

Observation Tool: Physicians Activities and Workflow interruptions

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1 Activities (two alternative classification systems):

1a) Category system of 11 observed activities (for definitions and further information confer to Weigl, Müller, Zupanc, & Angerer, 2009) [access <http://www.biomedcentral.com/1472-6963/9/110>]

<i>Direct Patient Contact</i>	
	(1) Patient Communication
	(2) Diagnostics
	(3) Therapy
<i>Indirect Patient Contact</i>	
	(4) Consultancy
	(5) Documentation/ Paper- & Computerwork
	(6) Conversation with Staff
	(7) Conversation others
	(8) Organizing
	(9) Meetings
<i>(10) Other professional activities</i>	
<i>(11) Personal activities</i>	

1b) Category system of 7 observed activities (for definitions and further information confer to Weigl, Müller, Zupanc, Glaser, & Angerer, 2011)

	(1) Communication to patients
	(2) Diagnostics
	(3) Therapy
	(4) Documentation
	(5) Conversation with Staff
	(6) Conversation with others
	(7) other activities

2 Workflow interruptions and disruptions (for classification and definition see Weigl, et al., 2011)

Working definition for observation

- workflow interruptions are an intrusion of an unplanned and unscheduled task, causing a discontinuation of tasks, a noticeable break or task switch behavior (i.e. answering a phone call during patient's examination; responding to a nurse's question while charting).
- the current task (primary task) is suspended to perform an unplanned task (secondary task), resulting in discontinuous task performance
- thus an interruption means that an observable event or obstacle in goal-directed behavior occurs, that hinders work performance, and attention resources have to be allocated to the break-in event (secondary task)
- Impediments can also be considered as a kind of workflow interruptions or disruptions. Compared to interruptions that force physicians to stop the ongoing activity to turn their attention to a disruptive incident, impediments only aggravate or delay current task performance.

- we distinguish between information impediments (e.g., patient's chart not at hand; diagnostic test results unavailable), waiting time (e.g., in front of an elevator; a slow booting computer), and motor impediments (e.g., ergonomic problems causing awkward movements).

Categories, single sources, and definitions for observation (cf., Weigl, et al., 2011)

<i>Category</i>	<i>Workflow interruption</i>	<i>Definition: Significant disturbance due to...</i>
Colleague interruptions	1 Interruptions by physicians	.. other physician' actions (e.g., colleague asking for patients charts)
	2 Interruptions by nursing staff	.. nursing staff's actions (including nursing trainees)
Telephone/ Beeper	3 Interruptions by telephone/beeper	.. telephone or beeper call and subsequent responding
Interruption by others	4 Interruptions by patients	.. patients (e.g., patient asks for information)
	5 Interruptions by patients' relatives	.. patients' relatives (e.g., relatives stopping physicians in hospital corridors)
	6 Interruptions by others	.. any other person (e.g., physical therapist, social worker)
Impediments / Delays	7 interruptions due to equipment or technical malfunctions	.. equipment dysfunctions or technical malfunctions (i.e. computer system crash; failure of blood gas analysis)
	8 Information impediments	.. necessary work information unavailable (e.g., patient's chart or diagnostics are not available)
	9 Waiting time	.. waiting time to continue current workflow (i.e. extended delay due to slow elevator)
	10 Motor impediments	.. physical impediments (i.e. noise; additional physical strengths in moving heavy patients)

Online Resources:

<http://www.biomedcentral.com/1472-6963/9/110>

References

- Weigl, M., Müller, A., Zupanc, A., & Angerer, P. (2009). Participant observation of time allocation, direct patient contact, and simultaneous activities in hospital physicians. *BMC Health Serv Res*, 9(1), 110.
- Weigl, M., Müller, A., Zupanc, A., Glaser, J., & Angerer, P. (2011). Hospital doctors' workflow interruptions and activities: an observation study. *BMJ Qual Saf*, 20(6), 491-497.

Observation sheet

			<i>Interruptions and disruptions</i>										
<i>Current time</i>	<i>Room</i>	<i>Activity</i>	<i>Int-Pat</i>	<i>Int-Phys</i>	<i>Int-Nurs</i>	<i>Int-Tel</i>	<i>Int-Rel</i>	<i>Int-Fct</i>	<i>Int-other</i>	<i>Wait time</i>	<i>Inf Imp</i>	<i>Mot Imp</i>	<i>Notes</i>
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Example

Observation sheet

	Interruptions and disruptions													Notes
	Current time	Room	Activity	Int-Pat	Int-Phys	Int-Nurs	Int-Tel	Int-Rel	Int-Fct	Int-other	Wait time	Inf Imp	Mot Imp	
1	07:29:53	Office	5		X		X							Paper and Computer Work
2	07:34:02	Nurses Room	6											
3	07:39:34	Patient room	1			X X								Nurses interrupts because OR call
4	07:46:12	OR	8									X		Preparation op in OR; Documentation incorrect
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