Optimizing Clinical Care

Dr. Jose R Arribas
Disclosures

**Board Member/Advisory Panel:** MSD, Gilead, Janssen, ViiV
“Classical” HIV Clinical Care

- HIV diagnosis
- Labs
- 1\textsuperscript{st} visit: talk about ART
- 2\textsuperscript{nd} visit: start ART
- 3\textsuperscript{rd} visit 1 month later: check tolerance, safety, labs, adherence, interactions
- 4\textsuperscript{th} visit 2-3 months later: check tolerance, safety, labs, adherence, interactions
- Visits every 3-6 months: check tolerance, safety, labs, adherence, interactions
Other elements of the clinic visit. Comorbidities (EACS)

1. Drug Dependency and Drug Addiction
2. Cancer Screening
3. Lifestyle Interventions: smoking, exercise
4. Prevention of CVD
5. Hypertension
6. Diabetes
7. Dyslipidaemia
8. Bone disease
9. Vitamin D deficiency
10. Kidney disease
11. Liver disease
12. Lipodistrophy
13. Travel
14. Vaccination
15. Sexual and Reproductive Health
16. Sexual dysfunction
17. Depression
18. Neurocognitive impairment
19. Chronic Lung Disease
20. Organ transplantation
21. Hepatitis B coinfection
22. Hepatitis C coinfection
23. Opportunistic Infections
HIV as a chronic disease

PATIENT 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, empowerment
• Psicological and social adjustment
• Aging and frailty
• Comorbidities
• Immigration, difficulty of hospital access

HOSPITAL New needs:
• Increase burden of HIV patients.
• Change from inpatient to the outpatient care.
• Simple monitoring
• Optimize health resources
• Management of comorbidities and prevention activities
• Late HIV diagnosis
• Unknown HIV infection
• Implementation measures to increase prevention and HIV care continuum
Optimizing Clinical Care

Standard Care

Blood test

HIV Consultation

Day Care Hospital

Pharmacy

New models

Laboratory

Pharmacy

6 Months
Standard Care

Blood test

Laboratory

HIV Consultation

Day Care

Hospital

Pharmacy

Pharmacy

New drugs

6 Months
Preferred ART in guidelines (naïve, triple)

2017 Recommended

ABC/3TC/DTG‡
TAF(TDF)/FTC + DTG
TAF(TDF)/EVG/c
TAF(TDF)/FTC + RAL
TAF(TDF)/FTC/RPV*
TAF(TDF)/DRV/c(r)


2018 Recommended Initial Regimens for Most People with HIV

ABC/3TC/DTG‡
TFV/FTC + DTG
TFV/FTC/EVG/c
TFV/FTC + RAL
TAF/FTC/BIC


‡ABC is contraindicated if HLA-B*5701 is positive; *Only if CD4 count > 200 cells/µL and HIV-VL < 100,000 copies/mL.
3TC, lamivudine; ABC, abacavir; ART, antiretroviral therapy; c, cobicistat; DTG, dolutegravir; DRV, darunavir; EVG, elvitegravir; FTC, emtricitabine; r, ritonavir; RAL, raltegravir; RPV, rilpivirine; TAF, tenofovir alafenamide; TDF tenofovir disoproxil fumarate; TFV, tenofovir

Optimizing Clinical Care
Preferred ART in Guidelines (Naïve. Triple)

2018 Preferred

ABC/3TC-DTG
TAF/FTC-DTG
TAF/FTC-RAL

http://www.gesida-seimc.org/contenidos/guiasclinicas/
Preferred ART in GESIDA Guidelines

- Applicable to the majority of patients
- In RCT superior vs control
- In RCT non-inferior but have a superior tolerance, toxicity or interaction profile

- 88-90% with < 50 copies/mL at week 48 by FDA snapshot
- <1-2% virologic failures
- 1-2% discontinuations due to AE

Source: http://www.gesida-seimc.org/contentos/guiasclinicas
ONCEMRK: RAL 1200 mg QD Noninferior to 400 mg BID at Wk 96 in ART-Naive Pts


Optimizing Clinical Care
**ONCEMRK: RAL 1200 mg QD Noninferior to 400 mg BID at Wk 96 in ART-Naive Pts**

| || Number of participants (%) | Treatment difference (QD – BID), % (95% CI) |
|---|---|---|
| **≥1 AE** | | |
| Drug-related | 479 (90.2) | 248 (93.2) | -3.0 (-6.8, 1.3) |
| Serious AE | 49 (9.2) | 42 (15.8) | -6.6 (-11.9, -1.8) |
| Drug-related | 1 (0.2) | 2 (0.8) | -0.6 (-2.5, 0.4) |
| **Discontinued study due to AE** | 5 (0.9) | 6 (2.3) | -1.3 (-4.0, 0.4) |
| Drug-related AE | 0 (0.0) | 2 (0.8) | -0.8 (-2.7, -0.0) |
| Serious AE | 4 (0.8) | 2 (0.8) | 0.0 (-2.0, 1.3) |
| Serious drug-related AE | 0 (0.0) | 0 (0.0) | 0.0 (-1.4, 0.7) |
| Deaths | 2 (0.4) | 1 (0.4) | 0.0 (-1.7, 1.0) |

**Drug-related AEs reported by ≥2% of participants in either treatment group**

| || Number of participants (%) | |
|---|---|---|
| | RAL 1200 mg QD<sup>a</sup> (N=531) | RAL 400 mg BID<sup>a</sup> (N=266) | Total (N=797) |
| Nausea | 40 (7.5) | 20 (7.5) | 60 (7.5) |
| Abdominal pain | 16 (3.0) | 3 (1.1) | 19 (2.4) |
| Headache | 16 (3.0) | 13 (4.9) | 29 (3.6) |
| Diarrhea | 13 (2.4) | 7 (2.6) | 20 (2.5) |
| Vomiting | 12 (2.3) | 6 (2.3) | 18 (2.3) |
| Dizziness | 12 (2.3) | 9 (3.4) | 21 (2.6) |

ONCEMRK: RAL 1200 mg QD Noninferior to 400 mg BID at Wk 96 in ART-Naive Pts

<table>
<thead>
<tr>
<th>Resistance Category</th>
<th>RAL 1200 mg QD&lt;sup&gt;a&lt;/sup&gt; n/N (%)</th>
<th>RAL 400 mg BID&lt;sup&gt;a&lt;/sup&gt; n/N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any resistance (InSTI; or NRTI + InSTI; or NRTI)</td>
<td>6/531 (1.1)</td>
<td>3/266 (1.1)</td>
</tr>
<tr>
<td>InSTI alone or with NRTI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>InSTI alone&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4/531 (0.8)</td>
<td>2/266 (0.8)</td>
</tr>
<tr>
<td>InSTI + NRTI</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Only NRTI&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTC alone</td>
<td>2/531 (0.4)</td>
<td>1/266 (0.4)</td>
</tr>
<tr>
<td>FTC + TDF</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

BIC/FTC/TAF vs DTG-Containing Regimens for Treatment-Naive Patients

GS-1489: Wk 48 Virologic Efficacy[^1]

<table>
<thead>
<tr>
<th></th>
<th>BIC/FTC/TAF (n = 314)</th>
<th>DTG/ABC/3TC (n = 315)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-1 RNA &lt; 50 c/mL</td>
<td>92</td>
<td>93</td>
</tr>
<tr>
<td>HIV-1 RNA ≥ 50 c/mL</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>No Virologic Data</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

Treatment difference: -0.6% (95% CI: -4.8% to 3.6%)

GS-1490: Wk 48 Virologic Efficacy[^2]

<table>
<thead>
<tr>
<th></th>
<th>BIC/FTC/TAF (n = 320)</th>
<th>DTG + FTC/TAF (n = 325)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-1 RNA &lt; 50 c/mL</td>
<td>89</td>
<td>93</td>
</tr>
<tr>
<td>HIV-1 RNA ≥ 50 c/mL</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>No Virologic Data</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Treatment difference: -3.5% (95% CI: -7.9% to 1.0%)

No resistance selected for in any DTG- or BIC-containing regimen


Optimizing Clinical Care
### BIC/FTC/TAF vs DTG-Containing Regimens: Key Safety Findings

<table>
<thead>
<tr>
<th>Outcome Through Wk 48</th>
<th>BIC/FTC/TAF (n = 314)</th>
<th>DTG/ABC/3TC (n = 315)</th>
<th>BIC/FTC/TAF (n = 320)</th>
<th>DTG + FTC/TAF (n = 325)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhea, %</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Headache, %</td>
<td>11</td>
<td>14</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Nausea, %</td>
<td>10</td>
<td>23*</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Insomnia, %</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Upper respiratory tract infection, %</td>
<td>6</td>
<td>11</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Median eGFR&lt;sub&gt;CG&lt;/sub&gt; Δ from BL, mL/min</td>
<td>-10.5</td>
<td>-10.8</td>
<td>-7.3</td>
<td>-10.8&lt;sup&gt;†&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mean BMD Δ from BL, % spine/hip</td>
<td>-0.83/-0.78</td>
<td>-0.60/-1.02</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td>D/c for AE, n (%)</td>
<td>0</td>
<td>4 (1)</td>
<td>5 (2)</td>
<td>1 (&lt; 1)</td>
</tr>
</tbody>
</table>

*P < .0001; †P = .02

- **No d/c for renal AEs and no proximal tubulopathy for any regimen**

**D/C/F/TAF non-inferior to control**

Lower bound 95% CI >–10%

### Virologic Response (VL<50 c/mL)
- **D/C/F/TAF (N=362)**: 91.4% (n=331)
- **Control (N=363)**: 88.4% (n=321)

### Percentage Point Difference

Stratified difference (95% CI) (D/C/F/TAF – control)

- **D/C/F/TAF non-inferior to control**
- **Favours control**
- **Favours D/C/F/TAF**

Lower bound 95% CI: -1.6

-1.6 < 10%

\[ p < 0.0001 \]

\[ \text{†p-value for non-inferiority at 10% NI margin} \]

## AMBER (TAF/FTC/DRV/c vs TDF/FTC+DRV/c)

<table>
<thead>
<tr>
<th>Incidence, n (%)</th>
<th>D/C/F/TAF QD N=362</th>
<th>Control N=363</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1 AE, any grade</td>
<td>312 (86.2)</td>
<td>307 (84.6)</td>
</tr>
<tr>
<td>≥1 grade 3–4 AE</td>
<td>19 (5.2)</td>
<td>22 (6.1)</td>
</tr>
<tr>
<td>≥1 serious AE</td>
<td>17 (4.7)</td>
<td>21 (5.8)</td>
</tr>
<tr>
<td>Deaths</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### AEs leading to discontinuation

<table>
<thead>
<tr>
<th>≥1 AE</th>
<th>D/C/F/TAF QD (n=362)</th>
<th>Control (n=363)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 (1.9)</td>
<td>16 (4.4)</td>
</tr>
</tbody>
</table>

- Rash (n=6)
- Diarrhoea (n=1)
- Rash/erythema (n=7)
- Diarrhoea (n=1)
- Toxic skin eruption (n=2)
- SJS (n=1)
- Bone marrow oedema (n=1)
- Increased Beta 2 macroglobulin (n=1)
- Arthralgia (n=1)
- Neoplasms (n=2)


Optimizing Clinical Care
With these types of regimens.....

1. Do I have to wait for lab results before starting ART?
2. How frequently do I have to see the patient?
3. Do I have to see the patient or only follow labs?
Para alcanzar el objetivo 90/90/90/90

• Necesidad de modelos que se centren en el paciente para garantizar:
  – Más diagnóstico
  – Más acceso al tratamiento
  – Menos pérdidas de seguimiento
  – Más calidad de vida

• Modelo integral basado en paciente, médico, farmacia, enfermería, sistema sanitario y administraciones publicas, sociedades científicas, asociaciones de pacientes
Iniciativas locales: Implicando a At. Primaria

Proyecto SEISIDA de formación de profesionales de atención primaria en diagnóstico precoz del VIH

EVALUACIÓN DE PROCESO Y PARTICIPANTES

<table>
<thead>
<tr>
<th>Proceso y participantes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nº de centros salud formados en 2016</td>
<td>44</td>
</tr>
<tr>
<td>Mediana de profesionales por sesión</td>
<td>16</td>
</tr>
</tbody>
</table>

Características de los profesionales formados *

<table>
<thead>
<tr>
<th>Sexo</th>
<th>Número</th>
<th>Porcentaje</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mujer</td>
<td>81%</td>
<td></td>
</tr>
<tr>
<td>Hombre</td>
<td>19%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grupo profesional</th>
<th>Número</th>
<th>Porcentaje</th>
</tr>
</thead>
<tbody>
<tr>
<td>Médico/a</td>
<td>63.3%</td>
<td></td>
</tr>
<tr>
<td>Enfermero/a</td>
<td>32.5%</td>
<td></td>
</tr>
<tr>
<td>Otros</td>
<td>1.2%</td>
<td></td>
</tr>
</tbody>
</table>

Edad

<table>
<thead>
<tr>
<th>Edad</th>
<th>Número</th>
</tr>
</thead>
<tbody>
<tr>
<td>M ± DT</td>
<td>51.1 ± 10.5</td>
</tr>
</tbody>
</table>

*N = 381 (cuestionarios pre-test procesados en 2016)

Figura 4. Diferencia medias pre-post formación en percepciones, conocimientos y barreras de profesionales sanitarios de primaria

- Las PVH sin diagnosticar pueden no presentar síntomas en años*
- El diagnóstico temprano permite el tratamiento efectivo con medicación*
- Las PVH en tratamiento tienen menos probabilidad de transmitir el VIH***
- Se debe realizar la prueba solo si el paciente lo pide**
- La prueba solo se debe ofrecer a personas de alto riesgo***
- Hay que ofrecer la prueba a pacientes con enfermedades indicadoras***
- Necesitaría formación adicional antes de ofrecer la prueba**
- Me preocupa que los pacientes piensen cosas que no puedo responder*

Optimizing Clinical Care
Assessing HIV-positive Persons' Readiness to Start and Maintain ART

**Goal: to help persons start and/or maintain ART**

The equipoise when to start ART has changed in light of the START trial [1]. Evidence is accumulating that starting ART on the same day after establishing a diagnosis of HIV infection is feasible and acceptable to HIV-positive persons. Nevertheless, assessment of the readiness to start ART is essential to enable the HIV-positive person to express their preference and not feel pressured to start ART immediately, unless clinically indicated.

Successful ART requires a person's readiness to start and adhere to the regimen over time. The trajectory from problem awareness to maintenance on ART can be divided into five stages. Knowing a person's stage, health care providers use appropriate techniques to assist them to start and maintain ART.

Identify the person's stage of readiness using WEMS(1) techniques, and start discussion with an open question/invitation: “I would like to talk about HIV medicines.” <wait> “What do you think about them?” Based on the person's response, identify his/her stage of readiness and intervene accordingly(1)

Immediate (same day) start of ART should be considered, especially in the following situations:

- In the setting of primary HIV infection, especially in case of clinical signs and symptoms of meningoencephalitis (within hours). In this situation, the clinician may start ART immediately after a positive screening HIV test and before obtaining confirmatory HIV test results such as a HIV-VL.
- The wish of an HIV-positive person to start ART immediately.
- In a setting where loss-to-follow-up is more likely if ART is not started the same day.

### Stages of readiness to start ART

<table>
<thead>
<tr>
<th>Stage</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precontemplation</strong>: “I don’t need it, I feel good.” “I don’t want to think about it.”</td>
<td>Support: Show respect for the person's attitude. / Try to understand the person's health and therapy beliefs. / Establish trust. / Provide concise, individualised information. / Schedule next appointment.</td>
</tr>
<tr>
<td><strong>Contemplation</strong>: “I am weighing things up and feel torn about what to do about it.”</td>
<td>Support: Allow ambivalence. / Support the person in weighing pros and cons. / Assess the person's information needs and support his/her information seeking. / Schedule the next appointment.</td>
</tr>
<tr>
<td><strong>Preparation</strong>: “I want to start, I think the drugs will allow me to live a normal life.”</td>
<td>Support: Reinforce the person's decision. / Decide with the person which is the most convenient regimen. / Educate the person on adherence, resistance and side effects. / Discuss integration into daily life. / Assess self-efficacy.</td>
</tr>
</tbody>
</table>
El objetivo del estudio fue determinar si ofrecer TAR a los pacientes con VIH diagnosticados mediante test rápidos el primer día de consulta mejora el binomio atención-supresión viral en un entorno rural de alta prevalencia en África subsahariana.
Diseño e implementación

Figure 1. Patient Flow Through the CASCADE Trial

6660 Households contacted for home-based HIV testing (60 villages, 17 urban areas)

5 Access to households declined

6655 Households consented to home visit (52,086 households members not known to be HIV positive)

3996 Household members declined HIV testing

11,590 Household members agreed to HIV testing

11,084 Household members tested negative for HIV

166 Excluded

140 Did not meet inclusion criteria

13 Declared refusal

1 Did not receive home visit

19 Did not return to work in the study district

4 Did not return for follow-up

25 Had a chronic medical condition

25 Died

7 Informed of ART exposure

45 Did not return for ART eligibility

15 Declined participation

279 Household members randomized (268 randomized)

138 Randomized to receive same-day ART (133 households; 128 households with 1 participant; 5 households with 2 participants)

190 Randomized to receive usual care (173 households; 11 households with 1 participant; 5 households with 2 participants)

197 Received same-day ART

187 Received usual care

169 Received information about ART

177 Did not receive intervention

ART indicates antiretroviral therapy.

Source: Labhardt N et al. 25th CROI; Boston, MA; March 4-7, 2018. Abst. 94.

DESIGN, SETTING, AND PARTICIPANTS Open-label, 2-group, randomized clinical trial (February 22, 2016-September 17, 2017), involving 6 healthcare facilities in northern Lesotho. During home-based HIV testing in 6655 households from 60 rural villages and 17 urban areas, 278 individuals aged 18 years or older who tested HIV positive and were ART naive from 268 households consented and enrolled. Individuals from the same household were randomized into the same group.

INTERVENTIONS Participants were randomly assigned to be offered same-day home-based ART initiation (n = 138) and subsequent follow-up intervals of 1, 3, 6, 9, and 12 months after treatment initiation at the health facility or to receive usual care (n = 140) with referral to the nearest health facility for preparatory counseling followed by ART initiation and monthly follow-up visits thereafter.

MAIN OUTCOMES AND MEASURES Primary end points were rates of linkage to care within 3 months (presenting at the health facility within 90 days after the home visit) and viral suppression at 12 months, defined as a viral load of less than 100 copies/mL from 11 through 14 months after enrollment.

Usual care:
- Referral to clinic
- Pre-ART assessment at clinic (laboratory baseline work & adherence counselling)
- Monthly follow-up visits at the clinic

Intervention:
- Offer of same-day home-based ART start (1 pill-box for 30 days handed to patient)
- Follow-up at clinic
- Spaced follow-up visits at the clinic (0.5-1.5-3.6-9-12 months)

Eligibility:
- HIV+, ART-naive ≥ 18 years
- Resident or working in the study area
- Written informed consent

Exclusion:
- Already in chronic care for another medical condition (i.e., diabetes, tuberculosis)
- Wants to attend care in a non-study clinic
- Clinical WHO stage 4 or serum cryptococcal antigen positive
- Pregnancy, breastfeeding
Cascade Trial – Lesotho: Resultados

Source: Labhardt N et al. 25th CROI; Boston, MA; March 4-7, 2018. Abst. 94.
Conclusions

Among adults in rural Lesotho, a setting of high HIV prevalence, offering same-day home-based ART initiation to individuals who tested positive during home-based HIV testing, compared with usual care and standard clinic referral, significantly increased linkage to care at 3 months and HIV viral suppression at 12 months. These findings support the practice of offering same-day ART initiation during home-based HIV testing.

Source: Labhardt N et al. 25th CROI; Boston, MA; March 4-7, 2018. Abst. 94.
Citywide RAPID Protocol:
All new confirmed HIV diagnoses linked to care ≤ 5 working days;
At 1st care visit: Baseline labs collected, counseling, medical/psychosocial assessment, **ART started unless risk for fatal IRIS**

[TFV+FTC] + [INSTI or DRV/r] with option for 4-drug regimen if HIV infection suspected on PrEP

Dissemination:
**HIV clinics** identified using HIV surveillance data, trained on RAPID procedures by in-service (2015) and individual provider detailing (2016)
**Linkage navigators** used **RAPID Provider Directory** to identify optimal HIV clinic for each newly-diagnosed patient, by insurance coverage, psychosocial needs.

**Full protocol and RAPID detailing brochure** for clinicians disseminated electronically at [http://www.gettingtozerosf.org/rapid-committee/](http://www.gettingtozerosf.org/rapid-committee/) and at open quarterly SFGTZ consortium meetings
### Median Time to Care, ART, and Virologic Suppression

<table>
<thead>
<tr>
<th>Metric</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>%Δ 2013-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Care within 1 year (%)</td>
<td>372 (93)</td>
<td>318 (97)</td>
<td>282 (96)</td>
<td>258 (97)</td>
<td></td>
</tr>
<tr>
<td>Diagnosis to care (days)</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>-38%</td>
</tr>
<tr>
<td>1st Care Visit to ART (days)</td>
<td>27</td>
<td>17</td>
<td>6</td>
<td>1</td>
<td>-96%</td>
</tr>
<tr>
<td>ART to VL&lt;200c/mL (days)</td>
<td>70</td>
<td>53</td>
<td>50</td>
<td>38</td>
<td>-46%</td>
</tr>
<tr>
<td>Diagnosis to VL&lt;200 c/mL (days)</td>
<td>134</td>
<td>92</td>
<td>77</td>
<td>61</td>
<td>-54%</td>
</tr>
</tbody>
</table>

- Time from diagnosis to VL<200 decreased significantly in all groups
- Time from diagnosis to first care visit decreased significantly for males, whites, Latinos, youth (13-29) and the housed
- Time from first care visit to ART decreased significantly in all groups
- Time from ART to VL<200 decreased significantly for males, under 40 y.o., whites, Latinos, Asian/Pacific Islanders, and the housed
Benefits and risks of rapid initiation of antiretroviral therapy: a systematic review and meta-analysis

Implicaciones de estas aproximaciones

- El TAR temprano ha demostrado:
  - Mayor adhesión al cuidado médico (linkeage to care)
  - Reducción en el tiempo hasta indetectabilidad
  - Reducción en la incidencia nuevos casos VIH!!

- Es una estrategia a considerar en distintos escenarios, especialmente con los nuevos perfiles de pacientes y de TAR de inicio:
  - Cribados frecuentes, diagnóstico temprano, motivación para realizar correctamente TAR
  - Pocos EA, baja frecuencia mutaciones primarias
Iniciativas locales: Implicando a At. Primaria

Introduction
- HIV infected patients with a controlled infection have, nowadays, a normal quality of life, both in social and working life.
- It has been reported a higher incidence of comorbidities (high blood pressure, chronic pulmonary obstructive disease, etc.) when compared to the non HIV infected population.

Objectives
- Assess the possibility of starting a shared care program with Primary Care (PC) in patients with HIV infection.

Methods
- Prospective study in patients with HIV infection in follow-up by the Infectious Diseases department of the Hospital Universitari Son Espases (Palma de Mallorca).
- Determine the patients’ satisfaction concerning specialized assistance care and analyse the knowledge and satisfaction with their primary care centres.

Results

<table>
<thead>
<tr>
<th></th>
<th>535</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>48.92 (SD:10.5)</td>
</tr>
<tr>
<td>Gender</td>
<td>M (74.8%) F (25.2%)</td>
</tr>
<tr>
<td>Mean years of follow-up</td>
<td>13.13 (SD:7.9)</td>
</tr>
</tbody>
</table>

- Primary Care visits frequency (%)
  - 0-1 times per year: 28.4%
  - 2-6 times a year: 36.6%
  - 6-12 times a year: 6.08%
  - >12 times a year: 5.68%
  - Unknown: 7.98%

- Satisfaction with the Health Centre (0-10 points): 7.88
- Satisfaction with the general practitioner (0-10 points): 8.35
- Delay in Primary Care attendance (days; mean and standard deviation): 4.07±3.56

- Specialized Care visits frequency (%)
  - 1-2 times a year: 22.4%
  - 3-4 times a year: 61.92%
  - >4 times a year: 11.43%
  - Unknown: 4.32%

- Satisfaction with the infectious disease specialist (0-10 points): 9.49
- Satisfaction with the hospital nurse (0-10 points): 9.09
- Satisfaction with Pharmacy department (0-10 points): 9.08

- Time spent in a single trimester HIV specialized consultation (%)
  - < 2 hours: 44.9%
  - 2-4 hours: 35.05%
  - 5-10 hours: 8.81%
  - >10 hours: 5.35%
  - Unknown: 9.93%

Discussion
The analysed data showed high levels of satisfaction within HIV patients with the current PC system, an important percentage of whom present comorbidities that are managed by general practitioners. This could allow the setting of a program of shared assistance between PC physicians and specialists in infectious diseases.
Mobile cellular subscriptions (per 100 people), 2015
Mobile phone subscriptions, measured as the number per 100 people.
**Telehealth**

Reed V. Tuckson, M.D., Margo Edmunds, Ph.D., and Michael L. Hodgkins, M.D., M.P.H.

**Table 1. Five Key Trends That Will Influence the Growth of Telehealth Care Delivery.**

<table>
<thead>
<tr>
<th>Trend</th>
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<tbody>
<tr>
<td>Continuous innovation in the consumer technology market (e.g., with respect to applications, wearable sensors with wireless monitoring capabilities, and related digital capabilities), which will continue to attract financial capital for product development</td>
<td></td>
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<tr>
<td>Continuous advancement in electronic health records and clinical-decision support systems, which has the potential to better integrate telehealth services into care-delivery processes and thus make care delivery more efficient for clinicians</td>
<td></td>
</tr>
<tr>
<td>Projected shortages in the health professional workforce, which will increase the need to provide access to primary and specialty care for rural and underserved urban populations</td>
<td></td>
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<tr>
<td>Reorganization in the delivery and financing of medical care, as a result of private-sector initiatives and the Affordable Care Act, toward value-based reimbursement, which provides an incentive for service delivery in lower-cost care settings outside of traditional hospital facilities</td>
<td></td>
</tr>
<tr>
<td>Growth of consumerism in health care, with increasing public expectations for convenient and real-time access to health services, personal health information, prescription refills, and other health interventions in a manner similar to other sectors of the economy</td>
<td></td>
</tr>
</tbody>
</table>

The New England Journal of Medicine
Telemedicina: objetivos

- Mejorar la experiencia de atención y de cuidado de los pacientes.
- Mejorar la salud de la población atendida.
- Reducir los costes de los cuidados de salud per cápita.
- Mejorar la experiencia de los profesionales de la salud.

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL REPORT

Telehealth

Reed V. Tuckson, M.D., Margo Edmunds, Ph.D., and Michael L. Hodgkins, M.D., M.P.H.
**Telemedicine**, is the use of communication technologies in healthcare for the exchange of medical information for diagnosis, treatment, prevention, research, evaluation, and education.

**eHealth**, is the transfer of health resources through *Internet* (health information; education and training; e-commerce and e-business in health systems management)

**mHealth**, is a component of eHealth. The Global Observatory for eHealth (GOe) defined mHealth or mobile health as *medical and public health practice supported by mobile devices*, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other *wireless devices*.


**WHO. New horizons for health through mobile technologies. Based on the findings of the second global survey on eHealth. Geneva, 2011.*
¿Qué usas con tus pacientes?

1. Llamada telefónica clásica
2. Email
3. Whatsapp
A New Multidisciplinary Home Care Telemedicine System to Monitor Stable Chronic Human Immunodeficiency Virus-Infected Patients: A Randomized Study

Agathe León¹, César Cáceres², Emma Fernández¹, Paloma Chausa³, Maite Martin³, Carles Codina³, Araceli Rouaud⁴, Jordi Blanch⁴, Josep Mallolas⁴, Esteban Martínez⁴, Jose L. Blanco⁵, Montserrat Laguno⁵, Maria Larrousse⁵, Ana Milinkovic⁵, Laura Zamora⁵, Neus Canal⁵, Josep M. Miró⁵, Josep M. Gatell⁵, Enrique J. Gómez⁵, Felipe García⁵

January 2011 | Volume 6 | Issue 1 | e14515
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Costes:
Infraestructura: 50.000 €
Mantenimiento: 70€ pac-año
Servicio de envío de medicación: 50 € pac-año.

Personal:
9 especialistas en enfermedades infecciosas.
3 enfermeras.
1 psicólogo.
1 psiquiatra.
3 farmacéuticos.
1 trabajador social.
A New Multidisciplinary Home Care Telemedicine System to Monitor Stable Chronic Human Immunodeficiency Virus-Infected Patients: A Randomized Study

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Assessed for eligibility (n=91)

Randomised (n=83)

Excluded (n=8)
- No broadband (n=4)
- Declined to participate (n=4)

Allocated to Virtual Hospital (n=42)
- Lost to follow-up (left the country) (n=1)
- Disapproval of the system (n=2)
- Death (n=1)

Allocated to Standard Care (n=41)
- Lost to follow-up (missing patient) (n=1)
- Developed OI or tumours (n=2)

Analysed (n=38)

Analysed (n=38)

85% de los pacientes consideraron que el Hospital Virtual mejoraba su acceso a sus datos clínicos, comparado con el seguimiento estandar, y se sintieron a gusto con el sistema de videoconferencia.

No diferencias en control inmuno-virológico, adherencia, calidad de vida ni utilización de los servicios de salud

Disminuyeron los tiempos de consulta y espera y demora en la atención

Telemedicina: atención integral
Los BOTS en e-SALUD

• Programas inteligentes que podrían permitir
  – Automatizar procesos complejos:
    • Recordar a los pacientes las recogidas de medicación, los controles analíticos y las citas y emitir alertas si no se realizan.
    • Renovar automáticamente prescripciones y solicitudes de controles analíticos bajo ciertas circunstancias: CV<50, confirmación del paciente de ausencia de complicaciones.
    • Indicaciones de estudios complementarios rutinarios en subgrupos de pacientes.
  –Responder a preguntas o dudas estandar:
    • Cuidados
    • Interacciones
    • Modo de proceder ante nuevos eventos.
  – Individualizar el seguimiento a las necesidades de los pacientes.
  – Liberar tiempo del especialista para las situaciones que realmente requieren su atención.
• New regimens allow for different types of interactions with patients
• Test and treat
• Primary care physicians involvement
• Fewer clinic visits
• Telemedicine
Agradecimientos

• Agathe Leon
• Federico Pulido