

Supplementary Material*

Sinsky C, Colligan L, Li L, Prgomet M, Reynolds S, Goeders L, et al. Allocation of physician time in ambulatory practice: a time and motion study in four specialties. *Ann Intern Med.* doi:10.7326/M16-0961

WOMBAT Task Definitions

After-hours Work Diary Worksheet

Photo of Observer Using the WOMBAT Tool

* This supplementary material was provided by the authors to give readers further details on their article. The material was reviewed but not copyedited.

The Work Observation Method by Activity Timing (WOMBAT) work task category definitions

Dimension One: TASK (WHAT)		
Activity during the office hours	Task category	Description
Direct clinical face time	With patient	All face-to-face patient interactions (including physical examination) or communication with anyone relating to a patient Includes: interviewing patient or family; assessing and planning; performing physical examination; performing procedure; discussing facts with or about a patient
	With staff and others	Excludes: communication about insurance; any actions, such as typing or clicking that indicate documentation/review, test result, or ordering related tasks
EHR and desk work	Documentation/review (Doc/Rev)	Writing notes or reviewing information Includes: interaction with paper or electronic record which may include writing, typing, scrolling, swiping, clicking, dictating, reading; jotting notes on paper; talking to a patient while typing is documentation/review not clinical care or a multi-task Excludes: interactions with paper or electronic record which are to place orders or look at test results
	Test result	Reviewing a test result(s) Includes: scanning a list of obtained results; lists of follow-up labs/procedures; asking a nurse to check a lab/procedure result; looking at an ECG printout Excludes: performing a procedure where the result is available immediately after the procedure, e.g., urine dipstick – this is considered clinical care; anything with vital signs (e.g., checking blood pressure), food diary, or weight – this is clinical care
	Medication order (Med Order)	Writing a medication order or medication refill

		<p>Includes: paper-based or electronically entered medication orders, including over the counter orders (only if written down for patient) and vaccines</p> <p>Excludes: general discussion with patient about medications; only reviewing a patient list of medication; procedure of giving medication, e.g., a vaccine injection – this is clinical care</p>
	Other order	<p>Writing a test order or a referral</p> <p>Includes: paper-based or electronically entered test orders or referrals; directing staff to arrange a referral</p> <p>Excludes: general discussion with patient about need for tests or referral, without actually writing an order – this is clinical care</p>
Administrative work	Insurance	<p>Anything related to patient insurance</p> <p>Includes: payer related tasks; discussions about Medicare, Medicaid, Cigna, Anthem etc.; any mentions regarding approvals, pre-authorization, pre-certification, authorization, formulary, coverage, deductible, co-pay, out-of-pocket, EPO, PPO, HMO; any signature or writing of letter to insurance</p> <p>Excludes: communication related to payment not related to insurance (e.g., discussing delayed payments for patients); letters to other physicians, medical certificates or notes</p>
	Scheduling	<p>Allocating patients or physicians to appointment time slots</p> <p>Includes: making changes to a schedule or communicating with staff about schedule changes; delaying appointments and re-scheduling; directing staff to change appointments</p> <p>Excludes: telling a patient to schedule an appointment</p>
Other	Close to observation	<p>Any requests where the observer is asked not to observe/follow, e.g., patient declines observation</p>
	Transit	<p>Moving between locations</p> <p>Includes: relocating/moving from place</p>

		<p><i>to place with no other interaction; carrying something from place to place or going to get an item from another location</i></p> <p>Excludes: moving around within the exam room; if conducting another task while walking the other task is recorded rather than recording a multi-task</p>
	Personal	<p>All non-work related tasks</p> <p>Includes: going to the bathroom; lunch breaks; eating food; personal phone calls or conversations</p> <p>Excludes: if drinking liquids, such as coffee, while undertaking other tasks (the other task is recorded)</p>
	Other (aggregated)	<p>Other tasks not included above</p> <p>Includes: meetings, education (of self or other staff), business, crashed/frozen technology, other communication, or anything else not covered elsewhere</p>
Dimension Two: WHERE		
	Exam Room	<p>Locations dedicated to clinical care with patients</p> <p>Includes: procedure room, even if preparing for a procedure before patient arrives; medication room</p> <p>Excludes: if an empty exam room is used for other purpose, e.g., if used as office</p>
	Workstation/Office	<p>Locations designed (or dedicated for the day) for provider to do work when not with patient</p> <p>Includes: desk; empty exam room; team rooms</p> <p>Excludes: standing in the corridor while using portable device or paper; nurses' station</p>
	Other	<p>Anything not considered an exam room or workstation/office</p> <p>Includes: corridor/hallway; reception area; nurses' station; conference rooms</p>

Dimension Three: WITH WHOM	
Patient	Patient or family of patient
Staff	Anyone who works in the practice (can be clinical or clerical)
Other	Anyone external to the practice (e.g., contacting pharmacy on the phone)
Dimension Four: MODE	
EHR	Electronic health or medical record, clinical management system, EHR “inbox”
Email	Email or direct messaging not embedded in EHR
Internet/Software	Systems that are not part of EHR (e.g., PACS, Up-to-Date, Google Scholar)
Phone	Personal or office cell phone, or landline phone
Paper	Anything paper-based such as fax print outs, sticky notes, paper print outs, paper prescription pads, paper schedules, diary or book, printed journal articles
Other	Any other technology not listed above, such as pager, dictation system/Dragon, printer/fax machine etc.
Dimension Five: DELEGATE or ACCEPT	
Yes	<p>Instances where a task involves delegating or accepting</p> <p><i>Includes:</i> where the physician asks a staff member to complete a task, such as scheduling a patient appointment, or where a staff member asks the physician to complete a task, such as signing a pre-authorization document</p> <p><i>Excludes:</i> physician asking a patient to do something</p>

One-week Diary for After-Hours Work

PARTICIPANT ID _____ Week of _____ Which Days on Call? _____

TASK	M		T		W	
<u>Clinical Care</u> Communicate w patient OR staff re care		EHR Paper Phone Other?		EHR Paper Phone		EHR Paper Phone
<u>Preparation</u> Reviewing for next patient/s. Excludes previously seen, this is for FUTURE patients		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Documentation</u> Recording clinical care performed, e.g., clinic notes completed in EHR. only PAST patients		EHR Paper Dictate		EHR Paper Dictate		EHR Paper Dictate
<u>Results review</u> Checking performed labs or tests, e.g., "running the labs"		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Orders</u> Any order except meds		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Med Orders</u> Includes refills		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Pre-authorization work</u>		Electr Paper Phone		Electr Paper Phone		Electr Paper Phone
<u>Other communication or documentation related to payers</u>		Electr Paper Phone		Electr Paper Phone		Electr Paper Phone
<u>Example:</u> <i>Documentation</i>	45 m	All EHR	2 1/2 h	All EHR		

Diary, continued

TASK	Th		F		Weekend	
<u>Clinical Care</u> Communicate w patient OR staff re care		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Preparation</u> Reviewing for next patient/s. Excludes previously seen, this is for FUTURE patients		EHR Paper phone		EHR Paper Phone		EHR Paper Phone
<u>Documentation</u> Recording clinical care performed, e.g., clinic notes completed in EHR. only PAST patients		EHR Paper Dictate		EHR Paper Dictate		EHR Paper Dictate
<u>Results review</u> Checking performed labs or tests, e.g., "running the labs"		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Orders</u> Any order except meds		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Med Orders</u> Includes refills		EHR Paper Phone		EHR Paper Phone		EHR Paper Phone
<u>Pre-authorization work</u>		Electr Paper Phone		Electr Paper Phone		Electr Paper Phone
<u>Other communication or documentation</u> related to payers		Electr Paper Phone		Electr Paper Phone		Electr Paper Phone
<u>Example:</u> <i>Clinical Care</i>	<i>45 m</i>	<i>ALL PHONE</i>	<i>0 m</i>			

