PICASO: A Personalised Integrated Care Platform
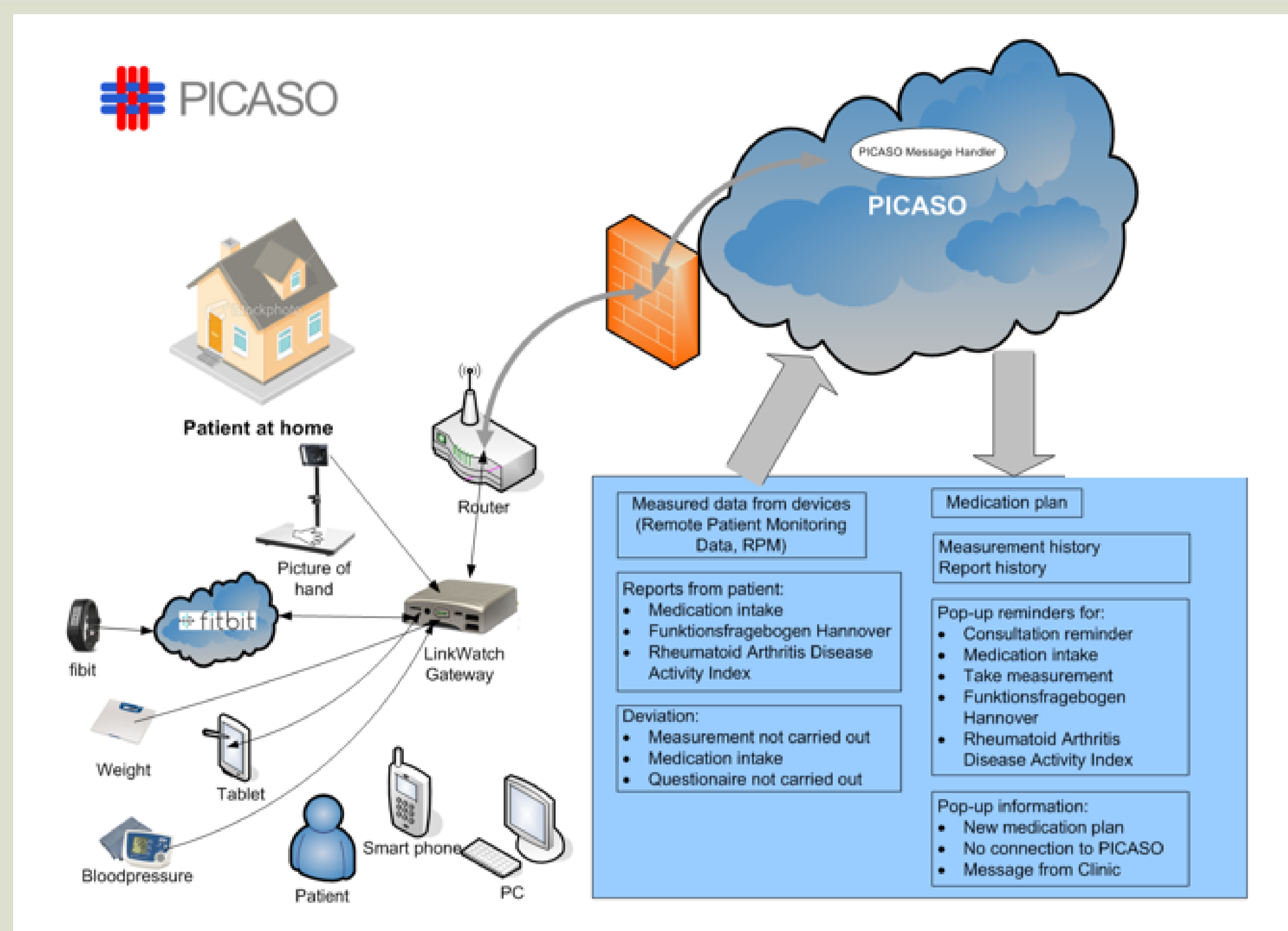
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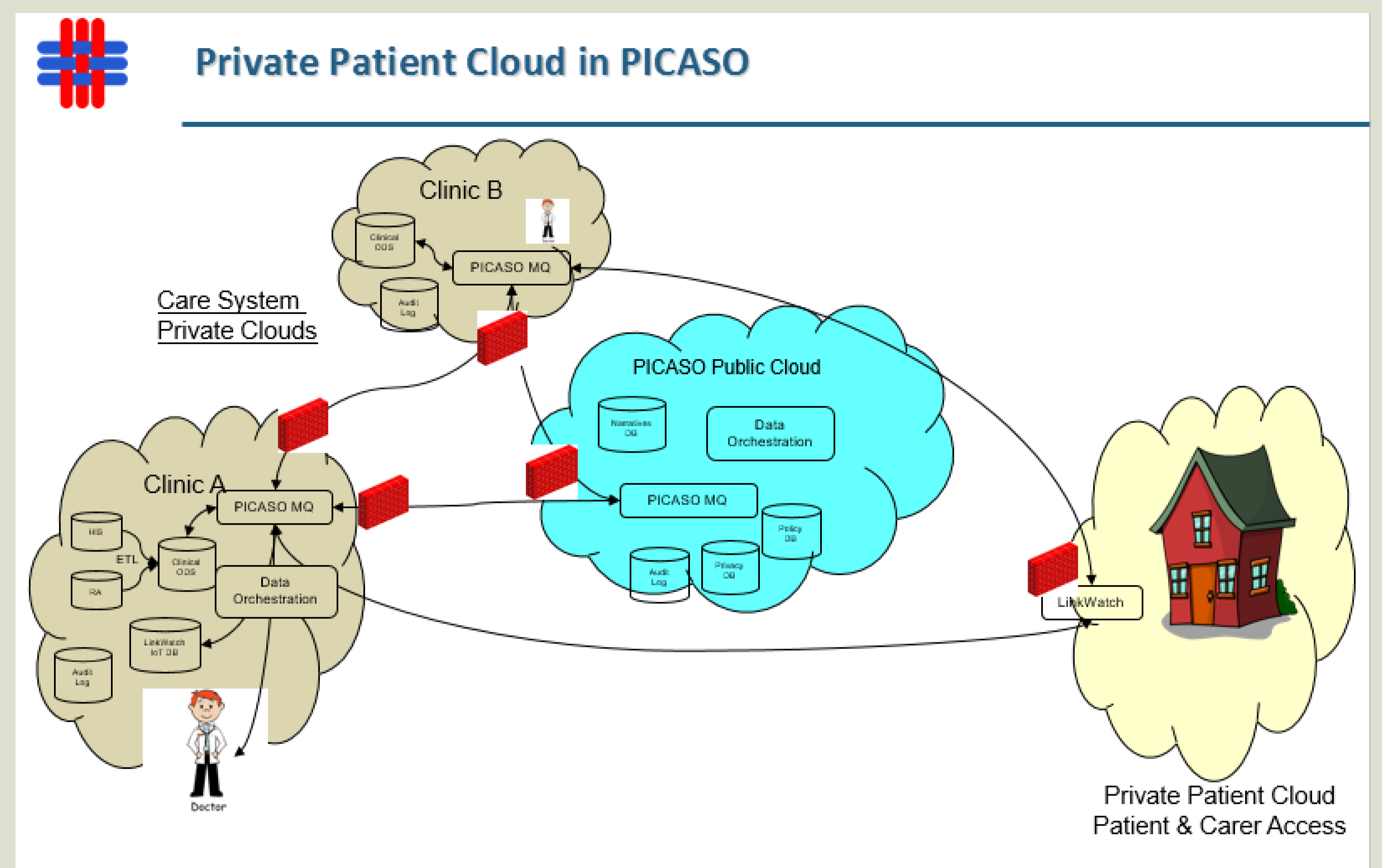
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Fig.1

Fig.2

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Aim

The most of nuclear medicine and radiological examinations deal with very complicated patients usually affected by co-morbidities. The medical examination performed before imaging provides only a snapshot of the clinical history of the patient whose management often require involving several caregivers. During nuclear medicine visits the whole clinical history of the patient is often messy and relevant aspects may be lost. Moreover, data are usually reported on paper and are generally stored in non electronic format. These problems may reduce significantly the quality of imaging report due to the poor availability of clinical information provided by other specialists and to a partial understanding of the clinical request. Physicians may ignore relevant data or not completely understand patient's data since these may not be clearly put in the correct context.

The objectives of this study are to use robust technological methods to research the impact of sharing information among healthcare professionals then evaluating the impact on clinical work force availability and deployment and on human factors as acceptability and usability by carers, nurses, physicians and administrators.

Materials and Methods

A clinical trial is proposed to two hospitals located in the south of the town of Rome where neurology (site A) and nuclear maedicine (site B) department are located respectively. The study will include subjects affected by Parkinson disease with an associated comorbidity (i.e. hypertension, heart Failure, authonomic failure a psychiatric condition related to PD as depression or anxiety etc.). Case studies are subjected to a simple randomization that will lead to the creation of two arms: 1) standard arm (the patient will be followed as in current clinical practice) and 2) the experimental arm (the patient management based on electronic information sharing).

An ICT platform facilitating the information exchange between the patient and both formal and informal caregivers will be established. Patient data will be made available to clinicians via a clinical dashboard displaying the most relevant patient information extracted from different sources in combination with a data resource browser that allows clinicians – on a need to know basis – to see whether other data regarding a specific patient is available through the platform. Clinicians will be able to specify starting from careplan templates – individualized patient pathways for an optimal treatment. Specific services can be associated to each patient's pathway that will be executed by the platform through a dedicated service orchestration and execution component. The platform will also seam lessly integrate risk prediction and decision support tools for the clinician designed to provide personalized and context aware assessments.

Results

We expect an improvement in the quality of work for physicians due to the direct telematic exchange of information via PICASO from site A to Site B leading to an optimization of the clinical activity (i.e. reduced timings for interviews, better quality of reports). Secondly, a lower stress for the patients is expected moving from site A to site B and vice versa without physically transporting clinical data
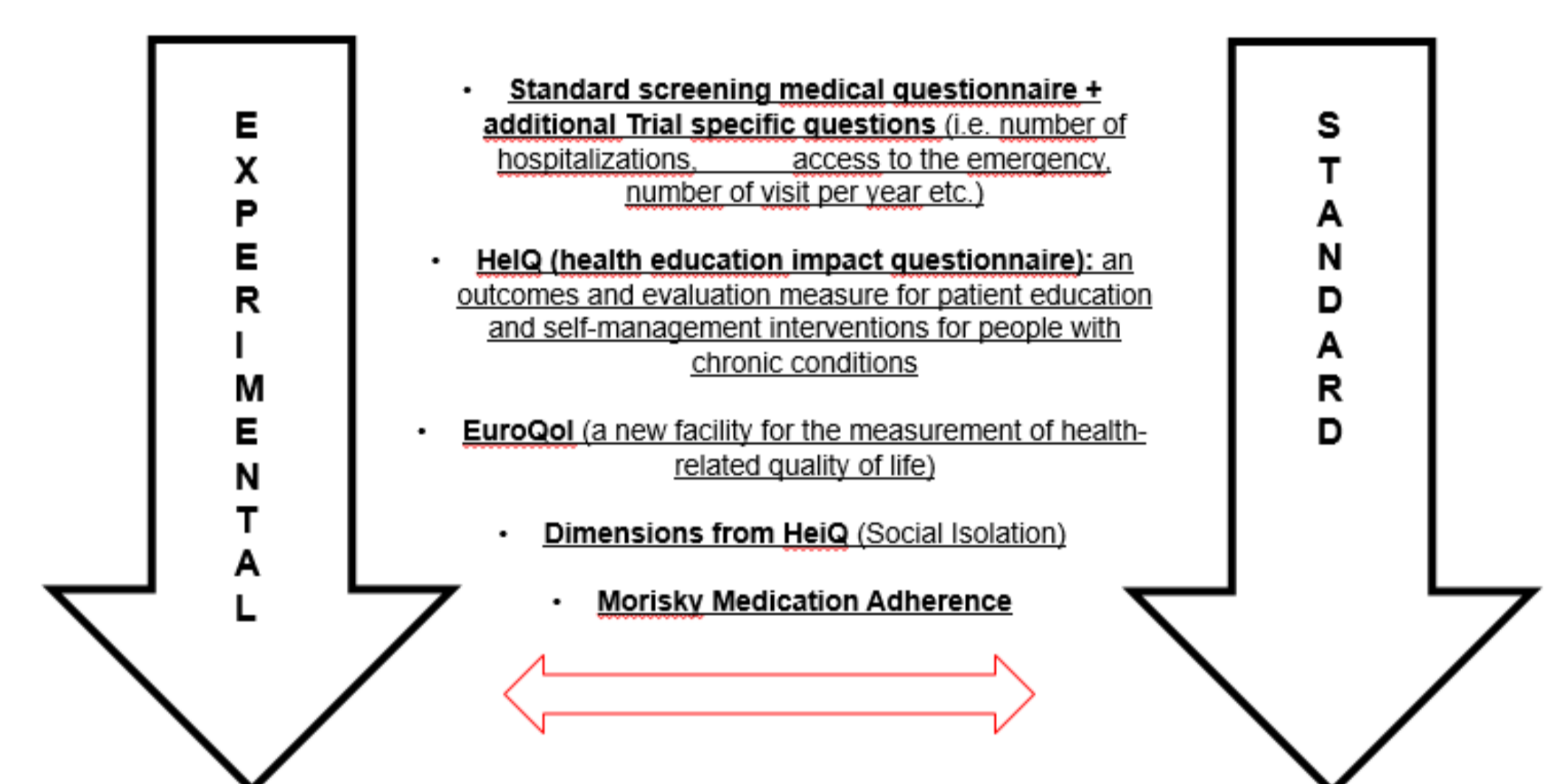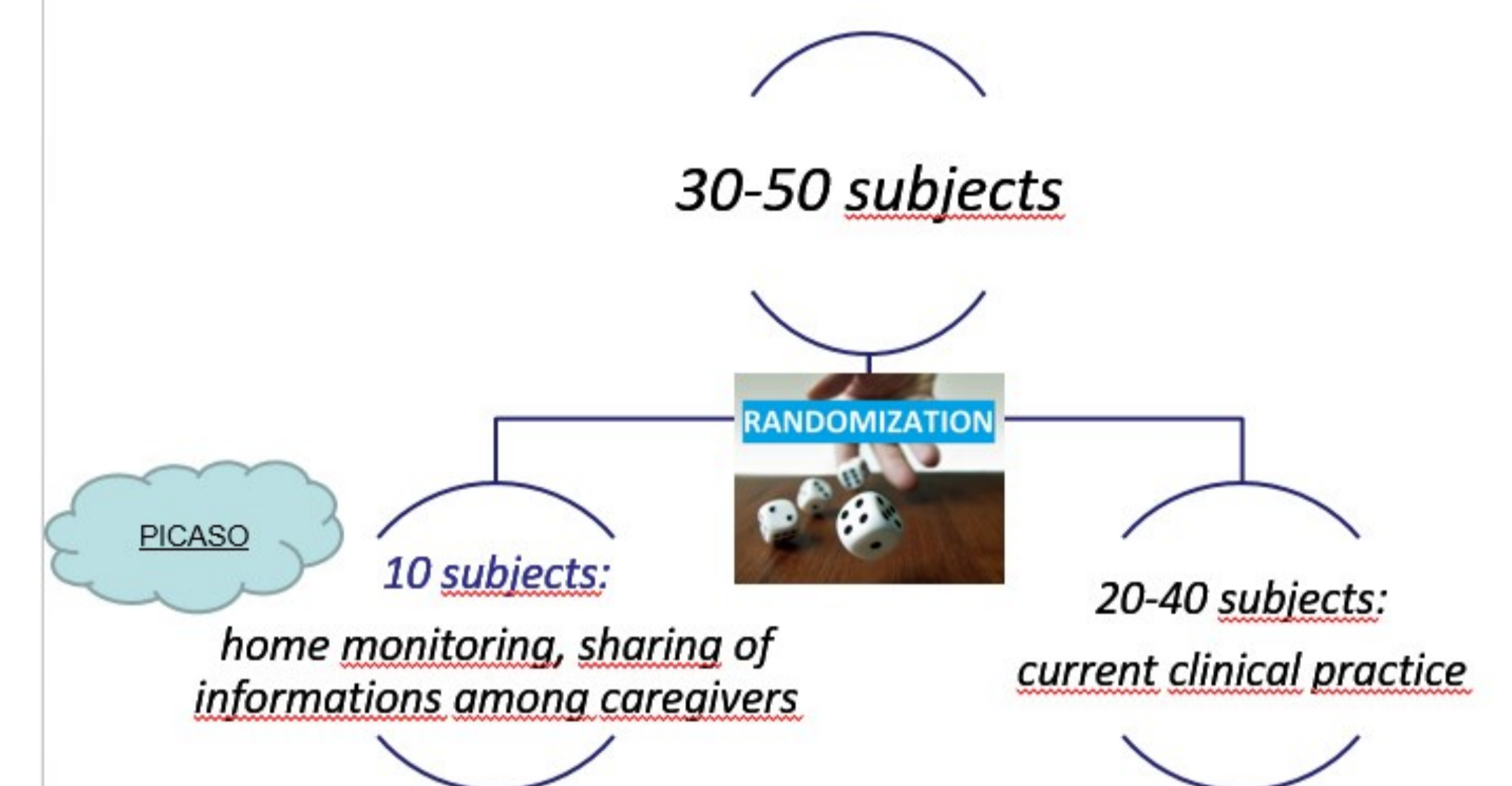
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Image annotations