Mapping the complexity of work functions related to medication in the transition between hospital and home. Piloting a new approach

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Background Many studies have explored the nature and consequences of medication-related adverse events arising at the transition between hospital and primary care. Another approach to patient safety is to recognize that failure and success have the same source. The performance variability of multiple and complex interrelated functions may combine and lead to non-linear consequences later in the workflow.

Purpose To map the medication-related work functions at transition between hospital and home and describe potential variability in central work functions using the Functional Resonance Analysis Method (FRAM).

Method Central work functions were identified and described, based on data from five patients. Patients were followed from the decision to discharge until the patient received medication from a community pharmacy and initiated treatment at home. Focus for the collection of data was medication availability and information as prerequisites for correct use of medicine. Data were collected by one of the researchers observing the patient discharge interviews, performing interviews with patients before and after discharge, and reviewing hospital and medication records. A workshop was held with a hospital doctor, a hospital nurse, a general practitioner, a home care nurse, two social and health care workers, two social and health care helpers, a municipal risk manager and a community pharmacist. The participants gave input to "work as done" with medication at and after hospital discharge. For each work function, the aspects of input, output, time, control, preconditions and resources related to the function were described. The FRAM Visualizer software was used for mapping work functions and their complex interactions. Potential variability and control functions emplaced to dampen resonance were identified.

Findings Mapping the discharge process revealed a complex picture of 35 individual work functions related to medication availability and information. Potential variability in terms of timing and precision was identified in all functions, particularly in the functions "discharge interview" and "electronic prescribing", where little timing and consistency were found concerning the information about medicines. This resulted in home care, general practice and community pharmacy emplacing informal control actions to moderate the consequences of this variability. An example of an informal control function is "calling the hospital ward to get missing prescriptions". No control functions were identified for the medication-related functions undertaken by the hospital doctor.

Conclusion The FRAM method proved useful in mapping the complex work processes related to medication at hospital discharge, and identifying critical steps important for patient safety.