

Use cases medication administration

Michael Tan
Product manager

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Goal

- Research potential for IHE Profile with use of FHIR
 - Simple process within pharmacy
 - New value added profile
 - Target on REST architecture

Paradigms

- FHIR supports 4 interoperability paradigms



What should
you use
when?

REST

- Simple, out-of-the-box interoperability
- Leverage HTTP: GET, POST, etc.
- Pre-defined operations
 - *Create, Read, Update, Delete*
 - *Also: History, Read Version, Search, Updates, Validate, Conformance & Batch*



When to use REST?

- Want low coupling between systems
 - *In theory, very little up-front negotiation required*
- Small, light-weight exchanges
- Focus is CRUD operations
 - *Also for publish/subscribe*
- Client-driven client-server orchestration
- Server endpoint has fixed location
- Well-suited for Mobile, PHR, Registries



Use Case 1 Home nursing

- Nurse is responsible for medication administration of elderly patients in an ambulatory environment.
- The patient reside at home or in a wide spread nursing homes where internet is not allways available.
- The nurse downloads the medication administration instructions from her EHR to her tablet and takes the "Baxter" strip with medication along.
- The app on the tablet tells the nurse the optimal routing with the names and addresses of the patients she has to visit.
- At each address she looks on the tablet for the medication and the dosage for the appropriate patient.
- The nurse searches for the medication for the patient among the Baxter strips and scans the barcodes on the strip with the camera in her tablet. The app generates a warning if the medication and the patient do not match.
- She sees to it that the medication is being swallowed.
- The nurse can also add extra medication for example the conditional medication.
- Before she leaves she can enter remarks about the state of the patient.
- A signal is generated if medication from the strip has not been confirmed.
- After her round of patients the nurse returns to her institution and connects with her EHR.
- The results of the medication administration round is reported back to the EHR.
- The medication management profile of the patients are updated with the feedback of the substance administration.

Illustrations Use case 1



Use case 2 Oncology

- John Doe has a malignant tumor in his throat. It has been treated with radiation, but John has to complete the therapy with a chemotherapy for 4 weeks.
- The therapy has to be followed strictly. In dosage as well as in timing.
- John has to follow the instructions on his phone app to take the medication.
- The pharmacist enters the medication administration instructions in the EHR of the hospital on a weekly basis.
- The phone app downloads the medication instructions and stores it locally in the memory of the phone. The app can function on its own, even if no internet is available.
- The app issues a signal every time John has to take his medication.
- John has to take a combination of 3 drugs, each with different dosage and timing. John confirms the medication which he has taken or not taken. Sometimes the side effects are so strong that John has thrown up all his food and medication. He reports that event in his app.
- When John is back at home he synchronizes his app through internet with the hospital EHR and the results are reported back to the hospital.
- The oncologist and the pharmacist evaluate John's therapy and adjust the medication administration for the following week.

Illustration Therapy app



Swimlanes

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door betere informatie

