# Barriers To The Adoption Of Telehealth and The Complete Ambient Assisted Living eXperiment (CAALYX)

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## Why TELEhealth?

- Increasing Elderly Population
- High Dependency Ratio At Both Ends Of The Age Spectrum
- Retirement Migration Patterns
- Increased Likelihood Of:
    a) Multiple Health Conditions
    b) Chronic Physical Diseases
    c) Mental And Cognitive Disorders
- Constant Attention And Care.
- Need For Personalised Healthcare
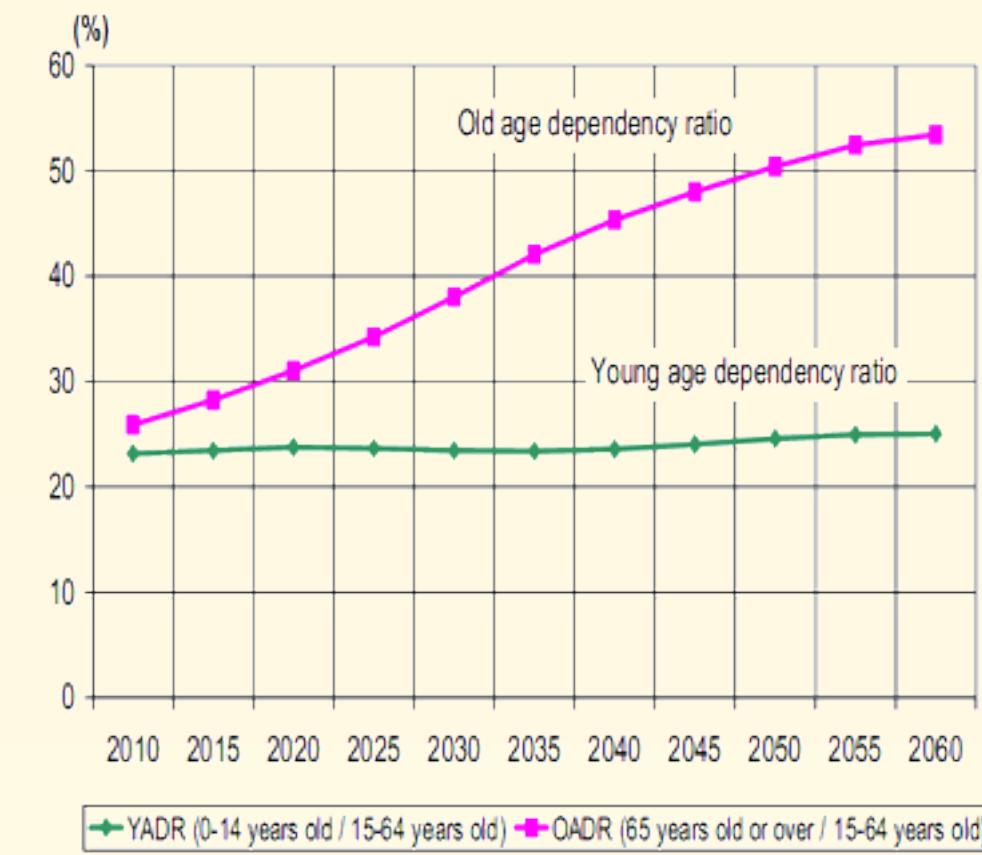
*Strong Incentives For Research Institutions To Produce High Impact Research And Commercial Opportunities For Enterprises*
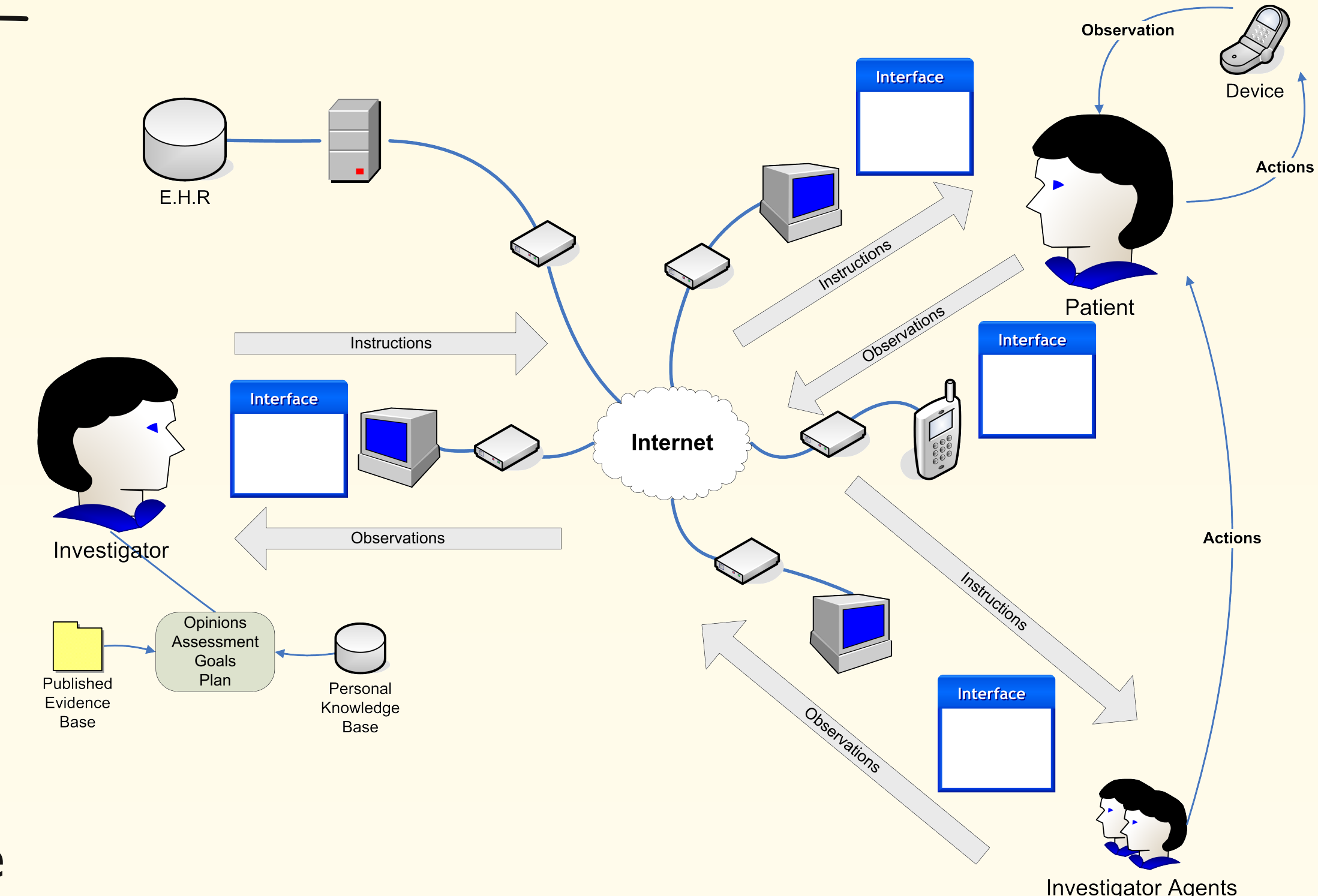
*With a potential market size of 80 million elderly European citizens, projected to double by 2050, why does Telehealth not seem currently to be realising its full potential?*

## Barriers To The Adoption Of Telehealth

Transitional Stage

Learning Curve
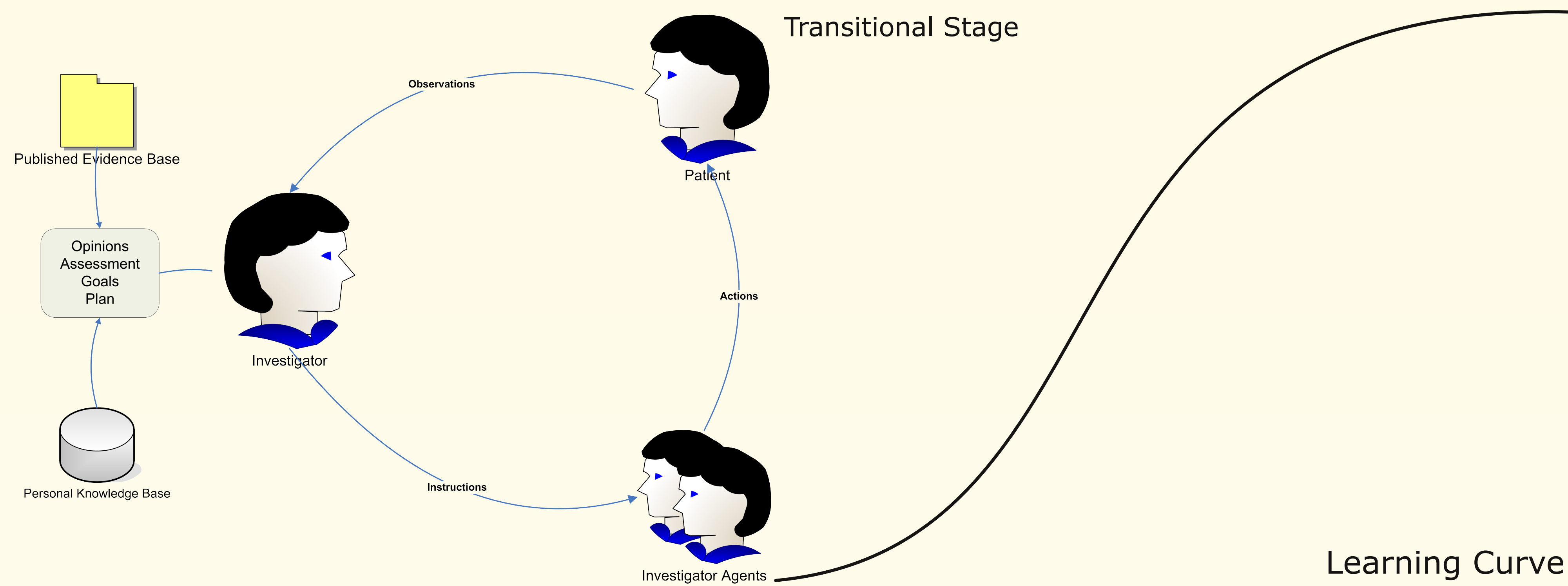
### Classic Delivery Of Healthcare

Complex Domain, Well Established, Converged, Interpersonal, National / Regional

### "Distributed" Delivery Of Healthcare

New, Proactive Health Management, Distributed Cost / Workload, Potentially Cost Effective, Personalised, Complementary, Exposed, International

**Transition Issues**
Redefinition Of Roles
Training (Staff, Patients)
New Processes
Uncertainty
Constant Adaptation
Innovation Gap

**Technological Issues**
Complexity
Reliability / Robustness
Interoperability
Rural / Remote Areas
Infrastructure
Slow Transition To E.H.R.

**Lack Of Evidence**
Ongoing Development Of Relevant Metrics
Usability (Interfaces)
Obtrusiveness (Systems)
Acceptance (Systems / Sensors)

**Financial Issues**
Distribution Of Cost
Cost Of Change / Benefit
Cost Of "Staying Connected"

**Legal Issues**
Audit Trailing
Liability (Patient Actions)
Privacy
Policies Lagging

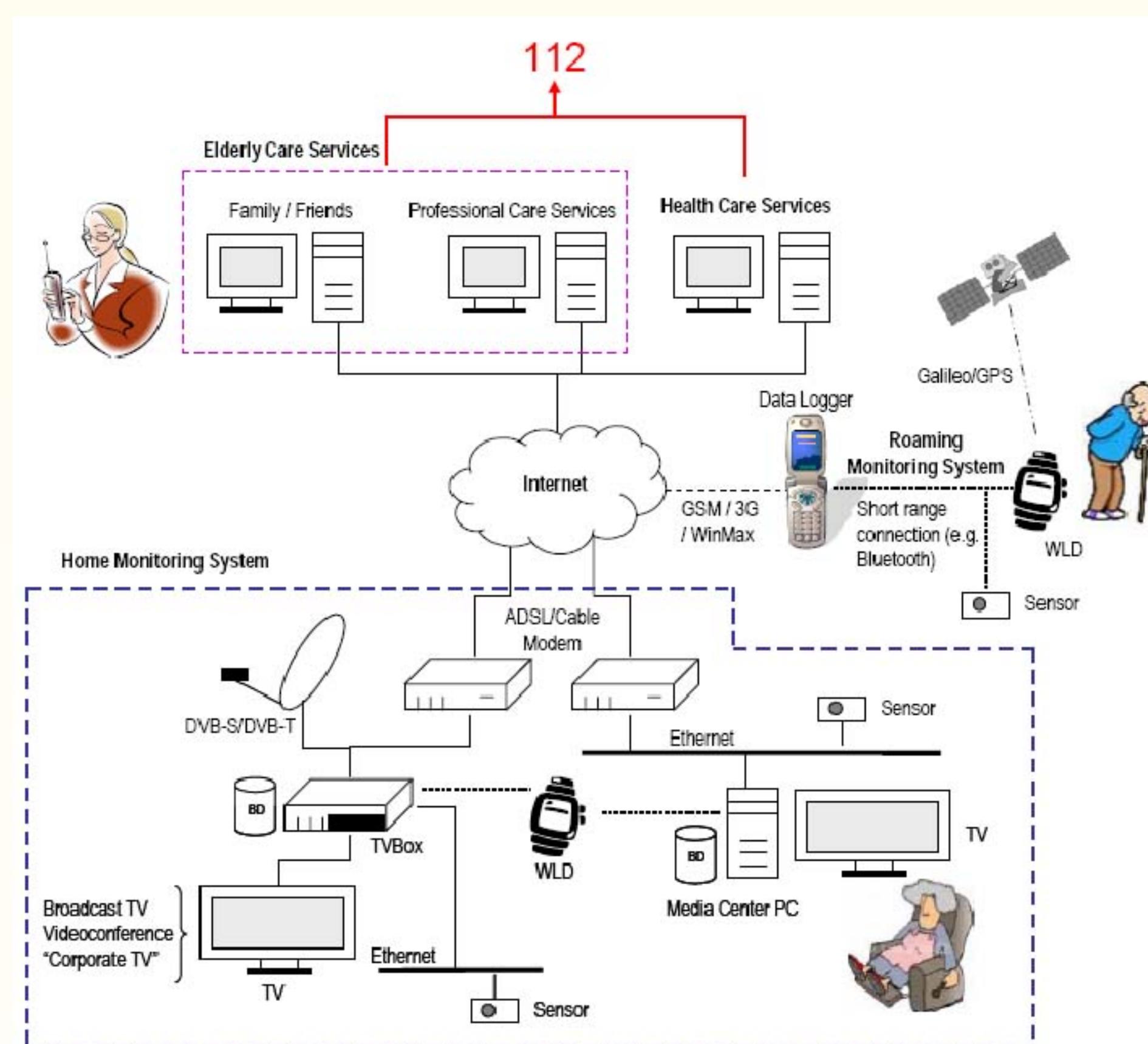## The Complete Ambient Assisted Living eXperiment (CAALYX)

**Transition Issues**
Off The Shelf Equipment
Already Established Devices And Interfaces
Minimal Training

**Technological Issues**
Extensive Use Of Open Standards
Interoperable (HL7 Provisions)
Modular

**Lack Of Evidence**
Ongoing Trials
Realistic Environments

**Legal Issues**
Secure Transmission Channels
Endpoint Authentication

**Financial Issues**
Subscription Based Service
Equipment Inclusive
Equipment Reuse
Use Of Freely Available Technologies

## Prospects

- Transitional and technological issues will be the easiest to solve in the long term
- Legal and Financial Issues will remain as the most persistent. The legal system and relevant policies evolve slower than technology and the possibilities it opens
- Connectivity costs will continue to drop but will still contribute strongly to the overall cost of associated services.
- Policies and Standardisation at national level are the strongest enablers of Telehealth
- Eventually, in a 25-30 year interval, a "new" generation of elderly will emerge that will be computer and technology literate enough to cope with the challenges that the transition to a telehealth enabled healthcare ecosystem poses.

- In the short term, a comprehensive and integrated consumer-centric approach that promises to translate inventions into high-penetration innovations in people's lives has been proposed by Coughlin and Pope (2008) to bridge today's apparent innovation gap indicated by the slow diffusion of existing telehealth technologies.

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