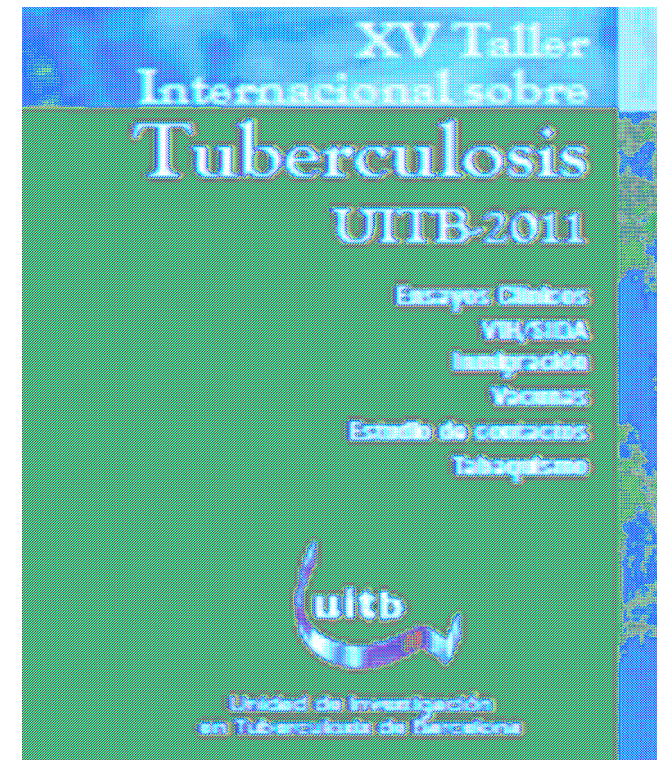


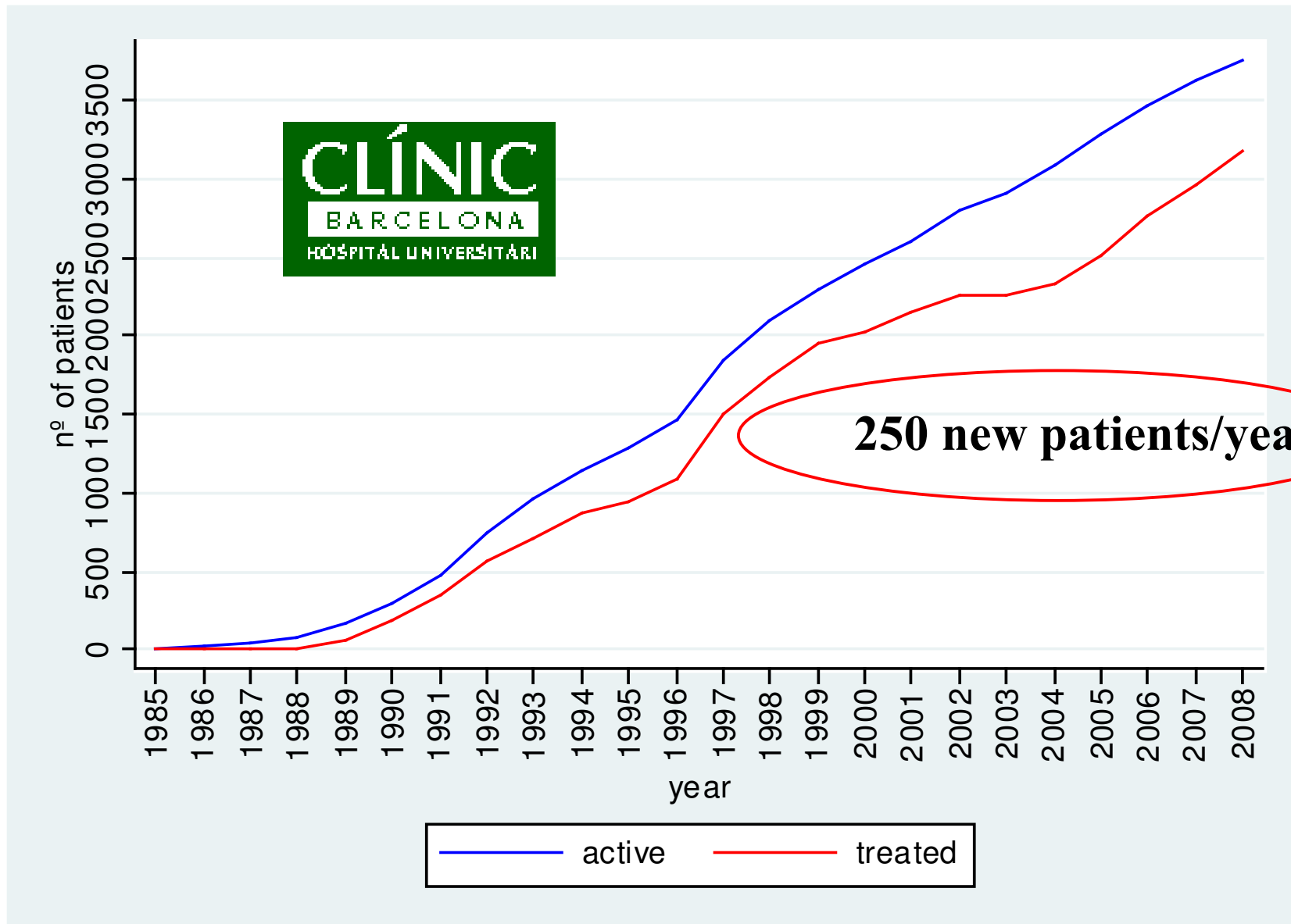
Sistema de telemedicina para pacientes infectados por VIH

F Garcia.

Hospital Clínic Barcelona



Growing number of HIV infected patients



HIV as a chronic disease

New needs:

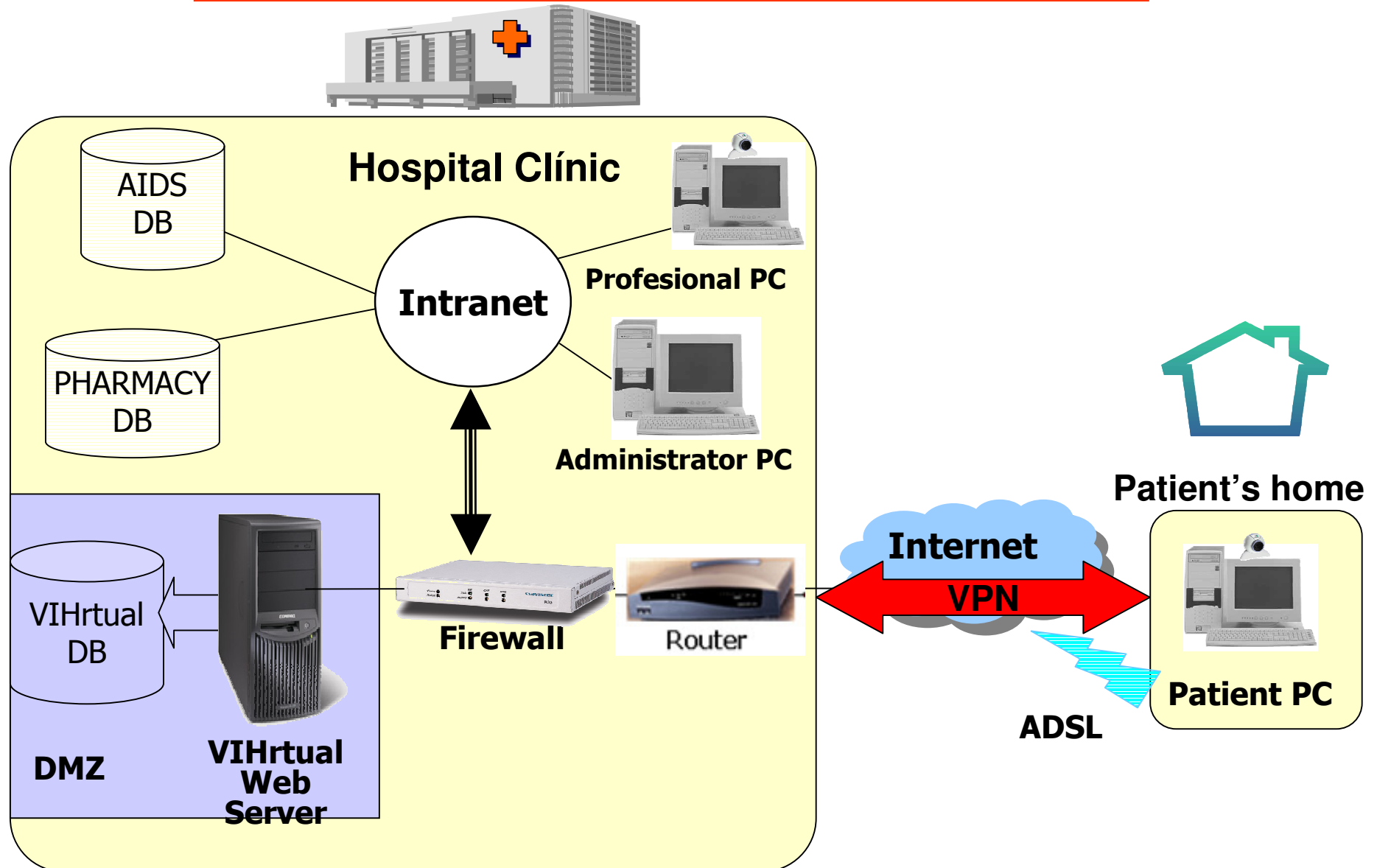
- Decrease time off-work.
- Improve quality of life (decrease time-consuming, normalize the pathology)
- Simplify the access to the care team/patients.
- Decrease stigmatization
- Psychological and social adjustment

Objective

To create a telemedicine service that complements standard care with a telecare follow-up for attending stable HIV infected patients, in a chronic phase of their disease

Virtual Hospital

Architecture of the implementation



Virtual Hospital Services

The screenshot shows a web browser window titled "http://web/ - Hospital Virtual - Windows Internet Explorer". The page header includes navigation icons (question mark, back, home), the text "BIENVENID@ pac12", and the "hospital virtu@" logo. The main content area features a colorful illustration of a town square with several buildings. Callout boxes with arrows point to specific buildings: "Virtual Community" points to a yellow building labeled "COMUNIDAD"; "Virtual Library" points to a building labeled "BIBLIOTECA"; "Virtual consultations" points to a building labeled "CONSULTAS"; and "Telepharmacy" points to a building labeled "FARMACIA". A "mi perfil" icon is visible in the bottom right corner.

Virtual Community

Virtual consultations

Virtual Library

Telepharmacy

COMUNIDAD

BIBLIOTECA

CONSULTAS

FARMACIA

mi perfil

Virtual Consultations

Profesional's videoconference

hospital virtuo@

CITAS TRATAMIENTO ENFERMERÍA GRÁFICAS

editar	imprimir	F. Serolo.	19/11/2001	F. 1 ^{er} Control	13/02/1997	Servicio	Profesional
Sexo:	Hombre	F. SIDA	13/11/2001	F. U ^{mo} Control	12/11/2001	Médico	Ana María Risueño García
G.Riesgo:	HMF	F. Lipodis.	20/11/1998	F. Exitus	dd/mm/aaaa	Médico	Marcos Romero Miranda

Toxo 0: + CMV: - PPD 0: ? Hepatitis

Fecha	I. Oportunista	Fecha
11/12/2003	MAI	11/11/12
25/04/2004	GIA	12/11/12

Fecha	Linfocitos	%T4	T4 Absoluta
25			488
25			488
24			456

VideoConferencia

Llamar a: test1 Chat

Edición Rápida

Fecha: 15/10/2004 Profesional: Doctor Caligari

ANALÍTICA

dd/mm/aaaa Linf. %T4 %T8 CV

CURSO EVOLUTIVO

Logaritmo

11.74

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TRATAMIENTO

Sigue Cambia Para Nº días

Ef. Adversos

enviar

Prueba de un curso un poco más largo del anterior para ve...

Tratamiento	Cumplimiento	Efectos Adversos
IND;SAQ;DAT;	%	Ninguno
AMP;3TC;	88,83 %	
3TC;	99,32 %	Parestesias [29/03/2004] Lipodistrofia

Patient's videoconference

VIDEOCONFERENCIA

hospital virtuo@

VIDEO CITAS HISTORIAL TRATAMIENTO CUMPLIMIENTO GRÁFICAS



Hay 0 personas delante suyo

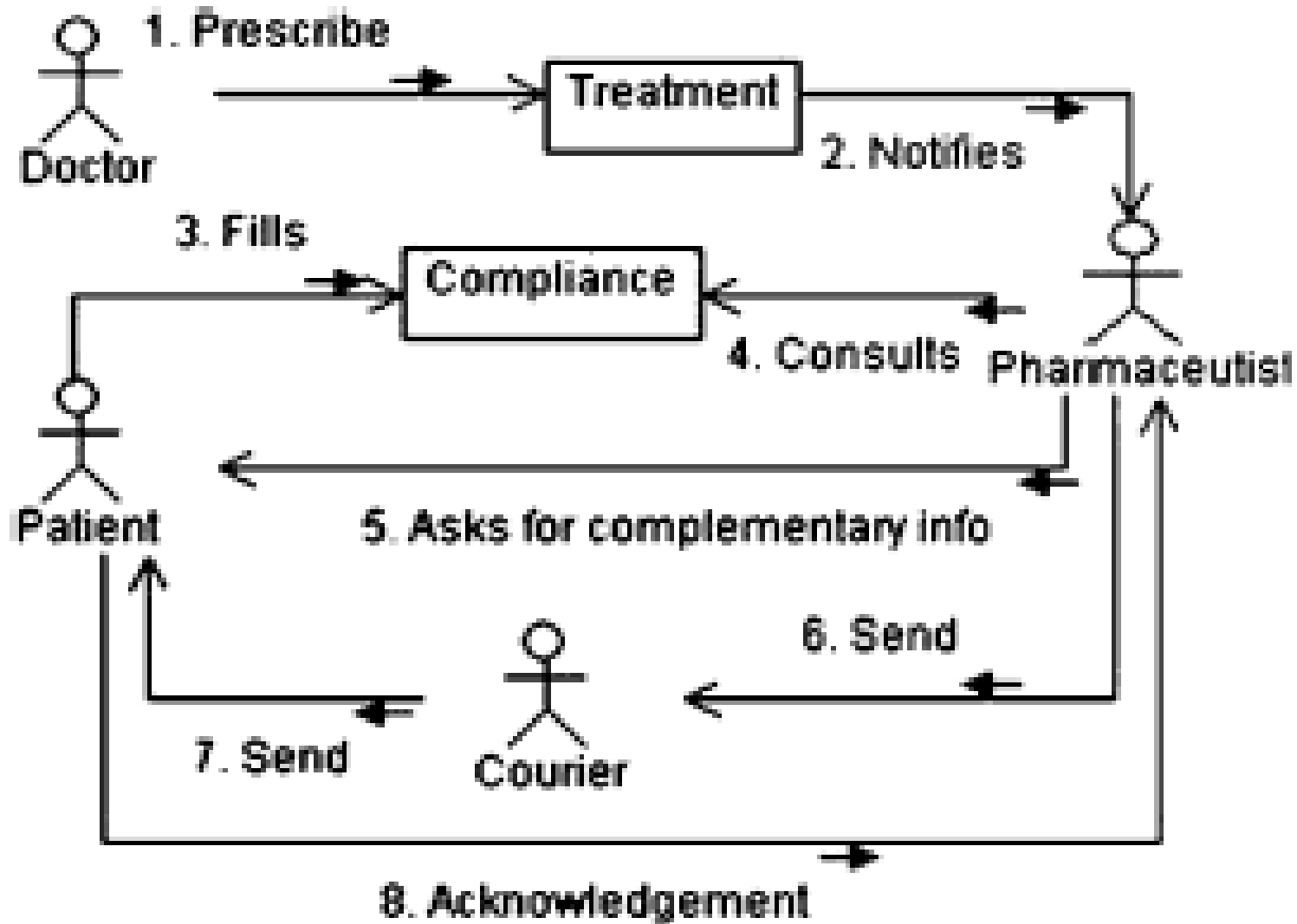
No tiene citas para hoy

13:06

Escriba aquí todo lo que desee preguntar a su médico para que no se le olvide.

Abrir Chat

Telepharmacy



A New Multidisciplinary Home Care Telemedicine System to Monitor Stable Chronic Human Immunodeficiency Virus-Infected Patients: A Randomized Study

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OBJECTIVE

- ✓ Evaluation of a telemedicine service that **compares standard care** with **telecare** follow-up for attending stable HIV-infected patients in the chronic phase of their disease.

LOCATION

- ✓ University hospital. 3500 HIV outpatients. Ethics Committee

STUDY METHODS

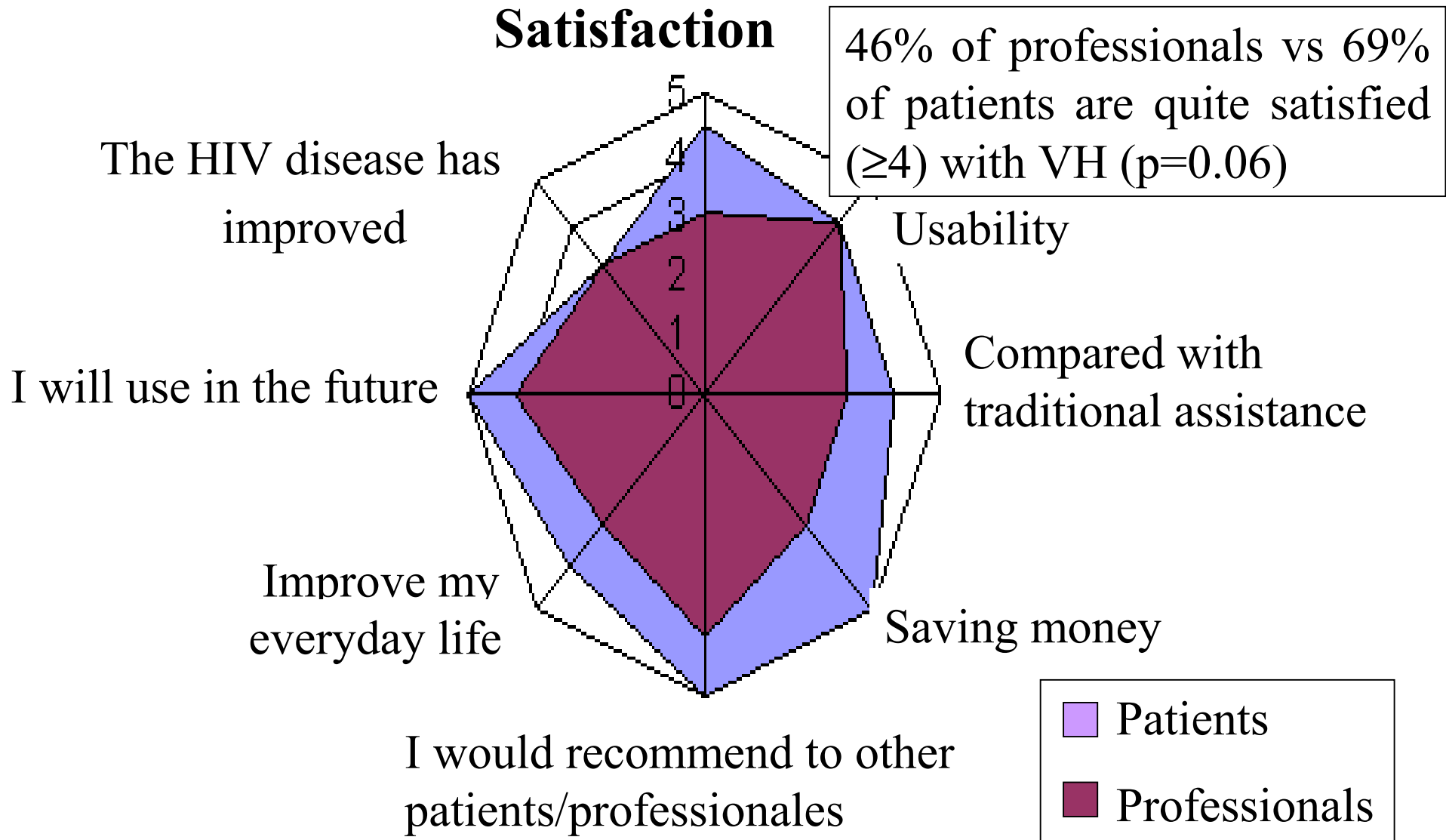
DESIGN

- ✓ **Open, cross, randomized, prospective study over 2 years (2005/7)**
 - Virtual arm: patients monitored by Virtual Hospital
 - Control arm: patients monitored in the hospital as usual.
- ✓ After 1 year of follow up patients are crossed into the other arm

INCLUSION CRITERIA

- ✓ **Stable patients**
- ✓ $CD4 > 250 \text{ cel/mm}^3$
- ✓ Computer and broadband

Technical Evaluation of Virtual Hospital



HIV Clinical Parameters

VARIABLE	V	C	TOTAL	P
CD4+ T cells (cells/mm3) 12Months*	669 (535-920)	664(458-859)	669 (499-886)	0.40
CD4+ T cells (cells/mm3) 24Months*	746 (553-941)	589 (443-911)	684 (514-927)	0.11
Log₁₀VL (copies/ml) 12M***	2.58 (0.19)	2.92 (0.20)	2.76 (0.14)	0.21
Log₁₀VL (copies/ml) 24Months***	2.40 (0.19)	2.74 (0.21)	2.57 (0.14)	0.19
Treatment initiation Months 0-12**	1 (2)	0 (0)	1 (1)	0.30
Treatment initiation Months 12-24**	2 (4)	3 (7)	5 (5)	0.66
Care by VH after Month 24**	32 (70)	32 (71)	64 (70)	0.87
Death**	1 (2)	0 (0)	1 (1)	0.31

*: Median (IQR). **: No (%). ***: Mean (SE). 15 patients (16%) were lost to follow-up. 2 of them by no satisfaction with system (2%).

Adherence Evaluation

- **No differences** between arms during study follow-up (Median of adherence on Month 12: 97.8% [IQR 92.1-98.7, $p=0.58$]; Month 24: 96.3% [IQR 94.1-99.2, $p=0.35$])

Quality of Life Evaluation

- **No differences** between arms during study follow-up (Month 12: 22.1 [(IQR 16.2 - 40.4), $p=0.9$]; Month 24: 27.9 [(IQR 19.8-41.9), $p=0.9$])

Psychological Evaluation

- No differences between arms in:

Hospital anxiety and Depression scale

(HAD)(Screening questionnaire for depression and anxiety)

Goldberg Health Questionnaire (GHQ-28): Screening of psychosocial problems,

Psychosocial Adjustment to Illness scale (PAIS):

Quality of a patient`s psychosocial adjustment to an illness.

Conclusions

***Virtual Hospital*, covers all process of patient care through the Internet**

***Virtual Hospital* provides a feasible, quite satisfactory and a safe tool for the clinical care of stable HIV-patients, without any deleterious impact on HIV clinical parameters, antiretroviral-compliance, quality of life or psychological and emotional status.**

Platforms like *Virtual Hospital* might be called to play a major role as facilitators of the **new strategies for chronic care management**, through out-of-hospital follow-up, patient empowerment and care coordination, improving patient care without an associated cost raise.

Research Teams



Physicians: Felipe García, Agathe León, Emilio Fumero, Pedro Castro, José Luis Blanco, Esteban Martínez, Josep Mallolas, Montse Loncá, Montse Laguno, Ana Milinkovic, María Larrouse, José María Gatell.

Nurses: Marta Sala, Cristina Casadesus

Pharmacy: Montse Tuset, Maite Martín, Elena Cacho, Carlos Codina

Psychiatrists: Araceli Rousaud, Jordi Blanch

Social Work: Menchu Lanaspá

Quality of life: Neus Canal, Xavier Badía

Administrator: Laura Zamora



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