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A brief guide to walkthrough analysis

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What is a walkthrough analysis?

- Walkthrough analysis is a structured approach to collecting and analysing information about a **task** or **process** or a future development (eg designing a new protocol).
  - Task: Individual actions or steps that together form a process (eg check chart for patient details).
  - Process: A sequence of tasks or work conducted by individuals to produce outcomes (eg administering a vaccine).
- The method is used to help understand how work is performed and aims to close the gap between work as imagined and work as done to better support human performance.
- By conducting a walkthrough, learning response leads can gain a detailed understanding of the cognitive and physical activities required to perform a task or process, and determine whether the system supports these activities.
- The method involves a learning response lead (who is not a user) working through a task or process alongside a representative user (someone familiar with the process) to understand how everyday work is done and determine any system redesign needs.
- The method can facilitate diverse conversations and understanding around work procedures, the necessary trade-offs and adaptations to work that are required, and how technology or other factors interact to influence human and overall system performance.

NOTE: Walkthrough analysis is not the same as a leadership walkaround. The latter is a more generalised and unstructured process of actively listening to staff concerns about work.

Getting started

Pros/cons	How	Tips
Can be used to: • inform the design of work procedures • identify hazards in existing procedures or tasks • identify everyday work hassles, frustrations and irritations. **Pros** • Process can be stopped at any time to ask questions, review documentation, devices or decisions being made, seek more detailed clarity. • Quick and low cost – all that may be need is pen and paper • Flexible approach that can be used as part of any learning response method. **Cons** • Not observing 'real' behaviour, but can be combined with observation data to further contextualise understanding of the process. • Requires access to team member(s) experienced in the process. • Best applied 'in situ', which may limit when you can access certain environments (eg may not be usable this method during busy periods).	Four steps: 1. Define the process: walkthrough analysis begins by defining the process under evaluation. 2. Describe the process: divide the process into component parts (tasks) that are clearer/simpler to understand. 3. Perform a walkthrough of the process with a user representative of the workforce. Ask representative users to 'think out loud' (ie verbalise their thoughts) as they simulate going through their tasks (either in situ or in a simulated environment). Example questions to ask: • "I noticed that you did _____. Can you tell me why?" Follow-up on any interesting behaviour you observe to get a better idea of the thought process behind the actions: • "Is there another way to complete that task?" (try to determine why they did one thing instead of another) 4. Summarise re-design opportunities and examples of good practice identified. This can be used to define potential areas for improvement.	If the process is too complex to describe in list format, a diagram can be used instead. Hierarchical task analysis can help to unpick complex processes. Record the walkthrough (sound or video where feasible) and/or contemporaneous notes taken by the learning response lead. Use prompts from the 'systems considerations' below. Learning response leads may wish to seek multiple perspectives from team members to understand how tasks are performed. General questions to consider: • What makes tasks difficult? • What surprises you? • What can go wrong? • What can be improved and how? Use the task and tool matrix table below to generate further detail as part of your analysis.

System considerations

Person(s)	Tasks	Tools and technology	Environment	Organisation of work	External
• Complexity/ demands of the task • Are tasks repetitive (variety, monotony)? • Are tasks conducted in a particular order (sequence)? • Workload • Workarounds • Time pressure	• Complexity/ demands of the task • Are tasks repetitive (variety, monotony)? • Are tasks conducted in a particular order (sequence)? • Workload • Workarounds • Time pressure	• Usability: are there 'supports' (eg signs of poor design such as sticky notes to guide use) • Presentation of information • Quality of alarm design (eg recognition and response) • Positioning of equipment – how is it grouped (eg in relation to task requirements) • Level of automation • Reliability of equipment • Appropriateness of equipment for the task • Are tools/ technology maintained/ updated? • Maintenance requirements • Availability (eg is there an adequate supply)	• Distractions • Interruptions • Business • Ambient environment, including lighting, noise, air quality • Environment layout • Where are tasks completed? • Is this space appropriate for the task? • Visibility of patients, staff, equipment	• Information flow (eg high communications workload, poor phrasing or low communication standards) • How is new information flagged? • Where is this information held? • Leadership and supervision • Inadequately defined roles and responsibilities • Work scheduling • Staffing levels, resourcing • Safety culture • Change management	• National targets • Policy and regulatory demands • Accreditation standards • Political decision-making • Global events

Task and tool matrix (optional)

- Taken from SEIPS 101 and seven simple SEIPS tools,[1] the task and tool matrix is useful for documenting your review of a process/task. It also incorporates considerations of tool use and can be used to inform task or tool redesign during the safety action development processes.
- The task matrix lists and describes key tasks along the dimensions of who, why, when and how each task is performed.
- The tool matrix documents key artifacts, instruments or technologies in the system and their users, purpose, use frequency, accessibility, and estimated or measured usability.

[1] Holden RJ, Carayon P (2021). SEIPS 101 and seven simple SEIPS tools. BMJ Quality & Safety 30(11): 901–910. https://doi.org/10.1136/bmjqs-2020-012538

Task matrix						
	Who performs	Goal(s) of task	Frequency	How performed	When performed	Notes
Task 1						
Task 2						
Task 3						
Tools matrix						
Task 1						
Task 2						
Task 3						
Task x tool matrix						
	Task 1		**Task 2**		**Task 3**	
Tool 1						
Tool 2						
Tool 3						