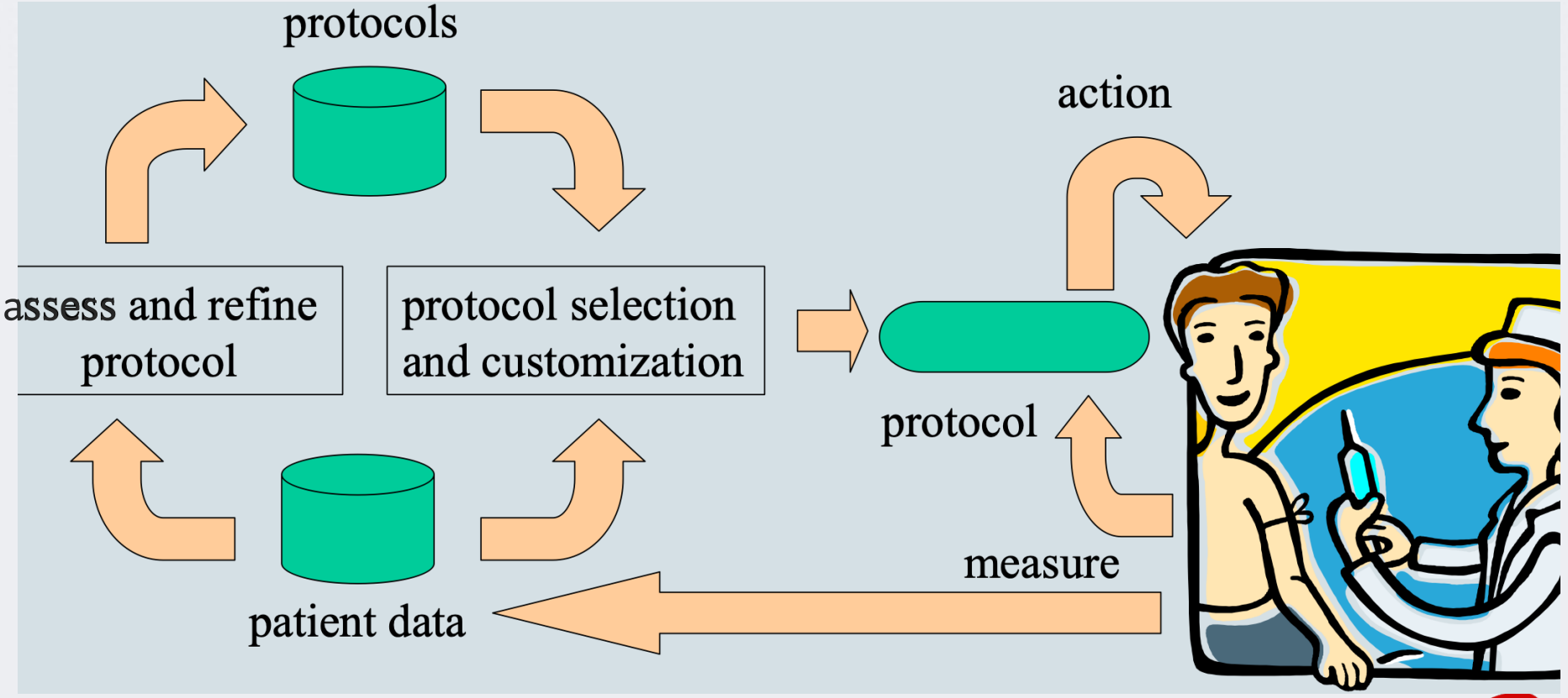
Medical Protocols: to Support careflows

- Also named medical guidelines (to emphasise support) or pathways (to emphasise prediction).



Medical Protocols

- Several languages exist for describing medical protocols, guidelines and/or pathways: Asbru, EON, GLIF, GUIDE, PRODIGY and PROforma.

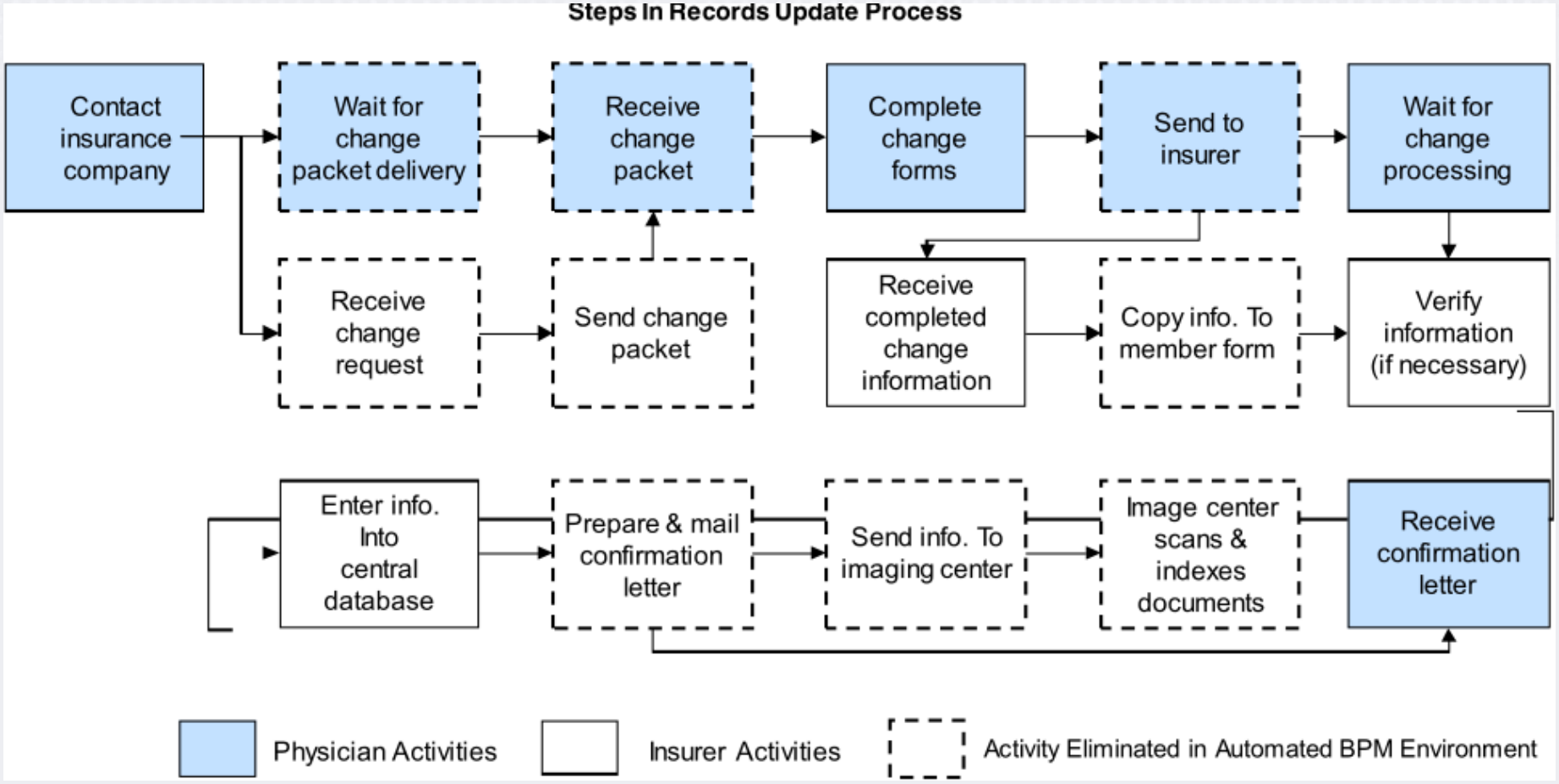
- Medical protocols can be :
  - Passive: used to check afterwards
  - Active: used to “control” the careflow

- BPM software/research supports both uses:
  - Passive: process mining tools
  - Active: workflow management systems

BPM/careflows: Challenges to address

- To provide intuitive Design support
- To provide verification, validation and performance analysis
- Cross-organisational workflow support
- More flexibility (case handling)
- Better management of information

Healthcare Payer Organisation Case Study : Example



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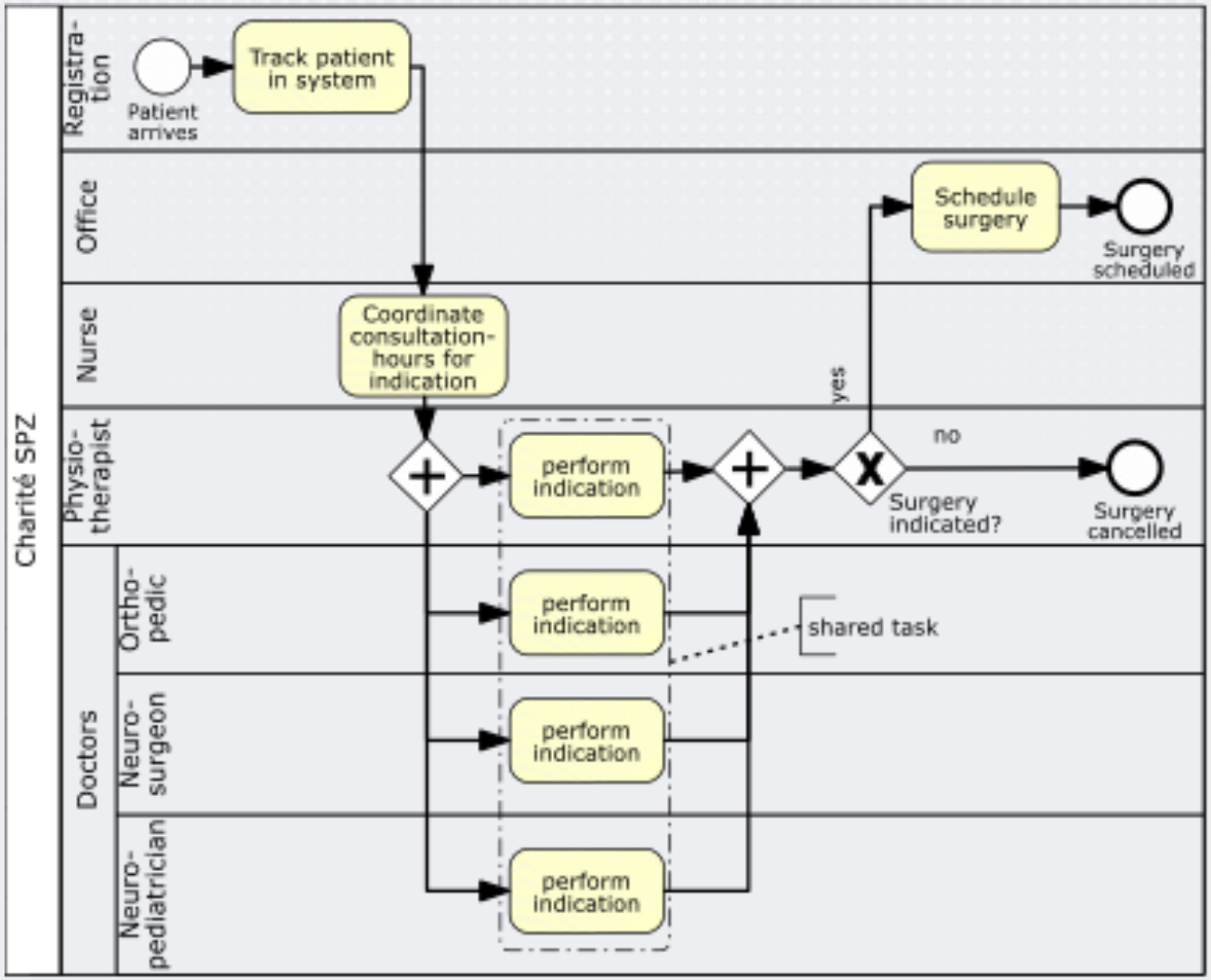
Process of the preparation for a surgery at Charité SPZ: Example 2



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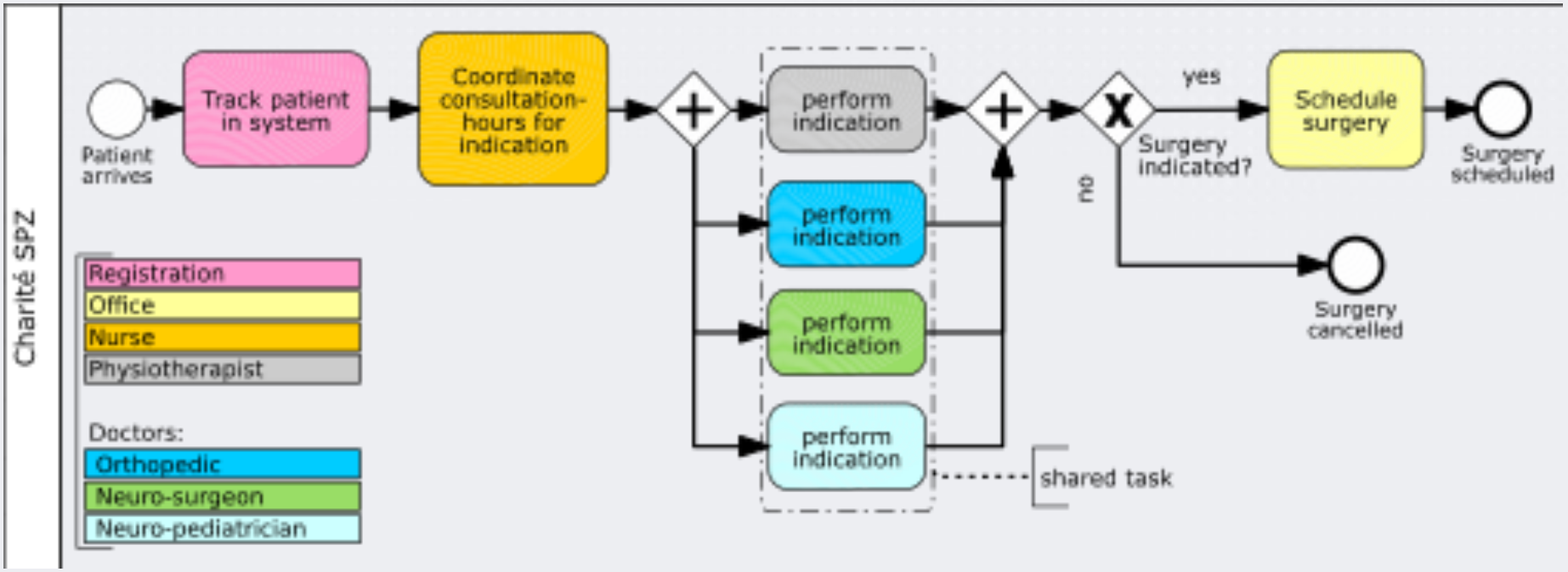
Process of the preparation for a surgery at Charité SPZ: Example 2

Roles are encoded in colour.



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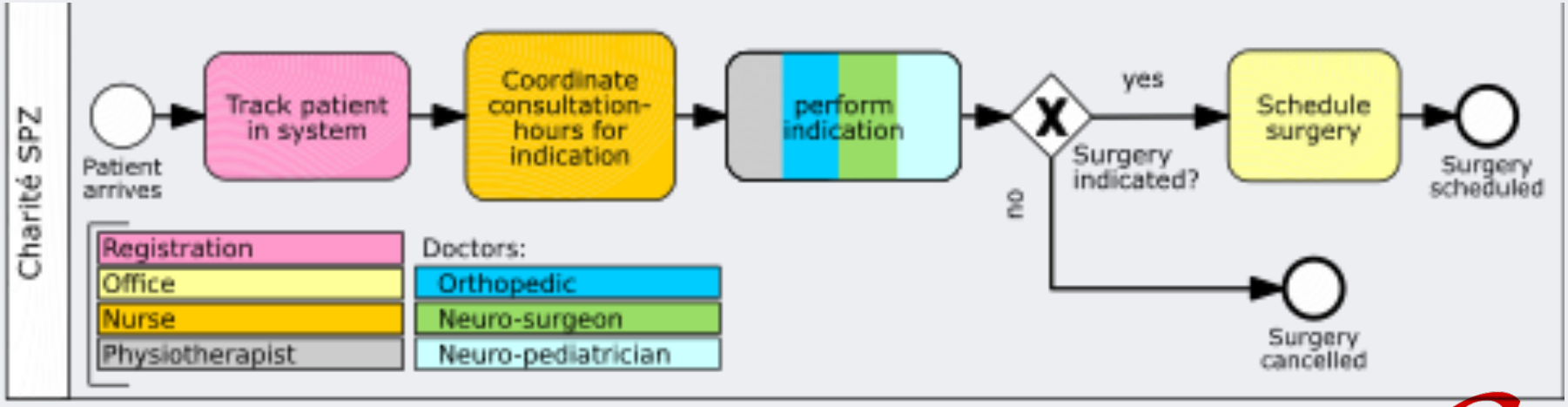
BMPN does not Support Shared Tasks

- In Healthcare, Shared tasks can be common, but not supported in BPMN or other process modelling notations/languages
- One way to solve, is to use multiple colours
  - i.e. allow tasks to be coloured with more than one colour, meaning more than one role participates in that task



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Infection Control: Example 3 - Scenario Draw BPMN

WMS, is a hospital and would like to develop a business process to control infections in the hospital. Consider the following scenarios for controlling business processes:

Scenario-1-Notification (AS-IS): As incoming lab results are checked, they are identified as infection-positive or not. If yes, the nurse in the respective hospital ward, where the patient is located, is alerted to take infection isolation precautions.

Scenario-2: Follow-up (AS-IS): On Friday and other week working days, ICP receives reports and checks positive results. If yes, ICP creates respective report and alerts the nurse in the respective hospital ward, where the patient is located, to take infection isolation precautions.

Scenario-3 (TO-BE): Patients are admitted, at admission or emergency department of the hospital, WMS. If patients are suspected of having an infectious disease, they need to follow a controlled process. If patients have positive results, ICP (infection Control Practitioner) is alerted, where then they initiate a protocol for isolation. Alternatively, if lab tests were ordered for patients, and positive results were received from the laboratory, respective Nurse, managing beds, where the patient is located is notified and ICP is alerted to initiate the isolation protocol. For isolation protocol, infection precautions must be implemented.

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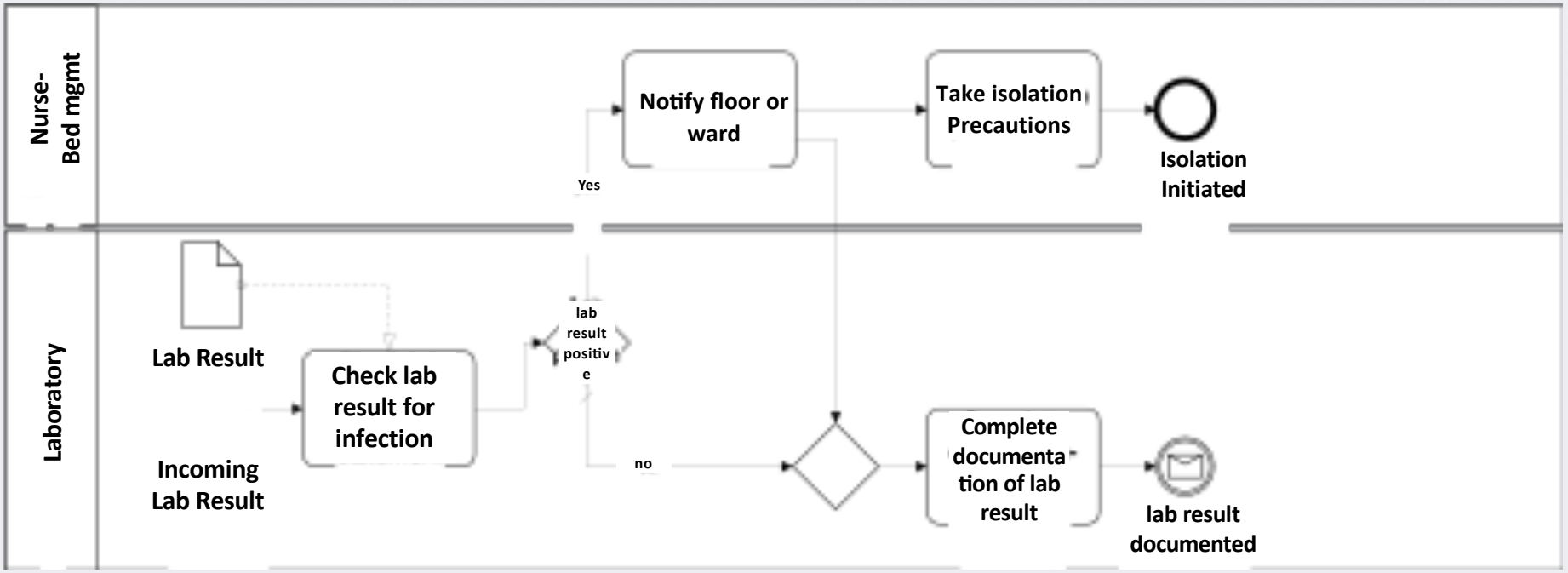
As-Is model: Notification process example



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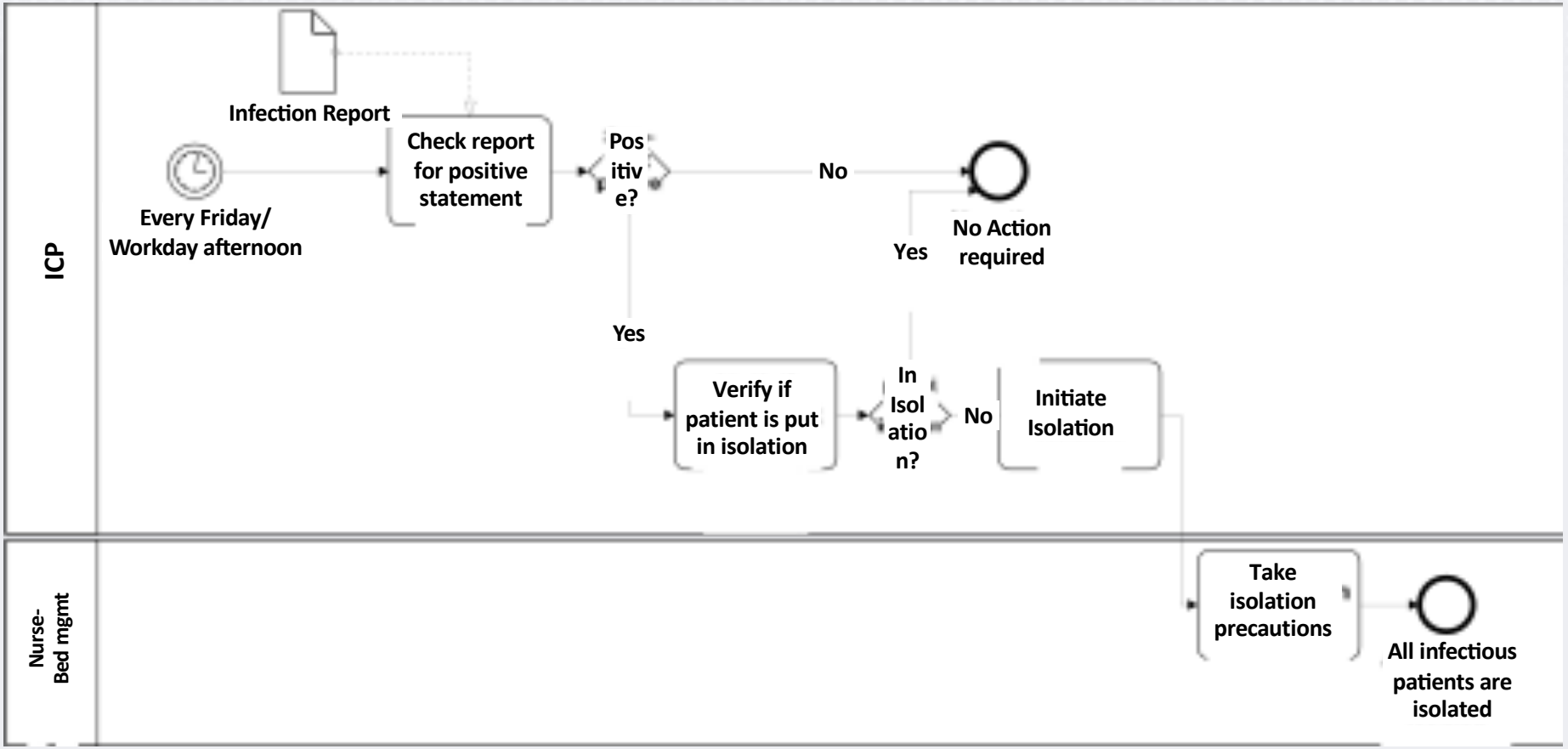
As-is model: Follow-up process example



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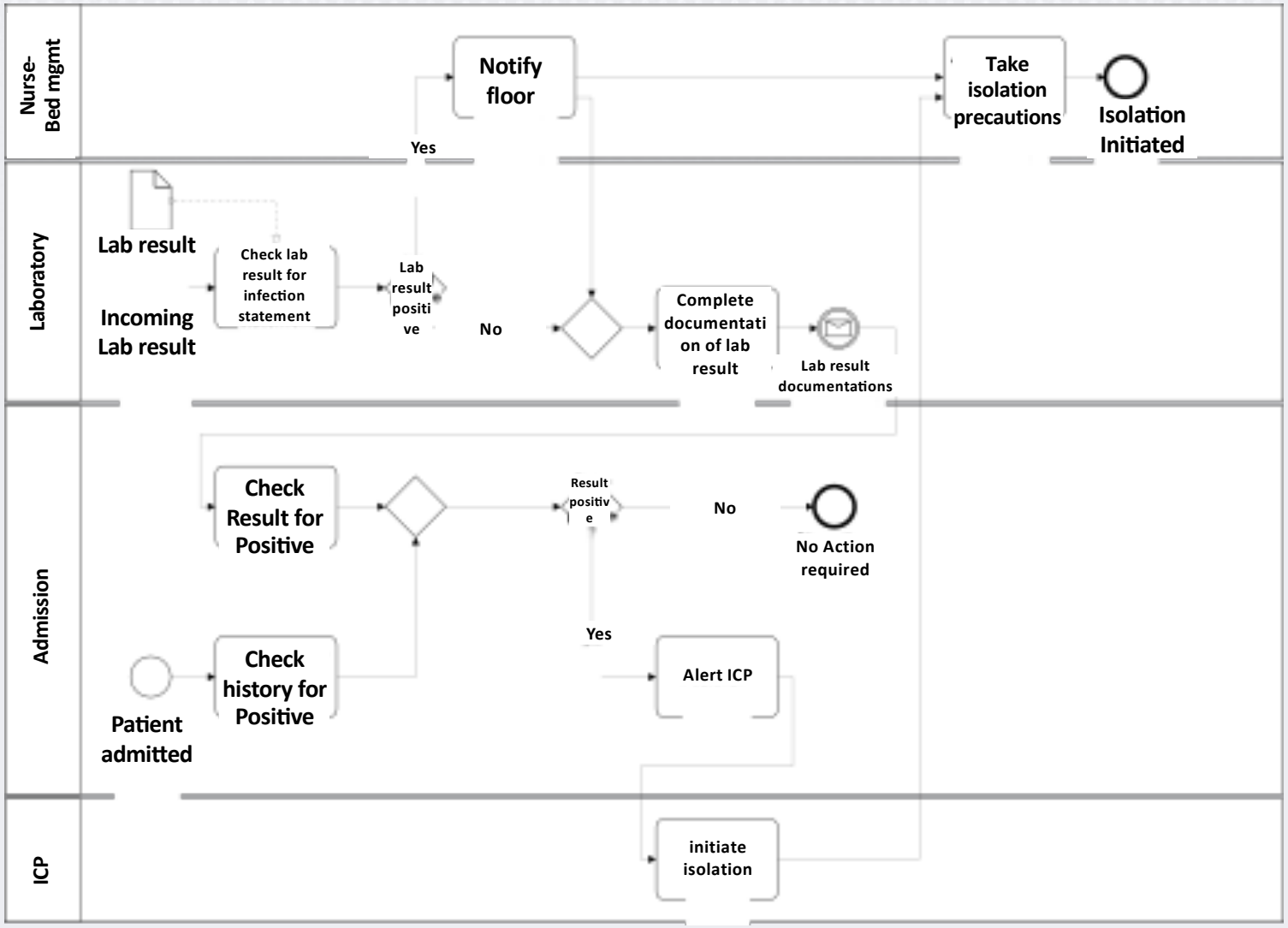
To-be model: Follow-up and notification process example



Admission, Pre-admission, observation patients and emergency patients

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