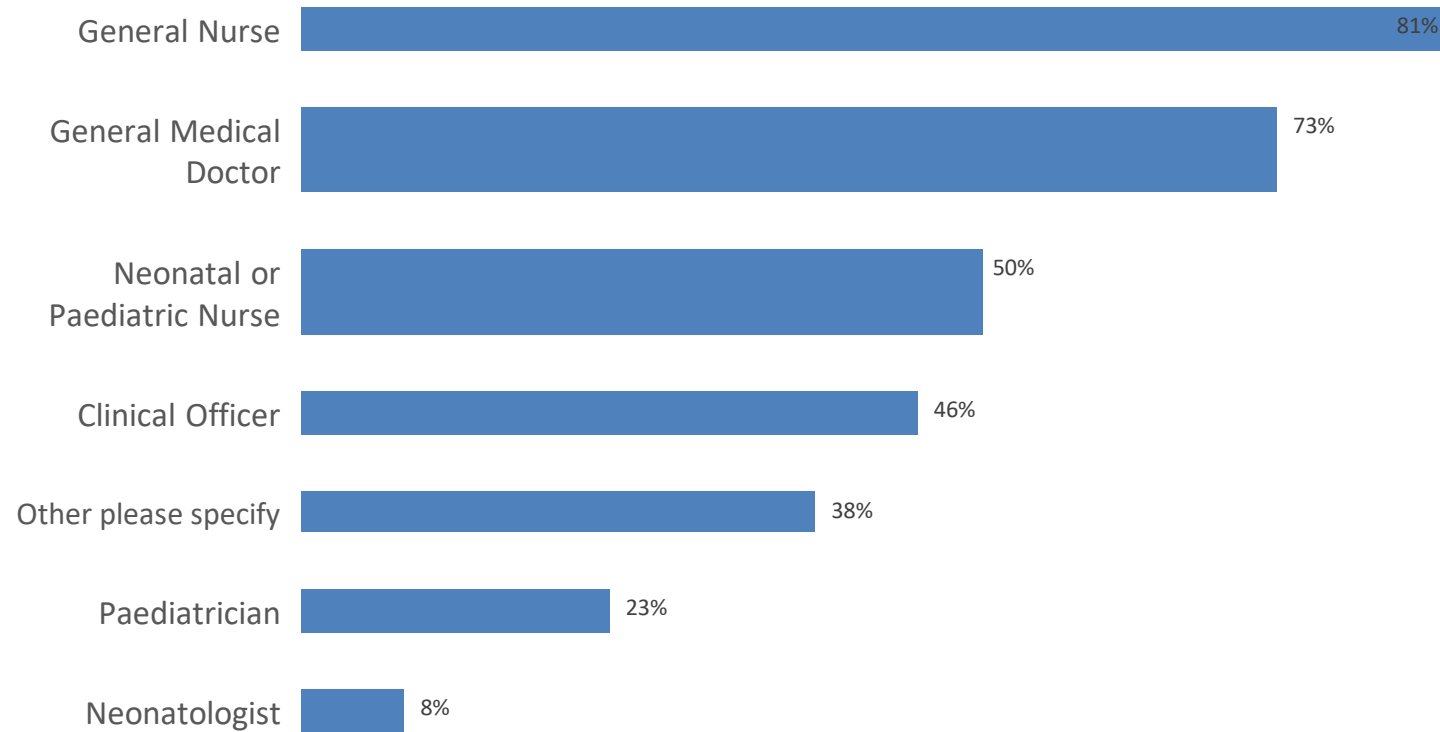
# Maintenance and Repair

Availability of performance and safety analyzers



# Human Resources

Staff trained in the provision of care for SSNBs



# Key Takeaways



The **inadequate availability** of newborn **medical equipment** in health facilities impacts effective management of care for SSNBs



**Additional training** on SSNB management needed for staff at all levels



**Increased focus on forecasting and procurement** of medical equipment is necessary



Recommended to **develop and implement effective maintenance protocol** for medical equipment



## Decision support and CPAP model selection for effective implementation and uptake

### Sara Liaghati-Mobarhan, Newborn Health Innovation Specialist and Biomedical Engineer, UNICEF

Sara Liaghati-Mobarhan is a biomedical engineer. As the Newborn Health Innovation Specialist at the Product Innovation Centre at UNICEF Supply Division, Sara focuses on adding innovative products to advance small and sick newborn care to the more than 2,000 products currently provided in UNICEF's [Supply Catalogue](#) to respond to the needs of children and their families.

Prior to joining UNICEF, Sara worked as a biomedical engineer and educator with Newborn Essential Solutions and Technologies (NEST) and Rice360 Institute for Global Health Technologies for 5+ years, with a strong focus on newborn health technology management, distribution and implementation support. She acted as the NEST International Biomed Tech Training Director, where she collaborated with partners and stakeholders in Nigeria, Tanzania, Malawi and Kenya to strategically develop curricula, guide implementation activities and advocate policy change, integrating with pre-service and in-



## Decision support and CPAP model selection for effective implementation and uptake

Florin Gheorghe, Innovation Specialist and Biomedical Engineer, UNICEF

As an Innovation Specialist at the Product Innovation Centre at UNICEF Supply Division, Florin focuses on adding innovative products for oxygen therapy and delivery to the more than 2,000 products currently provided in UNICEF's [Supply Catalogue](#) to respond to the needs of children and their families.

# What factors matter most?

## CRITICAL

Does it need air?

Does it need oxygen?

Does it need power?

Humidification

Cost

Battery

Oxygen blender

Consumables

Cleanability

Ease of use

Reusability

## USEFUL

Bubble

What's included

Alarms

Usability

Reprocessing ease

Lifespan

Accepts any circuit

Oxygen consumption

Transport

Ability to titrate FiO2

## OPTIMAL

Other modes (i.e., HFT)

Water trap

Size, space, form

PRV on expiratory

Imposed work of breathing /

resistance

Pressure stability

Electronic vs

mechanical

Air filters

Bacterial filters

Type of prongs

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Reusability

**YOUR EXPERIENCE**

## USEFUL

Bubble

What's included

Alarms

Usability

Reprocessing ease

Lifespan

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## OPTIMAL

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Type of prongs



# Product landscape

High pressure

Phoenix n300



Seattle PAP



Built-in oxygen

Diamedica

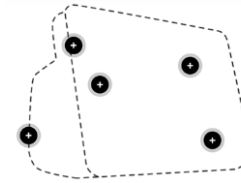


Any O2 source

Pumani



FlowLite



Saans



No power

Vayu



PATH blender



FPH Airvo3



MTTS Dolphin



Diamedica Transport



# Product fit based on facility infrastructure

Is there power?	Reliable Power						Power Not Consistently Available						Low cost	Transport , power outage
Is there oxygen?	Yes			No			Yes			No				
What type of O2?	Cylinder or piped		Oxygen concentrator		None		Cylinder or piped		Oxygen concentrator		None			
Is medical air required?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		



## Decision Support


Procuring the right products, numbers of devices, consumables and spare parts for comprehensive newborn care is essential to ensure appropriate implementation & uptake of bubble CPAP devices.

UNICEF is developing a **digital procurement guide & forecasting tool** linked to the UNICEF supply catalog, intending to:

- Simplify product selection
- Drive demand for comprehensive newborn care
- Bundle for ease of purchase via unit category (e.g., devices, spares & consumables)
- Focus on quality implementation



# Devices, Consumables & Supplies

	<b>UNICEF Newborn Health Procurement Tool</b>	<b>PENDING ADDITIONS OR CHANGES</b> Increasing input data requirements for more refined/customized analysis Decision support based on infrastructural information for other mater Completion of "Legend" tab for all consumables and spare parts Ongoing algorithm updates Addition of example indicative pricing for consumables and spares					
<p>The aim of this tool is to: help planners at the national, subnational or health facility level to plan resources for a comprehensive approach to Level 2 Newborn Care within the Special Newborn Care Unit, Labour Ward and Health Technology Management Unit.</p>							
<p>To support this objective, the tool can:</p>							
<p><i>Estimate the <b>equipment demand</b> at each health facility based on patient demand and available functional devices</i></p>							
<p><i>Provide health facility-level recommendations for <b>appropriate equipment model selection</b> based on health facility characteristics, including available power and medical gas infrastructure</i></p>							
<p><i>Generate equipment lists for each health facility based on NBH recommendations to facilitate discussions around procurement, <b>including consumables and spare parts</b> for a yearly period post-procurement</i></p>							
<p><i>Estimate the <b>capital and operating costs</b> associated with the newborn health ward recommendations for each health facility. Where available, indicative pricing for NBH products from the UNICEF Supply Catalogue is used.</i></p>							
<p>Common use cases for the NBH Procurement Tool include:</p>							
<p><i>Defining a package of accessories and consumables to accompany a comprehensive suite of newborn health equipment</i></p>							
<p><i>Estimating the quantities and total cost of ownership for recommended NBH equipment and supplies for a single (real or hypothetical) health facility.</i></p>							
<p><i>Estimating the quantities and total cost of ownership for recommended NBH equipment and supplies for multiple (real or hypothetical) health facilities (e.g., district or region).</i></p>							

## User Input

Equipment is allocated using the user input on the previous step and linked to the Supply Catalogue for an estimated price.

# Devices, Consumables & Supplies

User information is collected to ensure the right devices & quantities are provided, linking user environments to device specifications

	Facility 1	Facility 2	Facility 3	Facility 4	Facility 5	Facility 6
<b>SNCU Information</b>						
Facility Name	Health Facility 1	Health Facility 2	Health Facility 3			
Facility Type	Level 2	Level 2	Level 2			
Monthly Admissions	250	350	400			
Capacity	16	24	32			
Occupancy (%)	1	1	1			
Average number of days of stay	7	7	7			
<b>Standard of Care Information</b>						
Incubators for standard thermal management (Y/N)	N	N	Y			
Exchange transfusions for jaundice management (Y/N)	N	N	N			
Syringe pumps for pharmaceutical management (Y/N)	N	N	N			
Syringe pumps for nutritional management (Y/N)	Y	Y	Y			
Ventilators for newborn respiratory management (Y/N)	N	N	N			
<b>SNCU Infrastructure</b>						
Walled Oxygen (Y/N)	N	N	N			
Walled Suction (Y/N)	N	N	N			
Walled Medical Air (Y/N)	N	N	N			
Number of rooms dedicated to newborn care (#)	2	2	4			
Power quality (poor/fair/good)	Fair	Fair	Fair			
Rolling blackouts (Y/N)	Y	Y	Y			
<b>NCU Functional Device Information</b>						
Autoclave (tabletop)	0	0	0			
Baby cot	0	0	0			
Bubble CPAP	0	0	0			
Digital weighing scale	0	0	0			
Examination lamp	0	0	0			
Flow splitter	0	0	0			
Glucometer	0	0	0			
Haemoglobinometer	0	0	0			
Incubator (stationary)	0	0	0			
Infant warmer (portable, phase change)	0	0	0			
Infusion pump	0	0	0			
Overhead phototherapy light	0	0	0			
Oxygen concentrator (10 LPM, Single Port)	0	0	0			
Penguin manual suction unit	0	0	0			
Phototherapy lightmeter	0	0	0			
Pulse oximeter (multimodal)	0	0	0			
Radiant warmer (cot included)	0	0	0			
Radiant warmer (overhead)	0	0	0			
Resuscitation bag and mask	0	0	0			
Serum bilirubinometer (benchtop)	0	0	0			
Stethoscope (neonatal)	0	0	0			
Suction pump (electric)	0	0	0			
Syringe pump	0	0	0			
Transcutaneous bilirubinometer (POC)	0	0	0			
Voltage stabilizer	0	0	0			
Warmer (transport)	0	0	0			
Incubator (transport)	0	0	0			
Neonatal simulator mannequin	0	0	0			



# Devices, Consumables & Supplies

Appropriate UNICEF SD Supply Catalogue numbers autofill the device order with indicative pricing and suggested quantities for the SNCU, LW and HTMU



## UNICEF Newborn Health Procurement Tool

### Bulk Equipment Purchase

Equipment is allocated using the user input on the previous step and linked to the Supply Catalogue for an estimated price.

SNCU	Device Category	Material Number	Unit Cost	Unit Category	Health Facility 1	Health Facility 2	Health Facility 3
	Autoclave (tabletop)	S0002020	4,895.00	Autoclave (tabletop)	1	1	1
	Baby cot	S0002150	145.07	Baby cot	16	24	32
	Bubble CPAP	S0004002	4,923.53	Bubble CPAP	3	5	6
	Digital weighing scale	S0145558	81.34	Digital weighing scale	2	3	4
	Examination lamp	S0002023	726.75	Examination lamp	1	1	1
	Flow splitter	S0845039	129.26	Flow splitter	3	4	5
	Glucometer	S0000590	862.17	Glucometer	2	2	3
	Haemoglobinometer	S0000591	775.94	Haemoglobinometer	1	1	1
	Incubator (stationary)	S0002064	6,388.27	Incubator (stationary)	0	0	2
	Infant warmer (portable, phase 1)	S0002060	1,832.80	Infant warmer (portable, phase 1)	0	0	0
	Infusion pump	S0002034	424.20	Infusion pump	1	2	2
	Overhead phototherapy light	S0002032	2,247.59	Overhead phototherapy light	3	5	6
	Oxygen concentrator (10 LPM, Si	S0845038	1,152.04	Oxygen concentrator (10 LPM, Si	5	7	9
	Penguin manual suction unit	S0845006	5.76	Penguin manual suction unit	8	12	16
	Phototherapy lightmeter	S0002018	1,747.02	Phototherapy lightmeter	1	1	1
	Pulse oximeter (multimodal)	S0845212	411.66	Pulse oximeter (multimodal)	8	12	16
	Radiant warmer (cot included)	S0002035	2,419.00	Radiant warmer (cot included)	1	2	2
	Radiant warmer (overhead)	S0002065	1,713.00	Radiant warmer (overhead)	10	15	20
	Resuscitation bag and mask	S0845009	14.38	Resuscitation bag and mask	4	6	8
	Serum bilirubinometer (benchtop)	S0001309	2,867.07	Serum bilirubinometer (benchtop)	0	0	0
	Stethoscope (neonatal)	S0845184	2.87	Stethoscope (neonatal)	8	12	16
	Suction pump (electric)	S0002641	300.00	Suction pump (electric)	1	1	1
	Syringe pump	S0002017	365.45	Syringe pump	2	2	3
	Transcutaneous bilirubinometer (F	S0845005	3,300.00	Transcutaneous bilirubinometer (F	1	1	1
	Voltage stabilizer	S0002632	195.14	Voltage stabilizer	3	5	6
	Warmer (transport)	S0845007	350.00	Warmer (transport)	1	1	1
	Incubator (transport)	S0845008	3,300.00	Incubator (transport)	1	1	1
	Neonatal simulator mannequin	S0000134	86.50	Neonatal simulator mannequin	1	1	1
					\$ 72,060.05	\$ 103,585.93	\$ 138,111.91
LW	Device Category	Material Number	Unit Cost	Unit Category	Health Facility 1	Health Facility 2	Health Facility 3
	Fetal heart rate monitor	S0002061	150.00	Fetal heart rate monitor	4	6	8
	Neonatal simulator mannequin	S0000134	86.50	Neonatal simulator mannequin	1	1	1
	Penguin manual suction unit	S0845006	5.76	Penguin manual suction unit	1	1	1
	Radiant warmer (cot included)	S0002035	2,419.00	Radiant warmer (cot included)	1	1	1
	Resuscitation bag and mask	S0845009	14.38	Resuscitation bag and mask	4	6	8
	Suction pump (electric)	S0002641	300.00	Suction pump (electric)	1	1	1
	Warmer (transport)	Phoenix Embrace	350.00	Warmer (transport)	2	2	3
					\$ 4,168.78	\$ 4,497.54	\$ 5,000.00
HTMU	Device Category	Material Number	Unit Cost	Unit Category	Health Facility 1	Health Facility 2	Health Facility 3
	Phototherapy lightmeter	S0002018	1,747.02	Phototherapy lightmeter	1	1	1
	Oxygen analyser	S0845029	444.17	Oxygen analyser	1	1	1
					\$ 2,191.19	\$ 2,191.19	\$ 2,191.19



# Devices, Consumables & Supplies

Device-specific consumables are collated in one location with the option of user-entered or SD costing & forecasting for 1 year

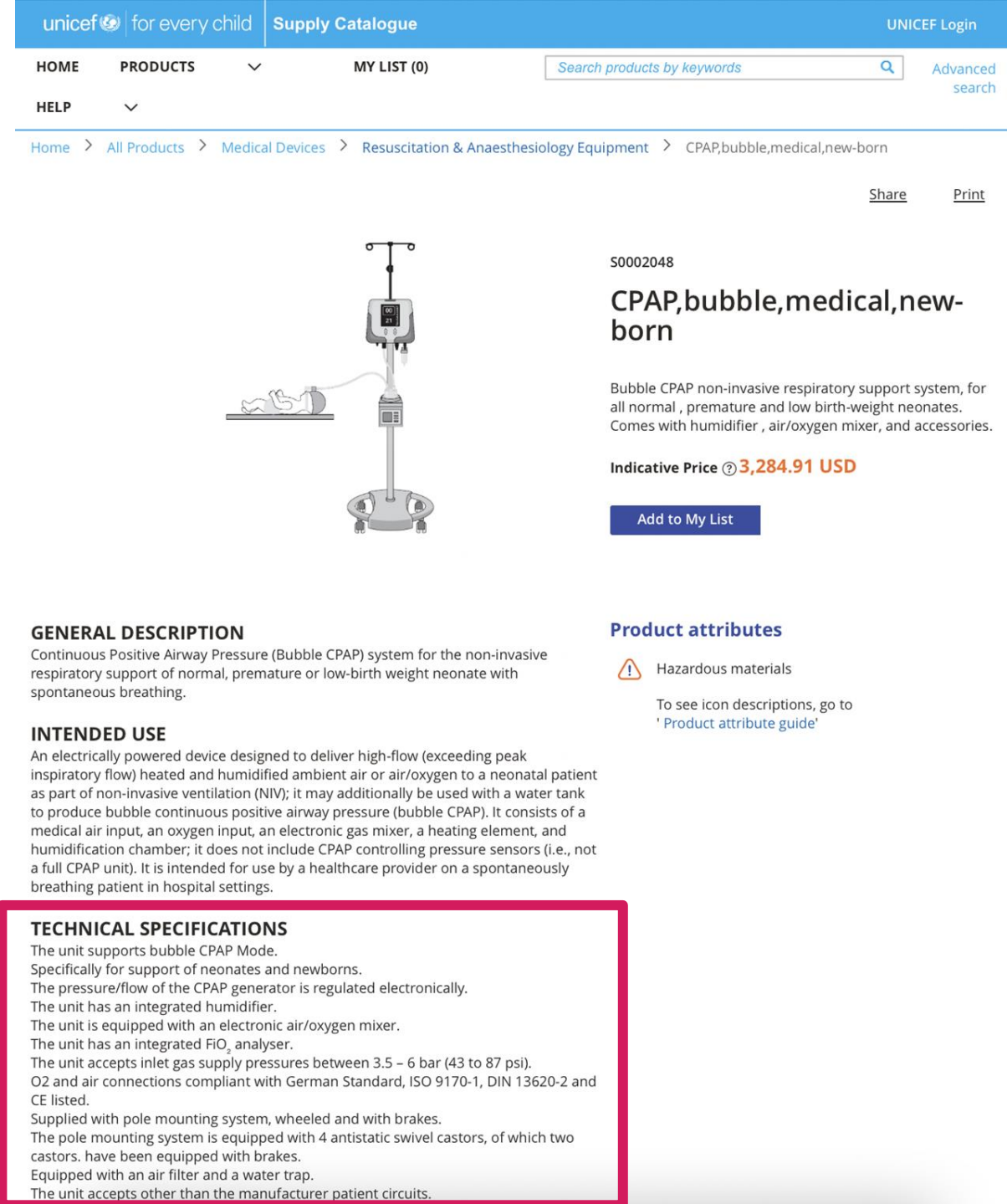
SNCU	Device Category	Material Number	Unit Cost	Consumable Category	Health Facility 1	Health Facility 2
	Bubble CPAP	S0004002	\$	Patient circuit set (extra-small)	20	
	Bubble CPAP	S0004002	\$	Patient circuit set (small)	20	
	Bubble CPAP	S0004002	\$	Patient circuit set (medium)	16	
	Bubble CPAP	S0004002	\$	Patient circuit set (large)	8	
	Bubble CPAP	S0004002	\$	Head bonnets (extra-small)	20	
	Bubble CPAP	S0004002	\$	Head bonnets (small)	20	
	Bubble CPAP	S0004002	\$	Head bonnets (medium)	16	
	Bubble CPAP	S0004002	\$	Head bonnets (large)	8	
	Bubble CPAP	S0004002	\$	Nasal prongs (extra-small)	20	
	Bubble CPAP	S0004002	\$	Nasal prongs (small)	20	
	Bubble CPAP	S0004002	\$	Nasal prongs (medium)	16	
	Bubble CPAP	S0004002	\$	Nasal prongs (large)	8	
	Bubble CPAP	S0004002	\$	Hose for connecting external oxygen (if applicable)	12	
	Bubble CPAP	S0004002	\$	Hose for connecting external medical air (if applicable)	12	
	Flow splitter	S0845039	\$	Oxygen tubing with universal connector	12	
	Flow splitter	S0845039	\$	Oxygen nasal cannula (3.0mm O.D. neonatal)	16	
	Flow splitter	S0845039	\$	Oxygen nasal cannula (3.7mm O.D. infant)	16	
	Glucometer	S0000590	\$	Glucose test strips or cuvettes	2720	40
	Glucometer	S0000590	\$	Control solution	4	
	Haemoglobinometer	S0000591	\$	Haemoglobin test strips or cuvettes	320	4
	Haemoglobinometer	S0000591	\$	Control solution	4	
	Incubator (stationary)	S0002064	\$	Bacterial air filter	0	
	Infusion pump	S0002034	\$	Infusion giving set	24	
	Overhead phototherapy light	S0002032	\$	Eye masks (S, M, L)	16	
	Oxygen concentrator (10 LP)	S0845038	\$	Oxygen nasal cannula (3.0mm O.D. neonatal)	16	
	Oxygen concentrator (10 LP)	S0845038	\$	Oxygen nasal cannula (3.7mm O.D. infant)	16	
	Radiant warmer (cot included)	S0002035	\$	Temperature sensor placement stickers	480	7
	Radiant warmer (overhead)	S0002035	\$	Temperature sensor placement stickers	480	7
	Suction pump (electric)	S0002641	\$	Suction filters	12	
	Suction pump (electric)	S0002641	\$	Vacuum (short) Tubing	4	
	Suction pump (electric)	S0002641	\$	Patient (long) Tubing	8	
	Syringe pump	S0002017	\$	Syringes (10mL)	120	
	Syringe pump	S0002017	\$	Syringes (20mL)	120	
	Syringe pump	S0002017	\$	Syringes (50mL)	120	
					\$ -	\$ -
LW	Device Category	Material Number	Unit Cost	Unit Cost	Health Facility 1	Health Facility 2
	Radiant warmer (cot included)	S0002035	\$	Temperature sensor placement stickers	96	
	Suction pump (electric)	S0002641	\$	Suction filters	4	
	Suction pump (electric)	S0002641	\$	Vacuum (short) Tubing	1	
	Suction pump (electric)	S0002641	\$	Patient (long) Tubing	1	
					\$ -	\$ -
HTMU	Device Category	Material Number	Unit Cost	Unit Cost	Health Facility 1	Health Facility 2
	-	-	\$	-	0	
					\$ -	\$ -





# Devices, Consumables & Supplies

Output reports can be used to make POs through UNICEF Supply or can link to specifications and cost comparisons on the Supply website to ease local procurement



The screenshot shows the UNICEF Supply Catalogue interface. At the top, there is a navigation bar with 'unicef for every child' and 'Supply Catalogue' on the left, and 'UNICEF Login' on the right. Below this is a menu with 'HOME', 'PRODUCTS', 'MY LIST (0)', and 'HELP'. A search bar is located to the right of the menu. The breadcrumb trail reads: 'Home > All Products > Medical Devices > Resuscitation & Anaesthesiology Equipment > CPAP,bubble,medical,new-born'. The product title is 'CPAP,bubble,medical,new-born' with ID 'S0002048'. The price is listed as 'Indicative Price @ 3,284.91 USD'. There is an 'Add to My List' button. The 'GENERAL DESCRIPTION' states it is a Continuous Positive Airway Pressure (Bubble CPAP) system for non-invasive respiratory support. The 'INTENDED USE' describes it as an electrically powered device for delivering high-flow heated and humidified air or oxygen. The 'TECHNICAL SPECIFICATIONS' are highlighted in a red box and include details about bubble CPAP mode, pressure/flow regulation, humidifier, air/oxygen mixer, FiO2 analyser, inlet gas supply pressures, and connections.

unicef for every child Supply Catalogue UNICEF Login

HOME PRODUCTS MY LIST (0) Search products by keywords Advanced search

HELP

Home > All Products > Medical Devices > Resuscitation & Anaesthesiology Equipment > CPAP,bubble,medical,new-born

Share Print

S0002048


## CPAP,bubble,medical,new-born

Bubble CPAP non-invasive respiratory support system, for all normal , premature and low birth-weight neonates. Comes with humidifier , air/oxygen mixer, and accessories.

Indicative Price @ **3,284.91 USD**

Add to My List

### Product attributes

 Hazardous materials

To see icon descriptions, go to 'Product attribute guide'

### GENERAL DESCRIPTION

Continuous Positive Airway Pressure (Bubble CPAP) system for the non-invasive respiratory support of normal, premature or low-birth weight neonate with spontaneous breathing.

### INTENDED USE

An electrically powered device designed to deliver high-flow (exceeding peak inspiratory flow) heated and humidified ambient air or air/oxygen to a neonatal patient as part of non-invasive ventilation (NIV); it may additionally be used with a water tank to produce bubble continuous positive airway pressure (bubble CPAP). It consists of a medical air input, an oxygen input, an electronic gas mixer, a heating element, and humidification chamber; it does not include CPAP controlling pressure sensors (i.e., not a full CPAP unit). It is intended for use by a healthcare provider on a spontaneously breathing patient in hospital settings.

### TECHNICAL SPECIFICATIONS

The unit supports bubble CPAP Mode.  
Specifically for support of neonates and newborns.  
The pressure/flow of the CPAP generator is regulated electronically.  
The unit has an integrated humidifier.  
The unit is equipped with an electronic air/oxygen mixer.  
The unit has an integrated FiO<sub>2</sub> analyser.  
The unit accepts inlet gas supply pressures between 3.5 – 6 bar (43 to 87 psi).  
O<sub>2</sub> and air connections compliant with German Standard, ISO 9170-1, DIN 13620-2 and CE listed.  
Supplied with pole mounting system, wheeled and with brakes.  
The pole mounting system is equipped with 4 antistatic swivel castors, of which two castors, have been equipped with brakes.  
Equipped with an air filter and a water trap.  
The unit accepts other than the manufacturer patient circuits.



## Key Takeaways

Effective implementation & uptake of bubble CPAP devices relies heavily on procuring products that are **appropriate** for available health facility **infrastructure**

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For more information or support on newborn health innovations at UNICEF, please contact:

**Sara Liaghati Mobarhan**  
Newborn Health Innovation Specialist  
Product Innovation Centre  
UNICEF Supply Division  
[sliaghati@unicef.org](mailto:sliaghati@unicef.org)

**Florin Gheorghe**  
Innovation Specialist  
Product Innovation Centre  
UNICEF Supply Division  
[fgheorghe@unicef.org](mailto:fgheorghe@unicef.org)

**Noah Mataruse**  
Health Innovation Manger  
Product Innovation Centre  
UNICEF Supply Division  
[nmataruse@unicef.org](mailto:nmataruse@unicef.org)

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