

First Author	Year	Definition of workflow	Scope of study	Keyword 1	Keyword 2	Keyword 3
Abeta	1999	Personal workflow: knowledge of work process	Prototype trial of personal information manager (PIM) used to extract workflow data from individual users	personal	knowledge	process
Agbulos	2003	Work processes, involving groups of tasks.	Description of maintenance work, development of simulation.	processes	groups of tasks	simulation
Alexopoulos	2001	Activities in a clinic and the relationships among those activities	Development of workflow simulation tools for set of community health clinics	activities	relationships among activities	simulation
Alter	2003	Work System - a system in which human participants and/or machines perform business processes using information, technologies, and other resources to produce products and/or services for internal or external customers.	Defining a framework through which IS researchers can understand business processes, not just IT artifacts.	products	technology	work system
Andersson	2003	Work activities and procedures	Case study at a pediatric clinic	activities	procedures	
Andriole	2002	Actions taken to capture and deliver radiology images	Quantitative measurement of workflow variables in use of three different radiology technologies at two sites	actions	technology	quantitative variables
Balka	2006	Work activities, although really no definition provided	Configuring to make a wireless paging system in one Canadian hospital	activities	configuring	technology

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Balka	2007	Work processes developed before technology implementation; work practices developed after technology implementation	Focused on medication administration technology in one hospital	processes	technology	implementation
Bardram	1997	Activity system/ Activity theory. Focused on coordination of activities.	Ethnographic study of the coordination of work among health care workers. Five hospitals were studied.	activity system	coordination	activities
Bardram	1997	Work activities, especially collaboration and coordination	Designed system to assist with planning of care	activities	coordination	planning
Barley	2001	Detailed field studies of organizations and work structures	Argument for more empirical studies of work.	organizations	structures	
Baxter	2005	Standard procedures and daily routines	Work processes on a NICU ward, with the goal of understanding context prior to implementing decision support	standard	procedures	routines
Berg	1999	Focused on reading and writing activities.	Describes findings that support the concept of IT as embedded in work practices, specifically focusing on reading and writing activities of clinicians.	information	tasks	

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Berg	1999	Work practices are conceptualized as networks of people, tools, organizational routines, documents and so forth.	A sociotechnical approach to PCISs in health care is outlined, and two implications of this empirically grounded approach for the practices of developing and evaluating IT applications in health care practices are discussed.	practices	networks	technology
Berg	2003	Work processes and tasks	This paper queries whether a detailed modeling of work processes and data flows is the primary step that needs to be completed before such EPRs can be developed or tailored.	process	modeling	data flow
Bertelsen	2005	Work sequence	Work sequence during rounds at the unit level (2 units)	sequence	temporal	
Blomberg	1996	Focus on document work.	Deepen understanding of document work practices and explore opportunities for collaborative work-oriented design.	document	practices	collaborative
Bodker	2006	Focuses on flexible work environment - researchers that need to collaborate.	A participatory design study that developed prototypes of technologies to produce social awareness among workers in a flexible work environment.	environment	flexible	collaborate

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Borycki	2006	Tasks	Simulation exercise	tasks	completion	
Bowers	1995	How work unfolds over time, separated into workflow from within and from without	Shopfloors at three sites	time	from within	from without
Brixey	2007	Work activities	Focused on interruptions and their impact on workflow and other processes in the trauma section of one ED	activities	technology	role
Burke	2000	Time spent in specific categories of activities.	Compare results obtained from a time-and-motion study with those obtained using self-reporting.	time	categories of activities	time-motion study
Campbell	2007	Macro-level view - goal is to understand optimal allocation of treatment resources in the UK.	Development of a simulation of podiatric services, modeling demography of patient population, staffing, clinical conditions, and predicting treatment demand and unmet need.	resource allocation	macro-level	
Capuano	2004	Activities	Workflow on one med/surg unit at one hospital, repeated pre/post process improvement intervention	activities	process	

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Carayon	2004	A process is represented from an organizational POV as a series of tasks with a number of transitions/handoffs necessitating communication between various people	Human factors analysis using work system model	process	communication	transitions
Carayon	2006	Work system: includes person, organization, technologies/tools, tasks, environment.	Used the SEIPS model to 1) guide the assessment of systems, processes and outcomes and 2) evaluate system redesign interventions.	tasks	environment	technology
Casper	2005	Condensed observations into flowcharts. Examined variations in nurses' strategies to achieving the same goals.	A work system study to support the development of a technology enhanced practice (TEP) system for home care nurses dealing with CHF patients. This paper reports on the first phase (design).	flowcharts	strategies	goals
Clarke	2003	Everyday working practices	Document work on the toxicology ward at one hospital	everyday	practices	
Cortizas	1996	Process flowchart - not task analysis, but "process steps".	Process improvement project to improve efficiency of specimen processing in a hospital laboratory.	process	flowchart	steps

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Dourish	1999	Collaborative task activities	Evaluation of coordination of work across boundaries, set at multiple bank branches	collaborative	tasks	activities
D'Souza	2003	Tasks	CSCW system designed to assist in task completion	tasks	evaluation	
Dykes	2005	Unknown	Workflow analysis at a primary care practice	n/a		
Earl	1995	BPR = approaches for initiating and managing "radical" changes in existing business processes.	Four in-depth case studies to understand how firms define and manage the relationship between business strategic planning, process reengineering projects, and IS strategic planning.	BPR	change	manage
Endress	2006	Collections of tasks with a defined start event and finish event	Analyzed workflow through a network technique to generate a critical path method network diagram of OR workflow	start event	finish event	collections of tasks
Faergemann	2005	Work activities and collaboration/coordination to accomplish tasks	Pregnancy care in one hospital, including multiple wards and providers included in care	tasks	collaboration	coordination

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Flanagan	2007	Focus on information required at various steps in design process.	Explores the use of "design confidence" as a part of process models to compensate for the loss of tacit overview knowledge in increasingly dynamic design environments.	information	process	design
Fontanesi	2000	Unclear, never explicitly stated	Development of low cost user-friendly tool to understand workflow	n/a		
Fontanesi	2002	Work tasks	Workflow analysis at community clinics participating focused on immunizations	tasks		
Furniss	2006	Work tasks	Emergency medical dispatch	tasks	focused	
Goorman	2000	Work activities	Field study of EMR use at an inpatient ward, as it relates to the work of nurses	activities	interruptions	processes
Govindaraj	1997	Functions performed by individuals	Engineering design activities during development of a hardware component	functions	individuals	
Graves	2006	Tasks	Evaluation of workflow in one unit (the serials unit) of an academic library	tasks	information needs	
Grote	2000	Three levels of analysis: human-machine system, work tasks of human operator and work system.	Presents the KOMPASS method for analyzing work systems	technology	individuals	work system

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Guerrero	1996	Activities reported by nurses prompted by a routine, repeated page.	The impact of an automated dispensing system (ADS) on medication-related work activities by nurses and pharmacists was studied.	activities	prompted	routine
Gurses	2007	Job performance, especially in terms of how the work environment impacts it.	Evaluation of performance obstacles encountered by ICU nurses (in 7 hospitals) in their work context	performance	environment	
Hallock	2006	Processes involved in the work system (no formal definition given)	Large outpatient group of clinics (30 clinics)	processes	work system	
Hartwood	2003	Everyday work activities and the work required to accomplish tasks.	Focused on inter-service work in the context of UK psychiatric healthcare, with an emphasis on referrals from one healthcare service to another and the impact of the EMR	everyday	activities	tasks
Hazlehurst	2004	Focus on planning activities and configuration of artifacts in space.	Ethnographic research to understand how resources are configured to accomplish successful surgery and prevent adverse events.	planning activities	artifacts	space
Heaton	2000	Task analysis/ projecting of existing and proposed system. Time study for net comparable activities.	Simulation pilot study to examine the differences between existing and proposed systems for repacking drugs into unit of use packaging in a community pharmacy.	task analysis	projecting	time study

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Hengst	2004	Business processes	This paper reports on lessons learned between 1992 and 2003 regarding the combination of BPR, groupware, and simulation.	business	processes	simulation
Hill	1995	Interactive systems comprising combinations of people and office devices that support effective interaction	Performance of planning and control of multiple task work in medical reception at a small outpatient clinic	people	technology	interaction
Horsky	2005	Tasks	Small-scale study of physician interaction with a CPOE system	tasks	simulation	
Hsiao	2006	Work practices, tasks	Goal of understanding knowledge embodied in existing work practices	practices	tasks	embodied knowledge
Hughes	1999	Not defined	Investigation of work in multiple bank branches over a period of years	n/a		
Jaspers	2002	Tasks	Information needs and search strategy of physicians in a cancer-care unit	tasks	interaction	technology
Jerva	2001	"Business practices"	Viewpoint article: discusses the merits of BPR as a part of information systems development.	BPR	process	practices
Johnson	2006	Activities involved in accomplishing a specific tasks/process	Interview of 19 providers focused on the prescribing process	activities	specific task	process

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Kalinski	2008	Process steps that are available to measure through the extant information system.	Used data from existing system to examine workflow in pathology department, focusing on processing times.	process steps	measure	technology
Karasti	2001	Includes meaning and is constructed by participants and designers.	By scrutinising the unfolding discourse of workshop participants the co-construction of work practice issues as relevant design considerations is described.	meaning	constructed	participants
Kelly	1997	Clinical processes are those that address the actual medical needs of patients and include diagnosis, treatment, and prevention. Operational processes support clinical processes and involve patient flow issues. Administrative processes provide infrastructure support to clinical and operational (patient flow) processes, as well as support the culture and behaviors desired in the care delivery environment.	Reports preliminary results of a large-scale reengineering project in a surgical service.	processes	culture	environment

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Kleiner	2006	Work system: comprises two or more people working together (i.e. personnel sub-system), interacting with technology (i.e. technological sub-system) within an organizational system that is characterized by an internal environment (both physical and cultural).	Overview article of the field of macroergonomics and related methods.	environment	working together	technology
Kobayashi	2005	Normal/routine practices	Ethnographic study of workarounds in one trauma unit at one hospital	routine	normal	practices
Kumar	2004	Process steps - depicted in relationship with customers and functional areas.	Description of process redesign project.	process steps	relationship	functional
Landgren	2007	Communication interactions, specifically related to the use of mobile phones.	Investigates mobile phone interaction in the organizing of emergency response work.	communication	interaction	organizing
Laxmisan	2007	Process of care and movement	Impact of multitasking on cognition in an adult ED at one hospital	process	movement	
Lederman	2002	Stages/steps in radiology process	Focused on workflow in radiology at a hospital with a semi-automated system	stages	steps	process

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LeRouge	2007	Focus on telemedicine encounters - work practices and the organization of work. Includes technology, decision-making, medical procedures and human interactions.	Specify the "use quality" construct in the context of a mission-critical system deployment.	practices	organization	interaction
Lin	1996	Detailed tasks and information relevant to the use of space.	The development and evaluation of a new work system and facility design for a chain of community pharmacies are described.	tasks	information	space
MacKay	1999	Work practices, use of artifacts in a social context.	Field studies that examine the use of flight strips by air traffic controllers.	practices	artifacts	social context
Malhotra	2005	Tasks performed by individuals in an environment	Study of work in on ICU at one hospital	tasks	environment	individuals
Malhotra	2007	Tasks performed by individuals in an environment	Study of one ICU at one hospital	tasks	environment	individuals
Mark	2002	Focusing on rules (conventions) for interaction - problems that cooperating partners face in handling shared objects in electronic work	Describes a case study which illustrates the difficulty for a distributed group in recognizing coordination situations and enforcing conventions.	interaction	cooperation	shared objects
Martin	2007	Processes involved in accomplishing tasks	Evaluation of the impact of a contract on real world design practice and project work	processes	tasks	accomplishing

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Mbambo	2003	Tasks (not sure if or how the granularity of tasks is standardized).	Job analysis of nurses to describe current practice, clarify expectations, and make recommendations about skill mix.	tasks	practices	role
McCarthy	2004	Focus on communication, mutual construction of meaning.	Examines how meaning is constructed through telephonic dialogue in the work of ambulance control staff.	communication	mutual construction	constructing meaning
Merrill	2007	Focused on measures of individual communication patterns and organizational network such as density, complexity, situation awareness, efficiency, etc.	Organizational network analysis to describe information and process flow in a public health department.	activities	reading	writing
Michel-Verkerke	2004	Broader scale of patient care across a system, rather than individuals	Care for MS patients across a Dutch region	system	broader scale	
Miller	2003	Discrete sub-processes involved in patient care	Assessment of inefficiencies/quality issues in ED sub processes	sub-processes	discrete	
Mira	2001	Flowcharts of laboratory tasks. Outcome of focus was turnaround time.	Intervention included reorganization and introduction of new sample collection system. Examined processes and outcomes.	flowcharts	tasks	outcome

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Mira	1999	Process flow.	Introduced organizational change in lab - measured outcomes in turnaround time and cost.	process	flow	
Mirel	2003	Interactions and relationships in individuals' actions, practical patterns of inquiry	Focused on complex problem solving tasks	interaction	relationships	actions
Moss	2007	Focused on "information tasks" (no definition given)	Development of structured observation data collection tool in a CICU and in a medical unit	collaborative	patterns	
Mueller	1999	Processes at a high level with focus on location, roles of participants and data required.	Part of the development of decision support software - included survey to assess attitudes toward decision aids and process flow analysis.	process	macro-level	environment
Muller	2002	Work activities	Study of software designers at one company working on Lotus software products	activities	products	environment
Muller	1999	Work activities and tasks, focused on knowledge work components	Explores relationships between choice of analytic technique and visibility of operators' work.	activities	knowledge work	visibility
Nemeth	2006	A focus on the cognitive aspects of work and the use of artifacts.	Examination of the uses of the paper sign-out sheet by residents in a surgical ICU.	cognitive	artifacts	

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Newman	2000	Major phases of work and the tools and representations used by participants. Also the products of the work were described.	Study of web designers and their practices.	phases of work	tools	representations
Nuutinen	2005	Tasks, activities and practices	Work in three different industries	tasks	activities	practices
Olsson	2005	Broad perspective - "work environment".	Multi-disciplinary investigation of train drivers' work environment, including usability evaluation of the Automatic Train Control (ATC) system, cognitive work and ergonomic analyses, and analyses of stress, mental workload, and number and nature of hours worked.	environment	cognitive	workload
Osterlund	2007	Work practices	An ethnographic exploration of the genre combinations enacted by doctors and nurses of an urban ER.	practices	genre combinations	role
Pai	2003	High level process with focus on use of space.	Intervention included change in workflow and space to allow a pharmacist diabetes intervention.	process	space	
Papantoniou	2005	Focus on cognitive work and shared cognition.	Describe the results of analysis of anesthesia work from two perspectives: Internalist and Externalist.	cognitive	shared cognition	

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Pinelle	2005	Focus on collaboration.	Field trials of Mohoc, a groupware system designed for loosely coupled groups.	collaboration	loosely-coupled	
Pinelle	2003	Focused on collaboration patterns.	Describe patterns of work in mobile groups that adopt a loosely coupled collaboration style.	communication	patterns	organizational network
Pinelle	2002	Hierarchical view of tasks based on role.	Introduces groupware walkthrough, a new usability inspection technique for groupware.	hierarchical	tasks	role
Plowman	1995	Complex actions and interactions that occur in work settings	Overview article of research on work - also a potentially useful figure.	actions	interactions	setting
Poltrack	2003	Focus on information needs/ information retrieval.	We describe field studies of information gathering in two design teams that had very different products, disciplinary backgrounds, and tools.	information	information needs	information retrieval
Pott	2005	Situation awareness as an attribute of work	To support development of a DSS - conducted a survey of situation awareness issues among anaesthetists across 29 countries, focusing on information they use and problems they face.	situation awareness		

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Randall	1995	Work practices	Contrast between business process re-engineering (BPR) and ethnography	practices	BPR	ethnography
Reddy	2002	Balancing constraints; information cannot be separated from the work it supports and generates; rhythms of work	A SICU in one hospital	balancing	information	rhythms
Reddy	2008	Work activities and how they are organized	Field study of collaborative information seeking behavior in an ED of one small hospital	activities	organized	collaborative
Reijers	2005	Describes multiple approaches to work analysis.	To evaluate the impact of each best practice along the dimensions of cost, flexibility, time and quality, a conceptual framework is presented that synthesizes views from areas such as information systems development, enterprise modeling and workflow management.	work	approaches	best practice
Reiner	2002	Role-based process flowcharts, task/ sub-task analysis.	Survey to assess the impact of various technologies on the work of radiology personnel.	role-based	process	flowchart
Reyes	2004	Communication activities as "work practice". Focus on temporal patterns.	Interaction analysis of participants in a newsgroup.	communication	activities	temporal

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Sadler	2006	Management of work practices, personal attributes of work practice	Study of participants working on a creative project. Specifically focused on use of mobile phones and strategies for managing overlapping contexts.	practices	personal	management
Salvador	1997	Work responsibilities, job tasks, and interactions among individuals	Goal: to gain an understanding of the ways in which intensive computing power supports an individual's work.	responsibilities	tasks	interactions
Sawyer	2006	Articulation: work that enables other work; no formal workflow definition	Field trial of mobile access to an IT system with 18 participants in 2 phases with emphasis on articulation work	articulation	enable work	
Schwartz	1999	Focus on scope of work (internal/external), information flow, document register, content analysis, technology use.	"How-to" article for BPR in publishing.	information flow	scope of work	technology
Sharit	1998	Includes work context (task analysis, performance shaping factors, sociotechnical systems analysis, frame), human behavioral tendencies, adverse outcomes	Discusses the role of human reliability analysis (HRA) in the design of written work procedures.	context	behavioral	outcomes
Sierhuis	2002	Work system including: Agent, Object, Geography, Activity, Timing, Knowledge, Communication.	Describe the Brahms tool for simulating and modeling work practice.	knowledge	temporal	simulation

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Sonnenwald	2000	Work processes: information about work practice: tasks, formal task procedures (how tasks can be done) and informal task procedures (how tasks are really done), changes in the situation that require a shift in attention and tasks, informatino from other team members, effective communication methods, information about leadership.	Explores information behavior in C2 at the army battalion level.	processes	formal tasks	informal tasks
Spinuzzi	2001	Compound mediation refers to the ways that workers coordinate sets of artifacts to help them get their jobs done. For instance, a software developer might simultaneously use software manuals, existing code, online language references, and scratch paper as she writes new code.	By applying the three frameworks to the same study, I illustrate which aspects of compound mediation are illuminated and unexplored by each analytical framework. Based on the comparison, I discuss the strengths and weaknesses of each framework for exploring compound mediation, and I suggest ways in which the frameworks might be coordinated to produce different pictures of work.	coordinate	artifacts	mediation

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Spinuzzi	2002	Focus on communication and documentation.	Describes the development of a formal model of the genres used by two teams.	communication	documentation	genres
Stubblefield	2000	Movement of documents through the authorization process (highly focused and specific)	Fieldwork to show the social role that engineering authorizations played in work in the laboratory	movement	focused	specific
Suchman	1995	Work activities including both visible work and invisible work	Viewpoint article arguing for more reflexive research practices and more conceptually rich research interpretations of work.	activities	visible	invisible
Symon	1996	Procedural trajectory: the conduct of the radiological examination and the work organization around this process as they undergo a particular procedure	Study of cooperation and coordination within and between radiology and other departments at one hospital	procedural trajectory	organization	process
Timpka	1996	Workflow is a combination of practices; "practices that together constitute clinical microbiological work in a hospital setting"	Preliminary study focused on processes for one lab test; full study looked at several lab processes from wards/units to the laboratory	combination	practices	together
Tucker	2006	Tasks in providing nursing care	Nursing work, with emphasis on operational failures and their impact on nursing work	tasks	operational failures	role

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Unertl	2006	Work activities coordinated among individuals and team	Workflow and information flow in one outpatient clinic	activities	coordination	information flow
Urden	1997	Sequences of tasks, categories of tasks	Application of work sampling to one clinical environment, focused on work practices of nurses.	sequence	tasks	categories of tasks
Uys	2002	Process of work, activities involved in caregiving work.	Evaluation of the work of community care givers for people with HIV in Africa, small scale descriptive study.	process	work	activities
Vargas Cortes	1996	Not defined. I'm not sure this paper is really about workflow.	Comparison of work on an engineering level (middle management, white collar) during a non-steady state process and a steady-state process using the B/W/K work model	n/a		
Wakkary	2007	The role of design in everyday routines and systems	Family members as everyday designers, 5-month study of three families. Focus on "everyday design"	routines	systems	everyday
Waterson	2002	Tasks during system operation	Development of a method to assist in allocation of work between humans and machines - function allocation - and also between humans.	tasks	technology	allocation

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Wisner	1995	Tasks and activities to accomplish real-world work	Historical overview of ergonomic work analysis, focused on problem building and problem solving	tasks	activities	real-world
Wong	2003	Steps in a process	Observation of medication ordering in one medical unit (and pharmacy?), plus simulation of proposed process changes	steps	process	
Wright	2000	Work practice evolves around technology and technology is changed by work practice. Such co-evolution of work and technology can change the meaning of functions allocated to both humans and machines.	Two case studies centered around articulation work and automation, specifically related to aircraft and takeoff/landing maneuvers	practices	articulation	allocation