Information Reliability in Home Healthcare Services

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Remote Patient Monitoring & Home Healthcare

**Goals**
- Monitor chronically ill
- Assist elderly
- Monitor Health / Fitness
- Improve quality of patient life
- Reduce cost of hospitalization

**Features**
- Patients take medical measurements at home in an unsupervised environment
- Doctor evaluates patient health condition remotely
- Patient Data are stored (EHR/PHR) for future use (Health evaluation, Research studies)

Proposed Architecture

**Goal:** Assist the Doctor in decision making

**Data Qualifier**
- Evaluate quality aspects of medical measurements

**Troubleshooting**
- Indicate the root causes of low quality

**Quality Indicator**
- Evaluate overall medical measurement quality
- Visualize the results

**Feedback System**
- Provide advices
- Improve reliability of future measurements

Reliability of Medical Measurements

Physicians need to rely on patients’ measurements
- Evaluate the patient’s health condition
- Prescribe appropriate treatment
- Measurements’ quality affect physicians decisions

**Quality Issues**
- During the lifecycle of information
- Different quality aspects
  - Stability
  - Timeliness
  - Device accuracy
  - Sensor application
  - Data Authenticity and Integrity

Troubleshooting

**Ambiguous interpretation**
- Quality issue or Health problem?
- Investigate root cause of poor quality

**Troubleshooting**
- Interactive mechanism
- Workflow based

Impact

Increased adoption of eHealth services by
- Establishing trust between healthcare providers and patients
- Supporting acceptance of new services by Healthcare providers and patients