



UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING
Department of Systems
Design Engineering



Advanced
Interface
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**UNIVERSIDADE FEDERAL
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GENTE
Grupo de Ergonomia e Novas Tecnologias
Programa de Engenharia de Produção
COPPE / UFRJ



Patient Triage and Health Care Services Delivery: managing variability

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PRESENTER:
RODRIGO ARCURI

2019 | MAY 23th

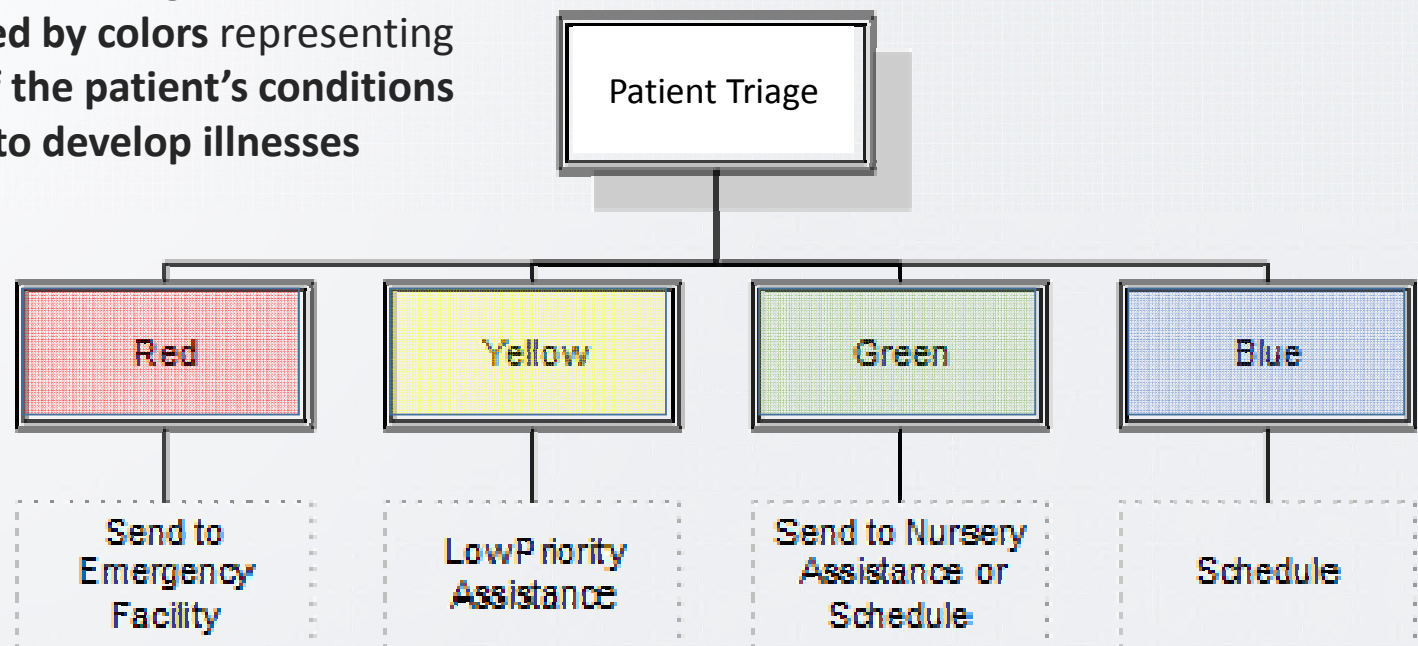
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Research Problem

- Research question
 - How to guide **framing of fieldwork data** in order to **improve a FRAM modelling of work-as-done** in primary care subsystems?
- We explored the use of Abstraction Hierarchy as a means to this in patient triage within primary healthcare
- Data collection: extensive work observation and interviews with community health workers afterwards

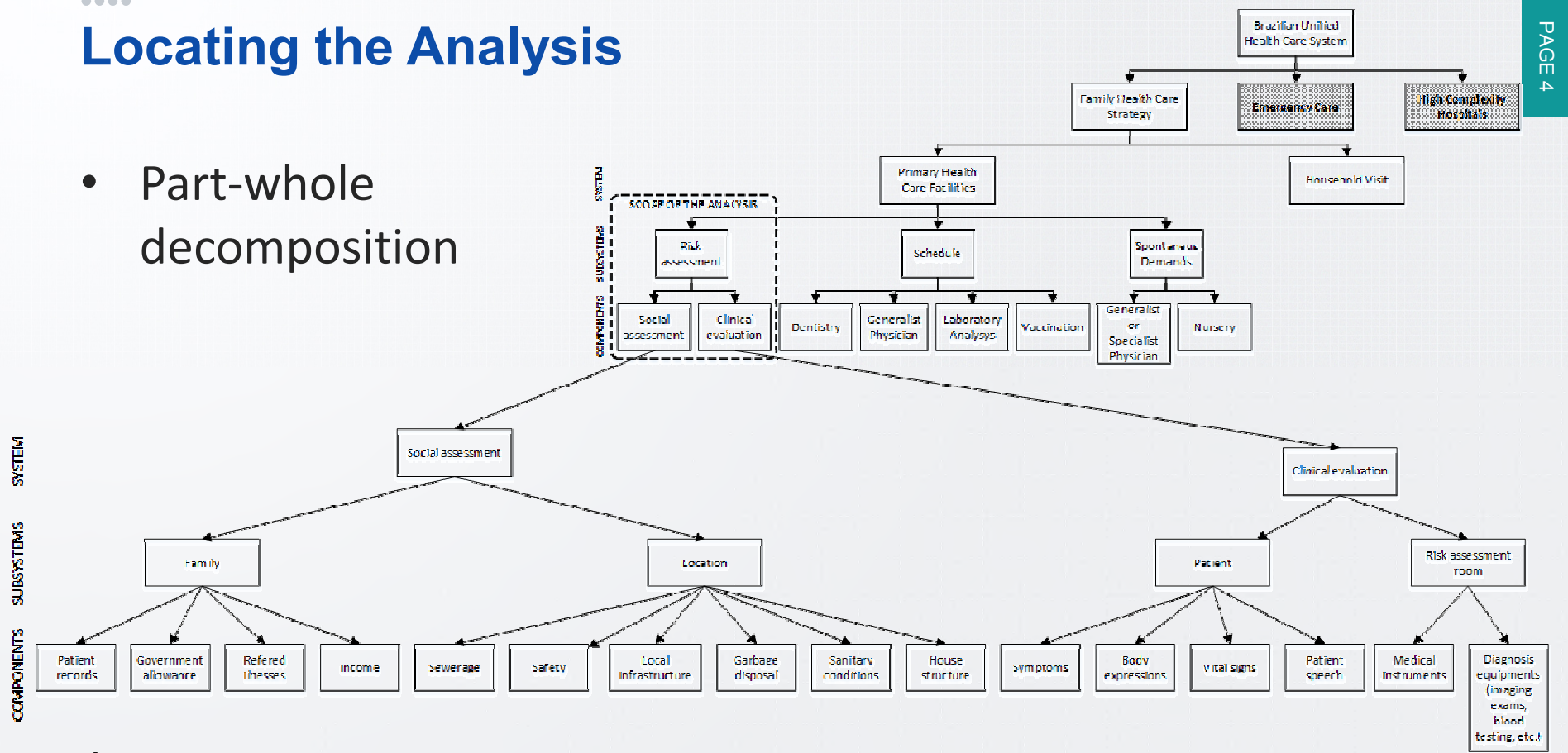
Some background on the domain

- **The triage process:** assignment of a **risk score illustrated by colors** representing the **severity of the patient's conditions** and **potential to develop illnesses**



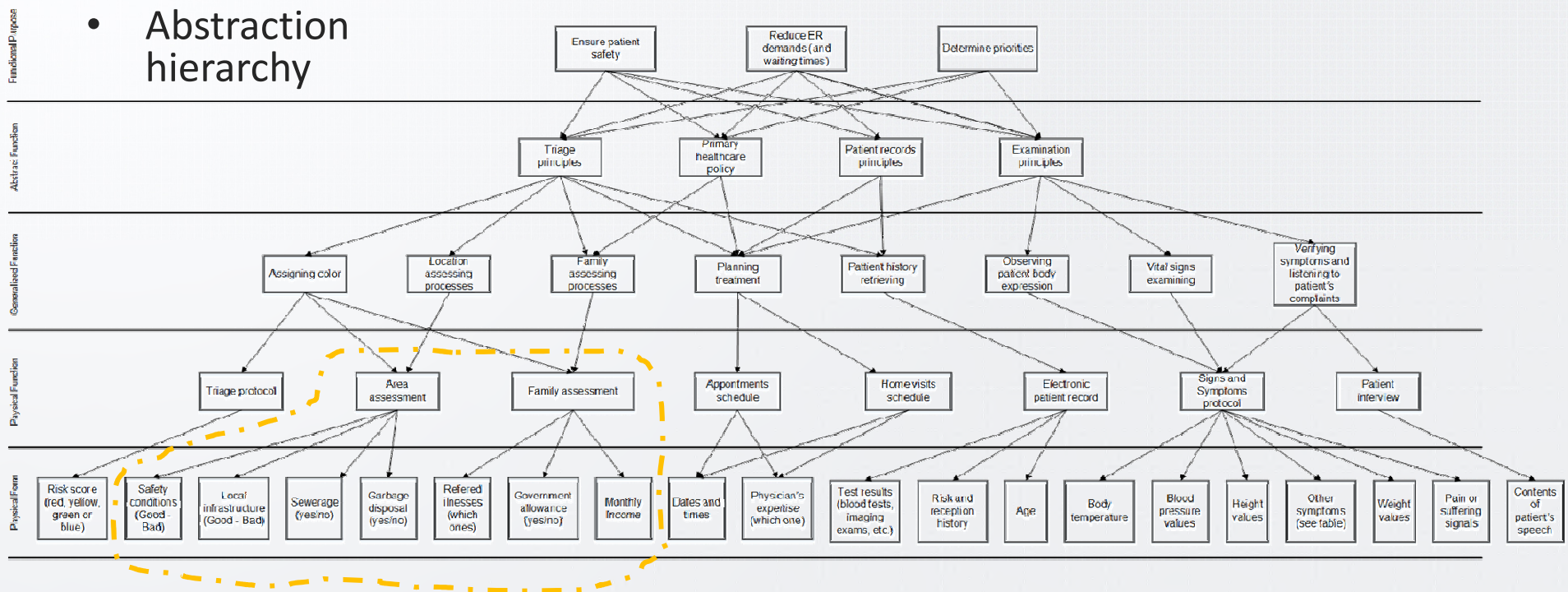
Locating the Analysis

- Part-whole decomposition

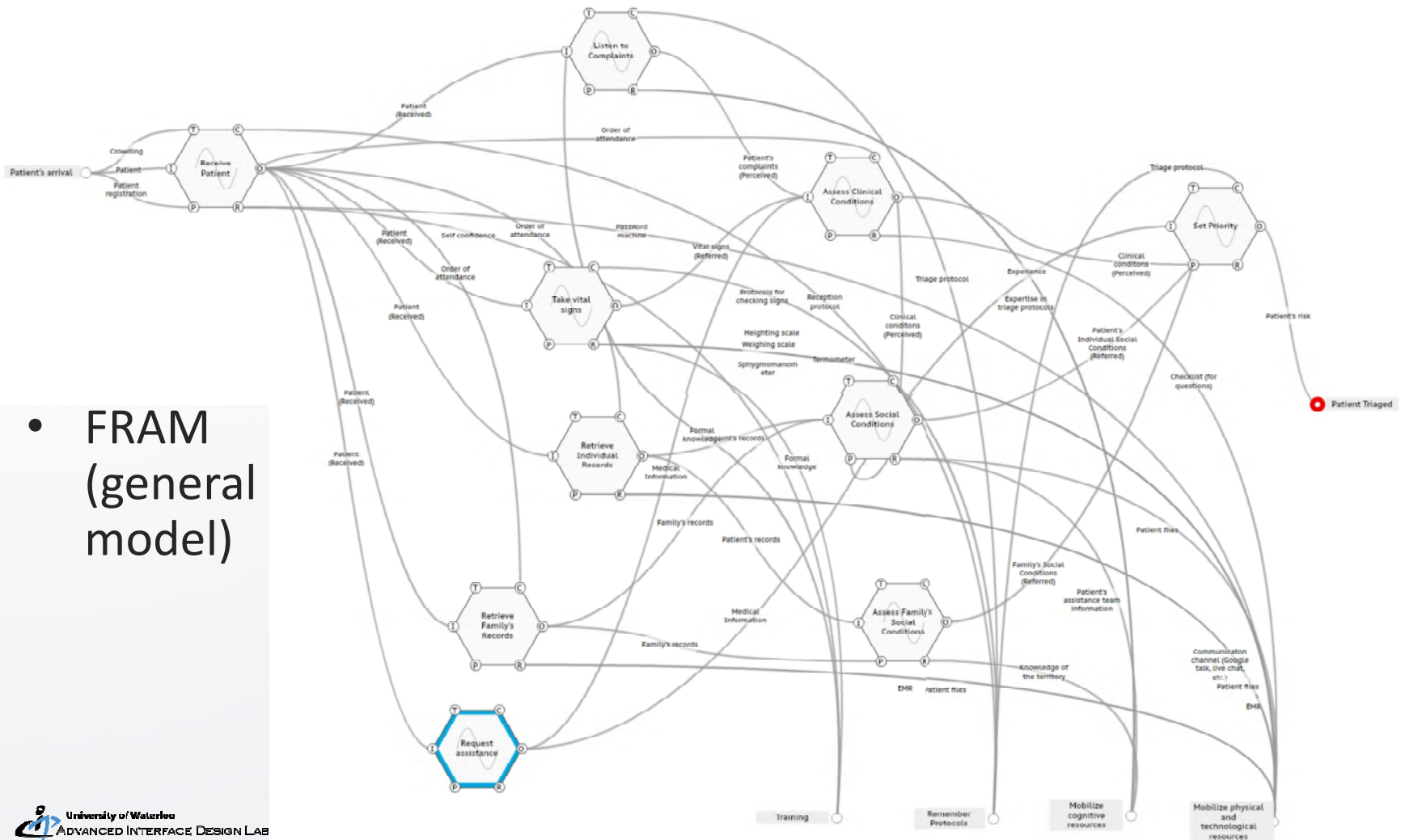


Modelling patient triage

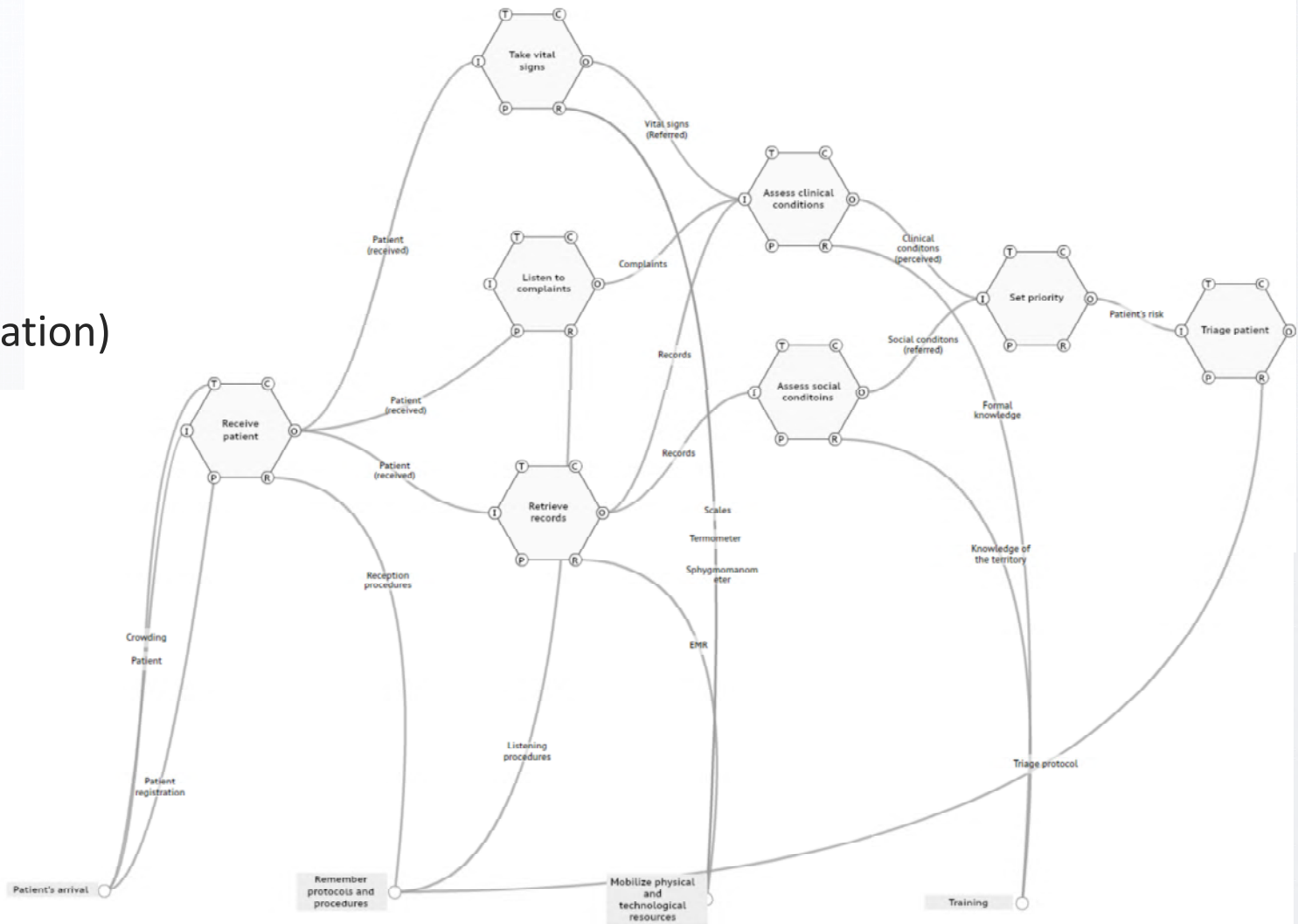
- Abstraction hierarchy



- FRAM
(general model)



- FRAM
(Instantiation)



....

Reflections

- As expected, Abstraction Hierarchy and FRAM turn out to be **complementary approaches**. It is **not possible to rely solely on AH** to build a FRAM model
- **Abstraction Hierarchy enabled** the identification of a contrast between **technical criteria** and **context-based heuristics** in patient triage carried out within primary health care
- **Abstraction Hierarchy contributed** to both **prospective and retrospective** FRAM analysis.
 - For the FRAM general model, the AH shed light on additional potential couplings between functions
 - For instantiations, the AH helped to understand how incomplete triage can degrade into bad outcomes
- **FRAM analysis** shows that **some functions** might **not be available** when the triage is carried out, specially because the **community health workers do not have** all the **necessary resources** to **activate all functions** that are necessary for a **complete assessment** as shown in the **abstraction hierarchy**.



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