













## Evolution **NOT** revolution















# **Estimated adult and child deaths from AIDS** (2014)



Total: 1.2 million [980,000 – 1.6 million]

Estimated number of adults and children newly infected with HIV (2014)



Total: 2.0 million [1.9 million – 2.2 million]





Note: PMTCT, screening transfusions, harm reduction, universal precautions, etc have not been included. This is focused on reducing sexual transmission.

1. Auvert et al. PLoS Med 2005;2:e298; 2. Gray et al. Lancet 2007;369:657–66; 3. Bailey et al. Lancet 2007;369:643–56; 4. Grosskurth et al. Lancet 2000;355:1981–7; 5. Sweat et al. Lancet. 2000;356:113–21; 6. Donnell et al. Lancet 2010;375:2092–8; 7. Cohen et al. NEJM 2011;365:493–505; 8. Schechter et al. JAIDS 2004;35:519–25; 9. Grant et al. NEJM 2010;363:2587–99 (MSM); 10. Mujugira et al. PLoS One 2011;6:e25828 (couples); 11. Paxton et al. Curr Opin HIV AIDS 2012;7:557–62 (heterosexuals); 12. Choopanya et al. Lancet. 2013;381:2083–90 (IDU); 13. Abdool Karim et al. Science 2010;329:1168–74.





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### HIV care cascade – WHO target

### The treatment target





### **Global results: HIV treatment cascade**



% of people living with HIV who know their HIV status

% of people living with HIV who are on ART % of people living with HIV who are virally suppressed

#### **UNAIDS 90-90-90 treatment targets**

### HIV treatment targets for 2020 with global 2013 estimates

#### **Global HIV treatment cascades from 12 countries/regions:**

Switzerland, Australia, UK, Denmark, Netherlands, France, Brazil, Canada (BC), USA, Sub-Saharan Africa, Georgia, Estonia, Russia



### Treatment cascade: US 2012

### Of the 1.1 million Americans living with HIV, only 25 percent are virally suppressed





# Lagging behind is not fatal, remaining there is.



### HIV care cascade – UK

### The treatment target









# **Barriers to HIV Testing**

## Clinician

## Patient

- Time
- o Confidence
- Knowledge
- Fear of stigmatising
- Concerns around "counselling"

- o Stigma
- Lack of knowledge
- Fear of disclosure
- Lack of perceived risk
- Access to health-care
- Fear of positive result

## Solutions.....

- Empower people to self-manage their HIV test
- Build capacity by taking HIV testing out of the clinic
- Develop systems that encourage not just uptake of testing but regular testing
- Ensure this process is integrated with 'traditional' services not isolated from them



# I AM A BISHOP. I GOT TESTED FOR IV.

YOUR HIV STATUS IS A MEDICAL DIAGNOSIS, Not a moral judgment.

The Most Reverend Ephraim S. Fajutagana Obispo Maximo XII Iglesia Filipina Independiente

# Heal the Pain. End the Shame.

ERN



Worry, avoidance and discrimination in the last 12 months

http://www.stigmaindexuk.org

# HIV disclosure and stigma



Experiences in the dental setting compared to other clinical settings



# HIV testing technologies

### Point of care testing



# Laboratory testing (postal)



#### The Doctors Laboratory – 'Tines'



#### Dried blood spot testing

# Home HIV tests









# Relationship to marketing





# Promoted by HIV prevention campaigns and through social media





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To find out if you need to test and where to test, visit thinkHIV.org.uk THIVE, TEST. TAKE CONTROL.





ICGINS
### Home sampling experience (THT and Dean Street)

Service	Activity	Returns (%)	Positivity (%)
Jan – Sep 2013 Nov 2013 – March 2014	17,701 requests	11,488 (64.9%)	171 (1.49%)
DEAN STREET Nov 2011 - Aug 2013	4,838 requests	2,901 (59.9%)	68 (2.3%)

## Self-reported HIV testing history











#### A universal testing programme for blood borne viruses in an urban ED

### A call for more widespread ED testing in Ireland

#### Methods:

- **Opt out BBV** (HIV Ab, Hep BsAg, HCV Ab) screening as routine care
- Targets for uptake set for each month
- **5,299** patients were screened over **20** weeks and analysed

#### **Results:**

Target of 50% was achieved

#### Number of diagnoses

	Total	New diagnosis	Previously known	Prevalence rate of new diagnoses (per 1,000)
HIV	63	6	57	1.13
HBV	25	12	13	2.25
HCV	287	44	243	8.3



### Linkage to care subsequent to diagnosis (new and previously known patients)

	Known	New	Now linked
HIV	57	6	<b>62</b> (98.4%)
HBV	13	12	<b>24</b> (96%)
HCV	243	44	<b>227</b> (79%)



Feasibility and effectiveness of indicator condition-guided testing for HIV

### Multicentre, European study to test the effectiveness of indicator condition-guided HIV testing, 3,588 participants tested

#### **Prevalence of HIV by indicator condition**

	Individuals having HIV test (number)	HIV positive (number)	Prevalence (95% Cl)	Number of surveys	Local HIV prevalence*	Country HIV prevalence***
Total	3588	66	<b>1.84</b> (1.42–2.34)	39		0.1–1.1
Indicator condition						
Sexually transmitted infection (STI)	764	31	<b>4.06</b> (2.78–5.71)	4	0.8–3.0	0.2–0.3
Malignant lymphoma (LYM)	344	1	<b>0.29</b> (0.006–1.61)	5	0.8	0.1–0.2
Cervical or anal dysplasia or cancer (CAN)	542	2	<b>0.37</b> (0.04–1.32)	4	0.8	0.1–0.2
Herpes zoster (HZV)	207	6	<b>2.89</b> (1.07–6.21)	5	0.3–0.9	0.1–0.4
Hepatitis B or C (HEP)	1099	4	<b>0.36</b> (0.10–0.93)	6	0.2–2.8**	0.1–1.1
Ongoing mononucleosis-like illness (MON)	441	17	<b>3.85</b> (2.26–6.10)	7	0.2–0.9	0.3–1.1
Unexplained leukocytopenia / thrombocytopenia (CYT)	94	3	<b>3.19</b> (0.66–9.04)	4	0.3–0.8	0.1–0.4
Seborrheic dermatitis / exanthema (SEB)	97	2	<b>2.06</b> (0.25–7.24)	4	0.3–0.8	0.2–0.4

\*Unpublished prevalence data from participating study sites; \*\*Includes MSM, IDU prevalence; \*\*\*UNAIDS adults aged 15–49 country HIV prevalence rate

- During the year preceding the diagnosis, 46.6% of the patients had sought medical advice owing to the presence of clinical indicators that should have led to HIV testing.<sup>1</sup>
- Only 9% of patients eligible for screening were screened in a ED serving a population with a seroprevalence of 2%.<sup>2</sup>
- Sixty-one percent reported not undergoing HIV testing after their last STI diagnosis.<sup>3</sup>



## Image: New HIV diagnoses among adults attending<br/>sexual health services



Current HIV trends in England



## New HIV diagnoses among gay men in England

-GUMCAD -HARS 

Note: There has been a year on year increase in the median CD4 cell count at diagnosis over this period indicating earlier diagnosis



Investigation into reports of a drop in new diagnoses: Background & Context

• HIV incidence rates in gay and bisexual men and other men who have sex with men living in the UK are estimated at 5-10/1,000 overall and 30+/1,000 among STI attendees with a bacterial infection

- The UK has open access, high quality and free and STI & HIV testing and care
- Testing guidelines and new testing modalities (eg home sampling)
- Long history of health promotion programmes with relatively high uptake of condoms
- PROUD trial began in late 2015, internet Prep since mid 2016





### Information on new diagnoses and testing among all gay men attending sexual health clinics (GUMCAD)

#### **Clinic Strata**

• Clinic with a 'significant' or steep fall: Clinics with >20% decrease in HIV diagnoses between Oct 2014-Sep 2015 and Oct 2015-Sep2016, and over 40 diagnoses during this period.

> Dean St, Mortimer Market, Homerton, St Mary, Guy and St Thomas

Other London clinics and clinic in other parts of England

**Testing data** on men attending for HIV test at the same clinic in the last 2 years (repeat testers) and those who had a new test in last 2 years













# 56 Dean Street diagnoses over 1 in 3 of London's bacterial STI's in MSM

	England		London	
Chlamydia	17%	(1447/8509)	36%	(1447/3989)
Gonorrhoea	<b>21</b> %	(2276/10,754)	37%	(2276/6104)
Syphilis	22%	(464/2142)	41%	(464/1133)
Herpes	24%	(333/1360)	54%	(333/619)
Warts	23%	(827/3492)	<b>67</b> %	(827/1231)

### 1 in 4 HIV diagnoses (MSM)

358	Number of MSM diagnosed at 56DS (2012)
1307	Number of MSM diagnosed in London (2012)



	<b>Recent infection (RITA+)</b>
UK	14%
56 Dean Street	33%



### Gay scene is highly sexualised









10 years ago







Normalised Drug/Alcohol use on our Bar and Club Scene



"Abstinent" based models inappropriate for this client group. This is not about scoring on the street corner; online purchasing and "Hooking up".



Steep fall definition: Clinics with >20% decrease in HIV diagnoses between Oct 2014-Sep 2015 and Oct 2015-Sep2016, and over 40 diagnoses during this period.



HIV tests among gay men attending London Steep Fall clinics by frequency of HIV testing



**Steep Fall:** Clinics with >20% decrease in HIV diagnoses between Oct 2014-Sep 2015 and Oct 2015-Sep2016, and over 40 diagnoses during this period.



## Frequency of HIV testing among men attending SF clinics (n=5)





#### HIV tests and new diagnoses among gay men Public Health England attending London Steep Fall clinics (N=5)





### HIV tests and new diagnoses among gay men attending other London clinics (N=30)



### HIV tests and new diagnoses among gay men Public Health England attending clinics in the rest of England (N=190)







#### Transmissible Viral Load

- Only persons that are undiagnosed or had a viral load >200 copies/mL at date last seen for HIV care can potentially transmit HIV
- Persons at high risk of HIV acquisition
- HIV negative men with a documented STI in previous year was defined as **High risk**

**Transmissibility Ratio**: Total men with transmissible VL/ Total number of high risk men

#### Median days from HIV diagnosis to ART Public Health initiation among gay men in England England

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### 'Standard' pathway



### 'Standard' pathway





### 'Standard' pathway







### New pathway







Of 118 who attend 1st Dr appt, 89 (75%) started ART at 1st appt

\*Of the 29 who did not start, 26 subsequently start ART



### Outcomes



Time to VL<200 (median, IQR) = 62 d (44 - 117 d)

\*VRT L90M; started boosted-PI and Truvada Baseline VL 183k to 70 then rebounded 1344 then DNA




\*Estimated undiagnosed, diagnosed untreated and those treated with viral load >200 copies/mL



High risk men: HIV negative with a history of an STI in previous year

Improving linkage and retention in care

**Health system** (eg. integration and comprehensive HIV care)

- Patient convenience and accessibility
- Peer support and counselling

Reward

### HIV is an Easy-to-treat Virus



#### Antiretrovirals available in 2017

<ul> <li>NRTIS</li> <li>Abacavir</li> <li>Didanosine</li> <li>Emtricitabine</li> <li>Lamivudine</li> <li>Stavudine</li> <li>Tenofovir</li> <li>Zidovudine</li> <li>TAF</li> </ul>	<ul> <li>NNRTIS</li> <li>Delavirdine</li> <li>Efavirenz</li> <li>Etravirine</li> <li>Nevirapine</li> <li>Nevirapine XR</li> <li>Rilpivirine</li> </ul>	PIs • Atazanavir • Darunavir • Fosamprenavir • Indinavir • Lopinavir • Nelfinavir • Ritonavir • Saquinavir • Tipranavir	<ul> <li>Integrase Inhibitors</li> <li>Raltegravir</li> <li>Dolutegravir</li> <li>Elvitegravir</li> </ul>
Fusion Inhibitors <ul> <li>Enfuvirtide</li> </ul>	Entry Inhibitors • Maraviroc	<ul><li><b>PK Boosters</b></li><li>Ritonavir</li><li>Cobicistat</li></ul>	<ul> <li>Single Pill Regimens</li> <li>Atripla</li> <li>Eviplera</li> <li>Stribild</li> <li>Triumeq</li> <li>Genvoya</li> <li>Odefsey</li> </ul>

NRTI, nucleoside reverse transcriptase inhibitor; NNRTI, non-nucleoside reverse transcriptase inhibitor; PI, protease inhibitor; PK, pharmacokinetic







### What are we trying to achieve?



## What are we trying to achieve?

- Undetectable viral load?
- Normal CD4 count?
- Reduced (nil) transmission?
- Quantity of life?
- Quality of life?















## **Drug Resistance**







**Options** 



#### Options



# BIC vs. DTG in Treatment-Naive: Virologic Outcomes





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Gilead's Investigational Fixed-Dose Combination of Bictegravir, Emtricitabine and Tenofovir Alafenamide for the Treatment of HIV-1 Meets Primary Endpoint in Four Phase 3 Studies

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Keyword



THE STIGMA PROJECT