

## Evaluation study of home monitoring of COPD patients

### Clinical Study site: Hospital Pulido Valente, Lisbon, Portugal



The Hospital Pulido Valente, Lisbon participated in a socio-economic evaluation study partly funded by the European Union programme "Quality of life and management of living resources programme".

A total of thirty eight patients with COPD were recruited forming part of a wider study group totalling 199 patients with single and multiple long term conditions, including CHF, COPD, Asthma, Hypertension and Diabetes.

The project sought to examine the socio-economic impact of monitoring patients at home in three European countries across four clinical sites.

- **Portugal**

**COPD:** Hospital da Pulido Valente in Lisbon

**ASTHMA:** Hospital do Espirito Santo in Evora

- **United Kingdom**

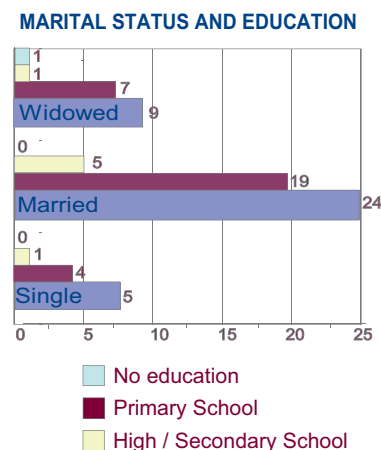
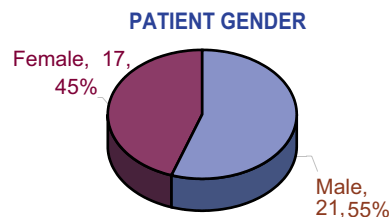
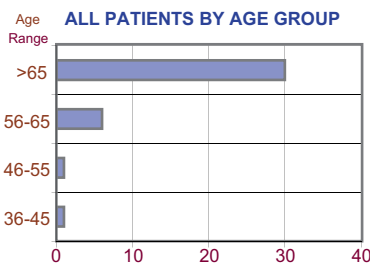
**DIABETES/ASTHMA:** Sandmere Surgery at Lambeth in London

- **Estonia**

**HEART FAILURE** Tartu Medical Clinics in Tartu

This case study reports the outcome of home monitoring of patients with COPD in Lisbon.

**Key themes: Quality of Life, Impact on Care, Service Evaluation**



Thirty eight patients with varying degrees of COPD were recruited and managed by the care team headed by Prof Maria João Marques Gomes, the dept of Pneumology at the Hospital Pulido Valente.

The primary purpose was to make a representative evaluation of evolving remote home-based patient monitoring delivery and its associated management in the context of an ageing society.

**The key objective was to:**

"determine and evaluate the impact and demand of managing the care of patients at home using current state of the art technology and to identify the means for deployment following adoption by health service providers".

The *doc@HOME®* service which is designed and manufactured in the UK was used.



*"The group of patients that used the remote monitoring system correctly, presented reduction in the number and duration of the hospital admissions accompanied by a significant clinical improvement. We conclude that the home telemonitoring brings a positive contribute for the management of these patients in the community"*

Dr. Manuela Zamith,



## Study characteristics and outcomes

### Study structure

Thirty eight patients were recruited to use the *doc@HOME*® service and the Docobo *HealthHub*™ interfacing over the WEB to a secure repository. Prior to the start, during and following the close of the project assessment reviews were implemented. Technical and clinical support was made available throughout the study.

### Patient recruitment

At this time baseline patient characteristics were assessed including the patient's primary condition, various severity indicators and co-morbidities, socio-economic factors and support at home as well as the level of motivation to join the study.

### Patient progress/achievements

#### • At interim clinical visits

Clinical measurements, an assessment of patient's knowledge and skills, use of other health or social services since the last visit were assessed followed by consideration whether to continue the service after patient or staff comment.

#### • At the last clinical visit

As previous assessment followed by the review of factors influencing any future decisions to continue with the service for this patient.

### Post study review - clinician

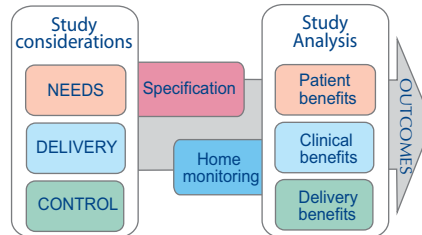
Perceptions on equipment, time, changes in personal style and or performance and general comments.

### Post study review - patient.

This assessed the ease of learning and using the equipment and service, the time involved and general comments.

### Clinical site quality audit

This was carried out including the record of local site activities by an external auditor that considered staff and roles involved in service delivery, handling of special events and circumstances.



### Project implementation

Patients were initially trained at clinics and instructed how to collect the medical datasets that were specified by clinicians and Europe's generic 'quality-of-life' scale (EQ5D).

Data was usually transferred to a central server from the patients home at night using a standard telephone connection.

Clinicians viewed the data in their office on standard PCs and returned messages of advice to patients via the server. Regular assessment of medical status and QoL factors were used to prompt calls for face-to-face consultations or home visits by community services. Patients and clinicians could also communicate directly by phone and had access to technical support lines.

### Study results - Impact of use

#### Patients using the system

Symptoms	-12.6%
Demand activity	-14.5%
Impact on hospital	-6.2%

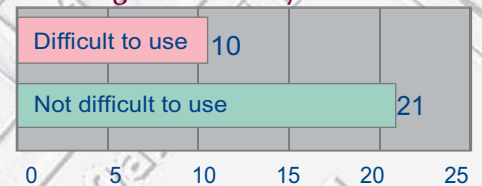
#### Patients not using the system

Symptoms	+3.8%
Demand activity	+7.3%
Impact on hospital	+9.4%

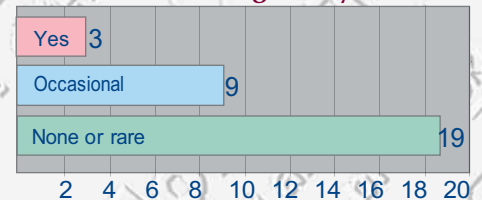
### Patient conclusions

The opinion of a group of chronic respiratory failure patients submitted to a home-based tele-monitoring during 9 months, through a questionnaire at the end of the program. (31 patients responded)

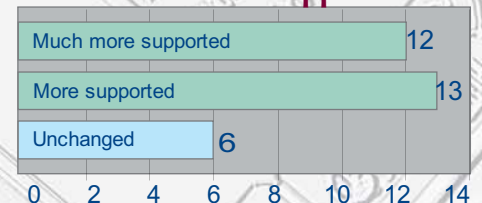
### Learning to use the system



### Difficulties in using the system



### Perceived level of support



**Thirty four (90%) of patients reported that they would use the system in the future when services were offered**

**Docobo**

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