Oxygen Delivery Toolkit
Resources to plan and scale medical oxygen

Consumption Tracking Tool

Background

Purpose of the tools

Oxygen consumed within a healthy facility is often supplied using a variety of sources, such as gas cylinders of various sizes, concentrators, or pressure swing adsorption plants. This can make consistent and centralized record keeping difficult. Different units of measurements and frequency of use across sources further complicates tracking of oxygen use. The *Consumption Tracking Tool*:

- Provides a clear template for users to log oxygen usage daily either on paper forms or directly into the tool.
- Automatically standardizes different units of measurements and calculates total consumption.

When used consistently, the tool would allow implementers to better understand how oxygen is procured and consumed within a health facility or, if aggregated, across a health system. These data may highlight opportunities to reduce costs through more optimal procurement strategies (e.g., replacing routine procurement of gas cylinders with in-facility oxygen-generation devices). It may also illuminate barriers to consistent oxygen availability.

Consumption tracking overview

The need for oxygen and its availability at the health facility level may vary greatly day by day. Consistent record keeping may help better predict need and determine the optimal strategy to sustainably meet it. Users of the tool would first audit the various oxygen sources within the health facility and the measurement units used to describe volume/mass of oxygen procured or used. Next, every month, users would use the corresponding tabs or paper forms to document daily changes in oxygen stock across all sources. If using paper forms, collected data would need to be inputted into the Excel tool at the end of the data collection period. A summary of oxygen consumption within each source and in total is automatically calculated and shown in the Monthly Summary tab.

At a glance

Tool: *Consumption Tracking Tool*

Who are these tools for:

Implementers

What is this tool for: Better tracking of oxygen consumption at the health facility level to ensure that consistent data are used to monitor current oxygen usage, estimate future need, and determine if the current device mix in the facility is optimal.

How can this tool be used: This Excel-based tool facilitates collection of monthly consumption data across five common oxygen delivery sources and simplifies calculation of total consumption even when different units of measurements are used across sources. The tool can be used by itself or in conjunction with provided Word-based paper forms.

Takeaways

Impact

Understanding patterns of oxygen consumption in a health facility is a critical step in planning effective short- and long-term strategies for oxygen infrastructure and procurement. It enables implementers to tailor the mix of oxygen-generation and oxygen-delivery sources to match the needs of the facility, while understanding and weighing unique cost and operational considerations for each option. Ultimately, better planning can lead to increased access to oxygen and improved quality of care.

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PATH Oxygen Consumption Tracking Tool: Monthly summary

Instructions: The information below calculates your total oxygen use for this data collection period. Complete this tool and review the results on a month-by-month basis to see trends in oxygen use and to better understand current consumption.

Note: *Due to fluctuations in patients, oxygen use, and other factors, results are best viewed over time.*

Facility information	
Country	Kenya
County/district/state	County 1
Subcounty/subdistrict name	Subcounty 1
Facility	District Hospital 1

Bed information	
Total number of beds	500
Number of emergency beds	10
Number of critical care beds	50
Number of general inpatient beds	340
Number of beds with added services	100

Data collection period	
Start date	2020-03-01
End date	2020-03-30
Number of days	30

Select patient metrics	
Total number of inpatients	75
Number of critical care inpatients	75
Average length of inpatient stay (days)	5
Average bed occupancy rate	80%
Number of normal births	10
Number of major surgeries	8
Number of outpatients	400

Summary of oxygen use

Cylinder use	*Size in Liters (L)*	*Number used*	*Volume used in Liters (L)*
Type 1 size:	1360	50	68000
Type 2 size:	3400	50	170000
Type 3 size:	6800	50	340000
Type 4 size:	8500	50	
Type 5 size:	9500	50	
Total volume used in Liters (L):			
Total volume used (L):			-

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PATH Oxygen Consumption Tracking Tool: Module 3—Oxygen delivery Sources

Instructions: Select yes or no from the drop-down lists to indicate the types of oxygen sources used in this facility and the number of them (if needed). Proceed to fill out the following modules as indicated.

Note: *This is especially important if this form will be collected by someone outside the facility in order to aggregate data across multiple facilities.*

	Indicator	a. Is this device type used in this facility? *(select from drop-down list)*	b. Number of total functional cylinders or concentrators currently being used across wards *(type in number)*	Modules to fill in if you selected yes for this device type
3.1	Oxygen cylinders (bedside) 	Yes		Module 4
3.2	Centralized cylinders (manifold) 	Yes	N/A	Module 4
3.3	Oxygen concentrator 	Yes		Module 5
3.4	Pressure swing adsorption (PSA) oxygen-generation plant 	Yes	N/A	Module 6

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PATH Oxygen Consumpt… Monthly summary

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Type 3 size:	6800	50	340000
Type 4 size:	8500	50	425000
Type 5 size:	9500	50	475000
Total volume used in Liters (L):			**1,478,000**
Total volume used (L):			-

Concentrator use	
Total volume used (in liters):	**84,000**
Max potential use (in liters):	138,000

PSA plant use	
Total volume used (Custom unit)	**0**

Total Oxygen Consumption *(reported in three units of gaseous volume)*	
84,000	Liters (L)
84	Cubic meters (m3)

For more information

www.path.org/oxygen-delivery-toolkit

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