BHIVA Hepatology Highlights for the Healthcare Specialist

in collaboration with the British Viral Hepatitis Group

15 November 2017 • QEII Centre, London

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Dr Nathan Ford

World Health Organization, Geneva, Switzerland

Speaker Name	Statement
Dr Nathan Ford	None
Date : November	November 2017

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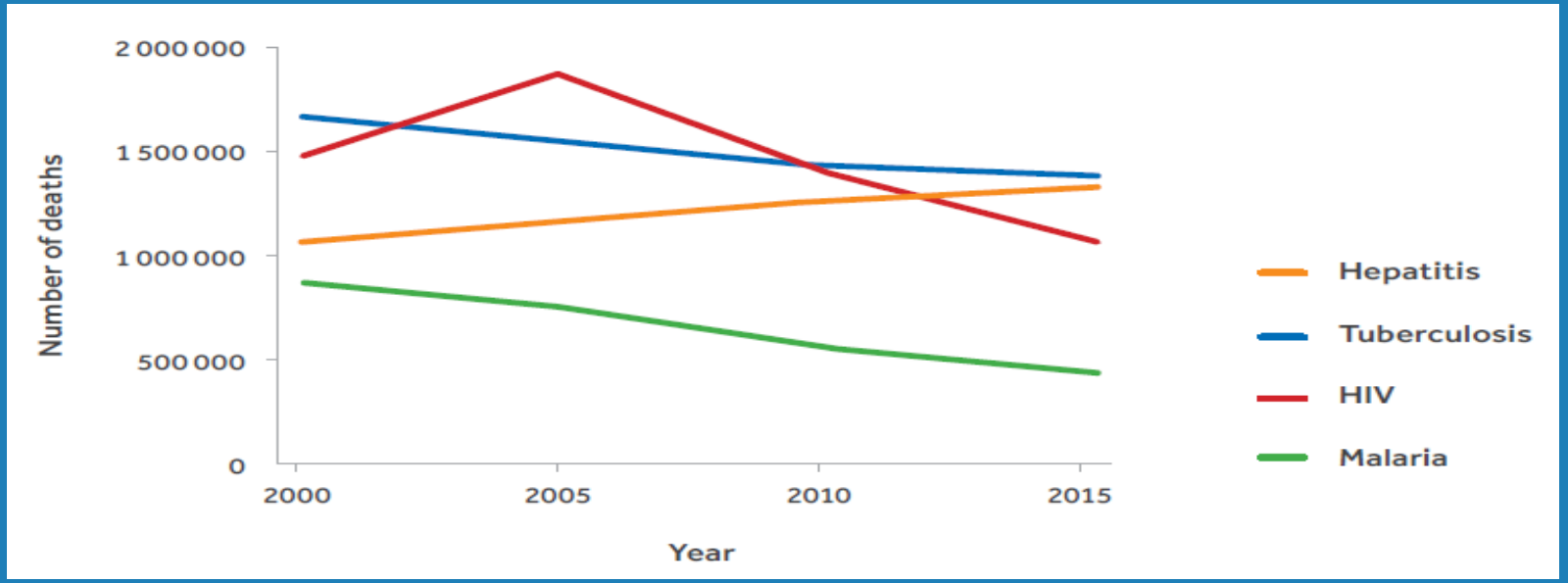
World Health Organization

What can hepatitis learn from HIV as we look to elimination?

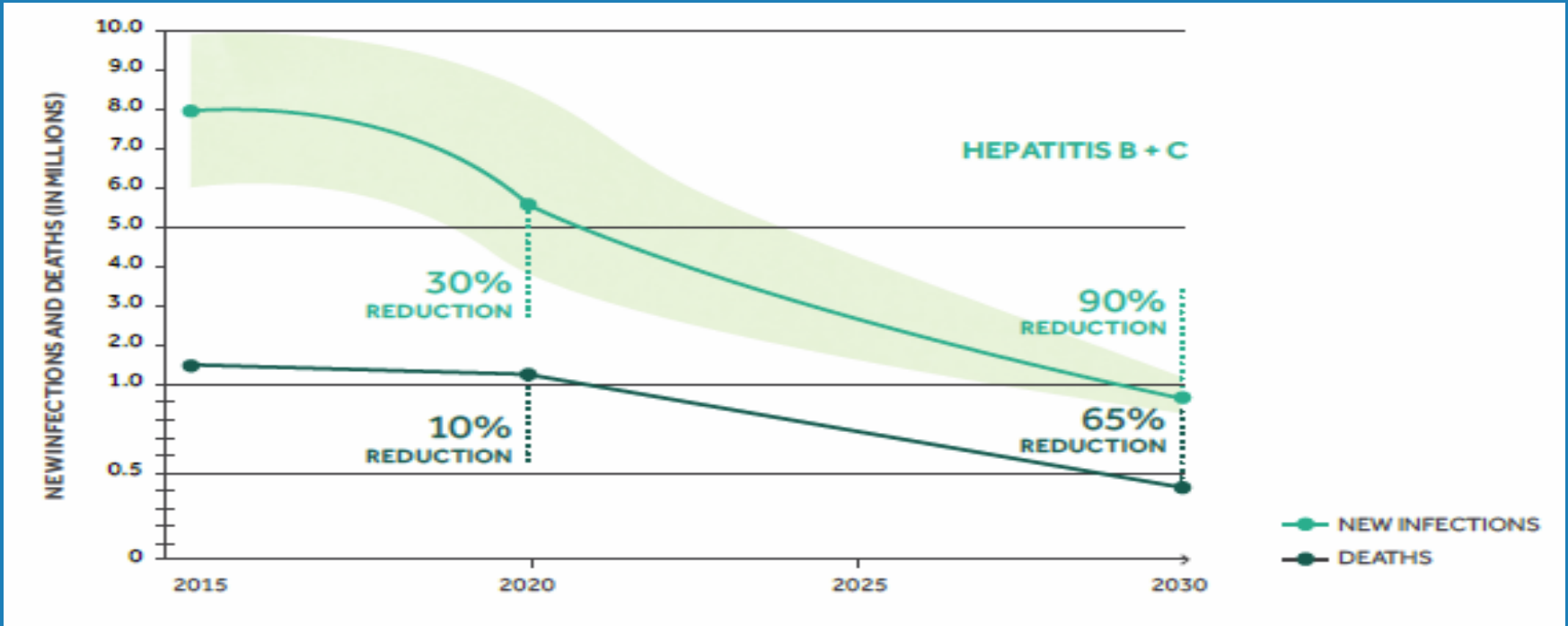
Nathan Ford
Dept HIV & Global Hepatitis Programme

Hepatitis-related mortality is increasing



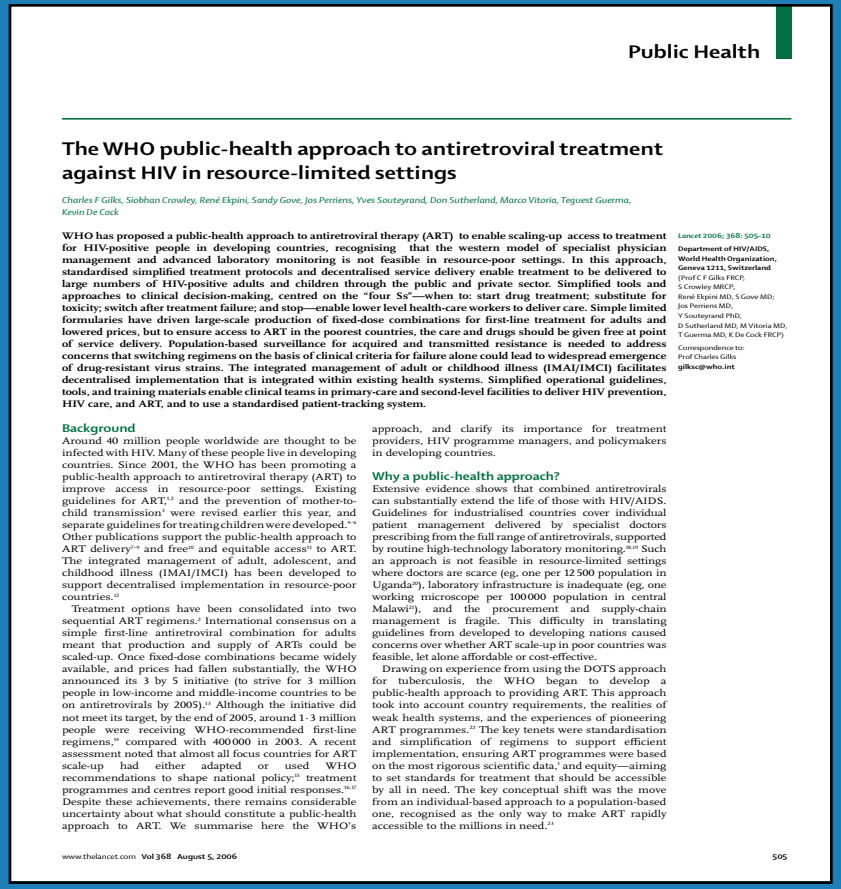
Global Hepatitis Report, *WHO* 2017

Elimination of viral hepatitis as a public health threat by 2030



Global Hepatitis Report, *WHO* 2017

The public health approach to HIV treatment and care



Public Health

The WHO public-health approach to antiretroviral treatment against HIV in resource-limited settings

Charles F Gilks, Siobhan Crowley, René Ekpini, Sandy Gove, Jos Perriens, Yves Souteyrand, Don Sutherland, Marco Vitoria, Teguest Guerma, Kevin De Cock

WHO has proposed a public-health approach to antiretroviral therapy (ART) to enable scaling-up access to treatment for HIV-positive people in developing countries, recognising that the western model of specialist physician management and advanced laboratory monitoring is not feasible in resource-poor settings. In this approach, standardised simplified treatment protocols and decentralised service delivery enable treatment to be delivered to large numbers of HIV-positive adults and children through the public and private sector. Simplified tools and approaches to clinical decision-making, centred on the "four Ss"—when to: start drug treatment; substitute for toxicity; switch after treatment failure; and stop—enable lower level health-care workers to deliver care. Simple limited formularies have driven large-scale production of fixed-dose combinations for first-line treatment for adults and lowered prices, but to ensure access to ART in the poorest countries, the care and drugs should be given free at point of service delivery. Population-based surveillance for acquired and transmitted resistance is needed to address concerns that switching regimens on the basis of clinical criteria for failure alone could lead to widespread emergence of drug-resistant virus strains. The integrated management of adult or childhood illness (IMAI/IMCI) facilitates decentralised implementation that is integrated within existing health systems. Simplified operational guidelines, tools, and training materials enable clinical teams in primary-care and second-level facilities to deliver HIV prevention, HIV care, and ART, and to use a standardised patient-tracking system.

Lancet 2006; 368: 505–10

Department of HIV/AIDS, World Health Organization, Geneva 1211, Switzerland (Prof C F Gilks FRCP, S Crowley MRCP, René Ekpini MD, S Gove MD; Jos Perriens MD, Y Souteyrand PhD, D Sutherland MD, M Vitoria MD, T Guerma MD, K De Cock FRCP)

Correspondence to: Prof Charles Gilks **gilksc@who.int**

Background

Around 40 million people worldwide are thought to be infected with HIV. Many of these people live in developing countries. Since 2001, the WHO has been promoting a public-health approach to antiretroviral therapy (ART) to improve access in resource-poor settings. Existing guidelines for ART,[1,2] and the prevention of mother-to-child transmission[3] were revised earlier this year, and separate guidelines for treating children were developed.[4–6] Other publications support the public-health approach to ART delivery[7–9] and free[10] and equitable access[11] to ART. The integrated management of adult, adolescent, and childhood illness (IMAI/IMCI) has been developed to support decentralised implementation in resource-poor countries.[12]

Treatment options have been consolidated into two sequential ART regimens,[2] international consensus on a simple first-line antiretroviral combination for adults meant that production and supply of ARTs could be scaled-up. Once fixed-dose combinations became widely available, and prices had fallen substantially, the WHO announced its 3 by 5 initiative (to strive for 3 million people in low-income and middle-income countries to be on antiretrovirals by 2005).[13] Although the initiative did not meet its target, by the end of 2005, around 1·3 million people were receiving WHO-recommended first-line regimens,[14] compared with 400 000 in 2003. A recent assessment noted that almost all focus countries for ART scale-up had either adapted or used WHO recommendations to shape national policy;[15] treatment programmes and centres report good initial responses.[16,17] Despite these achievements, there remains considerable uncertainty about what should constitute a public-health approach to ART. We summarise here the WHO's approach, and clarify its importance for treatment providers, HIV programme managers, and policymakers in developing countries.

Why a public-health approach?

Extensive evidence shows that combined antiretrovirals can substantially extend the life of those with HIV/AIDS. Guidelines for industrialised countries cover individual patient management delivered by specialist doctors prescribing from the full range of antiretrovirals, supported by routine high-technology laboratory monitoring.[18,19] Such an approach is not feasible in resource-limited settings where doctors are scarce (eg, one per 12 500 population in Uganda[20]), laboratory infrastructure is inadequate (eg, one working microscope per 100 000 population in central Malawi[21]), and the procurement and supply-chain management is fragile. This difficulty in translating guidelines from developed to developing nations caused concerns over whether ART scale-up in poor countries was feasible, let alone affordable or cost-effective.

Drawing on experience from using the DOTS approach for tuberculosis, the WHO began to develop a public-health approach to providing ART. This approach took into account country requirements, the realities of weak health systems, and the experiences of pioneering ART programmes.[22] The key tenets were standardisation and simplification of regimens to support efficient implementation, ensuring ART programmes were based on the most rigorous scientific data,[1] and equity—aiming to set standards for treatment that should be accessible by all in need. The key conceptual shift was the move from an individual-based approach to a population-based one, recognised as the only way to make ART rapidly accessible to the millions in need.[23]

Why

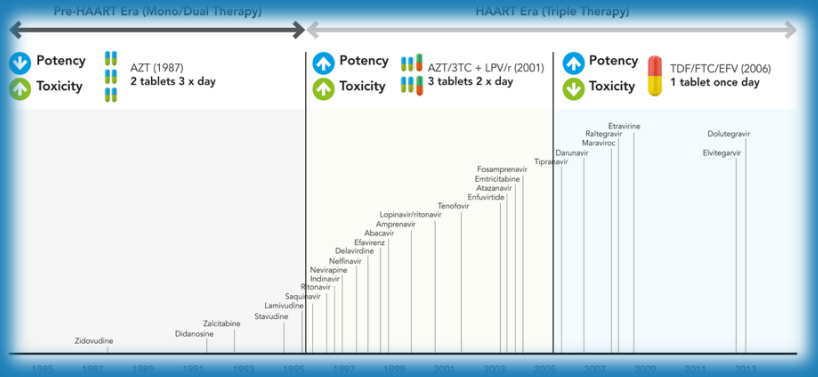
- High cost/complexity of treatment
- Lack of skilled medical professionals
- Lack of laboratory services

What

- Simplification and standardization
- Task shifting and decentralization
- Advocacy to reduce costs and increase funding

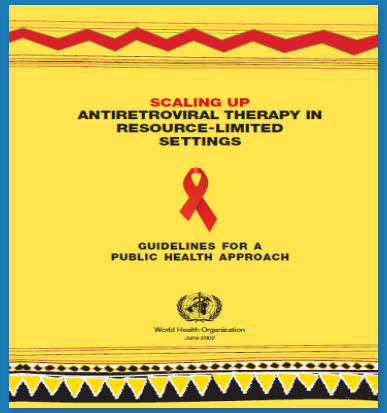
Gilks et al, Lancet 2006

Simplification of treatment



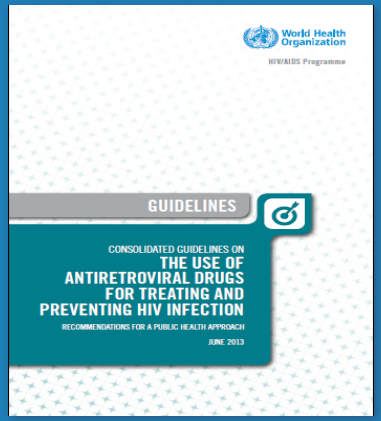
240 different initial treatments were prescribed in Switzerland in 10 years (Wandeler et al, PLoS 2011)

19 different first line regimens in US guidelines



WHO 2002

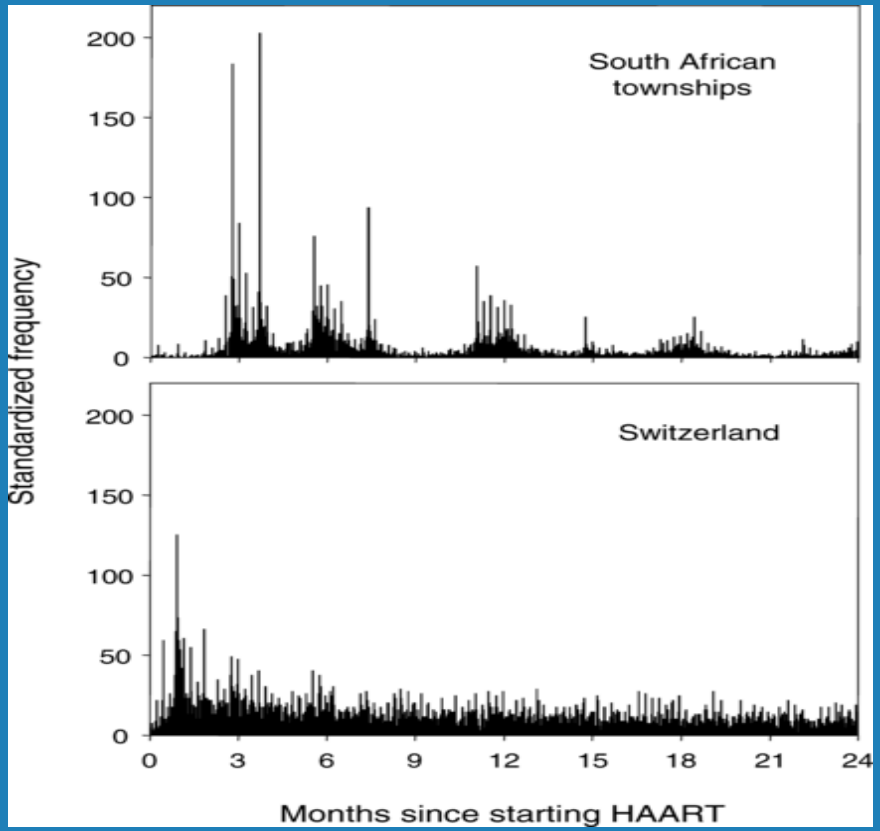
8 different first line regimens recommended

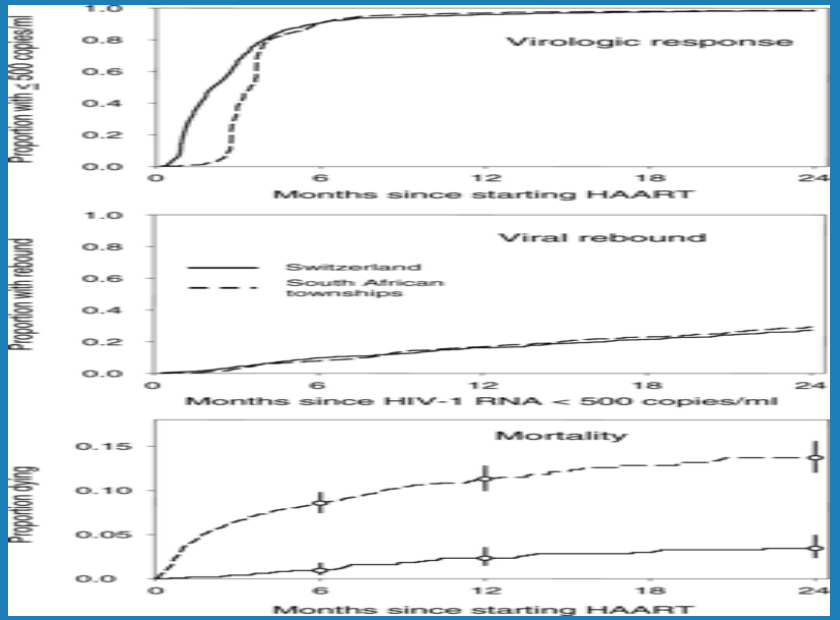


WHO 2013

1 single preferred first line recommended

Individual vs public health response

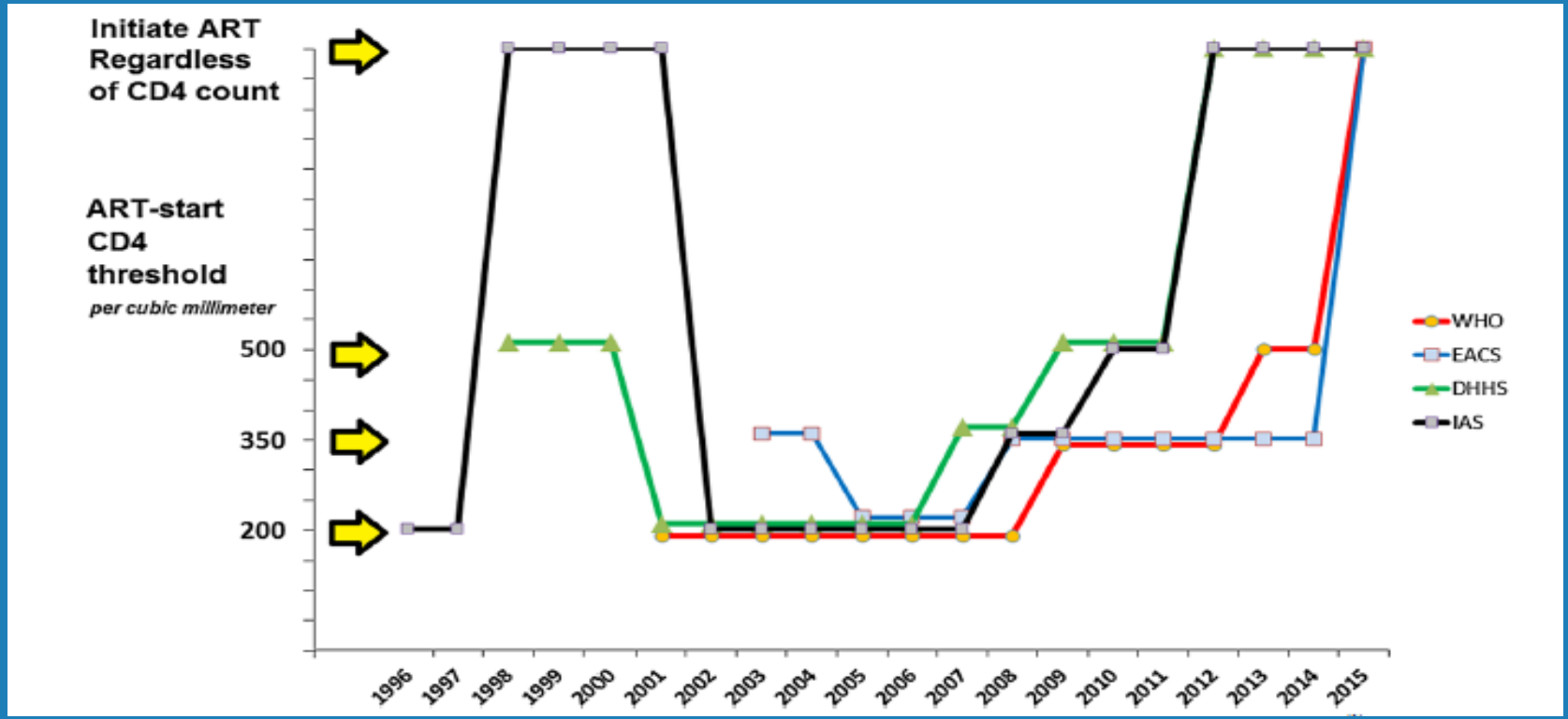




Similar outcomes
Despite more frequent regimens (4 vs 36) and monitoring

Keiser et al, Plos Medicine, 2008

Evolution in “when to start”



Eholie et al, AIDS Res Ther 2016

Starting earlier reduces mortality and morbidity

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 AUGUST 27, 2015 VOL. 373 NO. 9

Initiation of Antiretroviral Therapy in Early Asymptomatic HIV Infection

The INSIGHT START Study Group*

ABSTRACT

BACKGROUND

Data from randomized trials are lacking on the benefits and risks of initiating antiretroviral therapy in patients with asymptomatic human immunodeficiency virus (HIV) infection who have a CD4+ count of more than 350 cells per cubic millimeter.

METHODS

We randomly assigned HIV-positive adults who had a CD4+ count of more than 500 cells per cubic millimeter to start antiretroviral therapy immediately (immediate-initiation group) or to defer it until the CD4+ count decreased to 350 cells per cubic millimeter or until the development of the acquired immunodeficiency syndrome (AIDS) or another condition that dictated the use of antiretroviral therapy (deferred-initiation group). The primary composite end point was any serious AIDS-related event, serious non–AIDS-related event, or death from any cause.

RESULTS

A total of 4685 patients were followed for a mean of 3.0 years. At study entry, the median HIV viral load was 12,759 copies per milliliter, and the median CD4+ count was 651 cells per cubic millimeter. On May 15, 2015, on the basis of an interim analysis, the data and safety monitoring board determined that the study question had been answered and recommended that patients in the deferred-initiation group be offered antiretroviral therapy. The primary end point occurred in 42 patients in the immediate-initiation group (1.8%; 0.60 events per 100 person-years), as compared with 96 patients in the deferred-initiation group (4.1%; 1.38 events per 100 person-years), for a hazard ratio of 0.43 (95% confidence interval [CI], 0.30 to 0.62; P<0.001). Hazard ratios for serious AIDS-related and serious non–AIDS-related events were 0.28 (95% CI, 0.15 to 0.50; P<0.001) and 0.61 (95% CI, 0.38 to 0.97; P=0.04), respectively. More than two thirds of the primary end points (68%) occurred in patients with a CD4+ count of more than 500 cells per cubic millimeter. The risks of a grade 4 event were similar in the two groups, as were the risks of unscheduled hospital admissions.

CONCLUSIONS

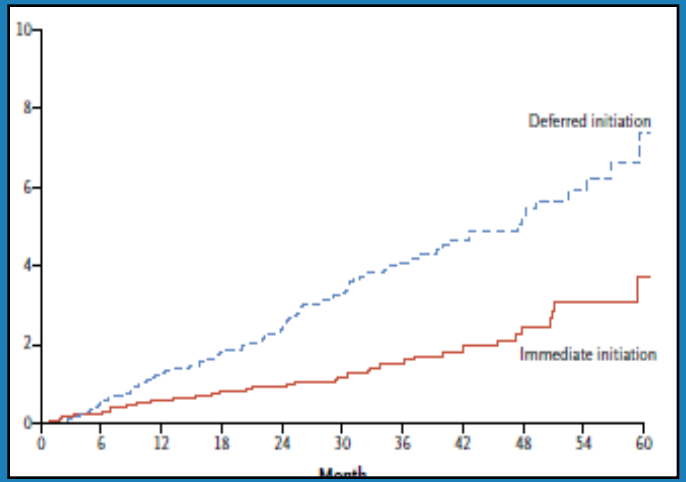
The initiation of antiretroviral therapy in HIV-positive adults with a CD4+ count of more than 500 cells per cubic millimeter provided net benefits over starting such therapy in patients after the CD4+ count had declined to 350 cells per cubic millimeter. (Funded by the National Institute of Allergy and Infectious Diseases and others; START ClinicalTrials.gov number, NCT00867048.)

The members of the writing group (Jens D. Lundgren, M.D. [cochair], Abdel G. Babiker, Ph.D. [cochair], Fred Gordin, M.D. [cochair], Sean Emery, Ph.D., Birgit Grund, Ph.D., Shweta Sharma, M.S., Anchalee Avihingsanon, M.D., David A. Cooper, M.D., Gerd Fätkenheuer, M.D., Josep M. Llibre, M.D., Jean-Michel Molina, M.D., Paula Munderi, M.D., Mauro Schechter, M.D., Robin Wood, M.D., Karin L. Klingman, M.D., Simon Collins, H. Clifford Lane, M.D., Andrew N. Phillips, Ph.D., and James D. Neaton, Ph.D. [INSIGHT PI]) of the INSIGHT START Study Group assume responsibility for the overall content and integrity of this article. The affiliations of the members of the writing group are listed in the Appendix. Address reprint requests to Dr. Lundgren at the Department of Infectious Diseases, Rigshospitalet, University of Copenhagen, Blegdamsvej 9, 2100 Copenhagen Ø, Denmark, or at jens.lundgren@regionh.dk.

*A complete list of members in the Strategic Timing of Antiretroviral Treatment (START) Study Group is provided in the Supplementary Appendix, available at NEJM.org.

This article was published on July 20, 2015, at NEJM.org.

N Engl J Med 2015;373:795-807.
DOI: 10.1056/NEJMoa1506816



Balancing risks and benefits…and cost

Insight Start NEJM 2016

Viral suppression reduces incidence

Community viral load, antiretroviral therapy coverage, and HIV incidence in India: a cross-sectional, comparative study

Sunil Suhas Solomon, Shruti Mehrotra, Allison M McFall, Aylur K Srikrishnan, Sharmeen Saravanan, Oliver Laeyendecker, Pachamuthu Balakrishnan, David D Celentano, Sunil Solomon, Gregory M Lucas

Summary

Background HIV incidence is the best measure of treatment-programme effectiveness, but i difficult and expensive. The concept of community viral load as a modifiable driver of new HIV infe substantial attention. We set out to compare several measures of community viral load and an (ART) coverage as correlates of HIV incidence in high-risk populations.

Methods We analysed data from a sample of people who inject drugs and men who have sex w participants of the baseline assessment of a cluster-randomised trial in progress across (ClinicalTrials.gov number NCT01686750). We recruited the study population by use of respond and did the baseline assessment in 27 community-based sites (12 for men who have sex with me who inject drugs). We estimated HIV incidence with a multiassay algorithm and calculated fiv measures of HIV control: mean $\log_{10}$ HIV RNA in participants with HIV in a community esti (in-care viral load), aware of their status but not necessarily in care (aware viral load), or all HIV- whether they were aware, in care, or not (population viral load); participants with HIV in a commu more than 150 copies per mL (prevalence of viraemia); and the proportion of participants with HI ART use in the previous 30 days (population ART coverage). All participants were tested for H testing in HIV-positive individuals. We assessed correlations between the measures and H Spearman correlation coefficients and linear regression analysis.

Findings Between Oct 1, 2012, and Dec 19, 2013, we recruited 26 503 participants, 12 022 men who ha 14 481 people who inject drugs. Median incidence of HIV was 0·87% (IQR 0·40–1·17) in men wh and 1·43% (0·60–4·00) in people who inject drugs. Prevalence of viraemia was more strongly Incidence (correlation 0·81, 95% CI 0·62–0·91; p<0·0001) than all other measures, although correl with aware viral load (0·59, 0·27–0·79; p=0·001), population viral load (0·51, 0·16–0·74; p=0·007), co-coverage (–0·54, –0·76 to –0·20; p=0·004). In-care viral load was not correlated with HIV incidence (p=0·14). With regression analysis, we estimated that to reduce HIV incidence by 1 percentage po prevalence of viraemia would need to be reduced by 4·34%, and ART use in HIV-positive individ increase by 19·59%.

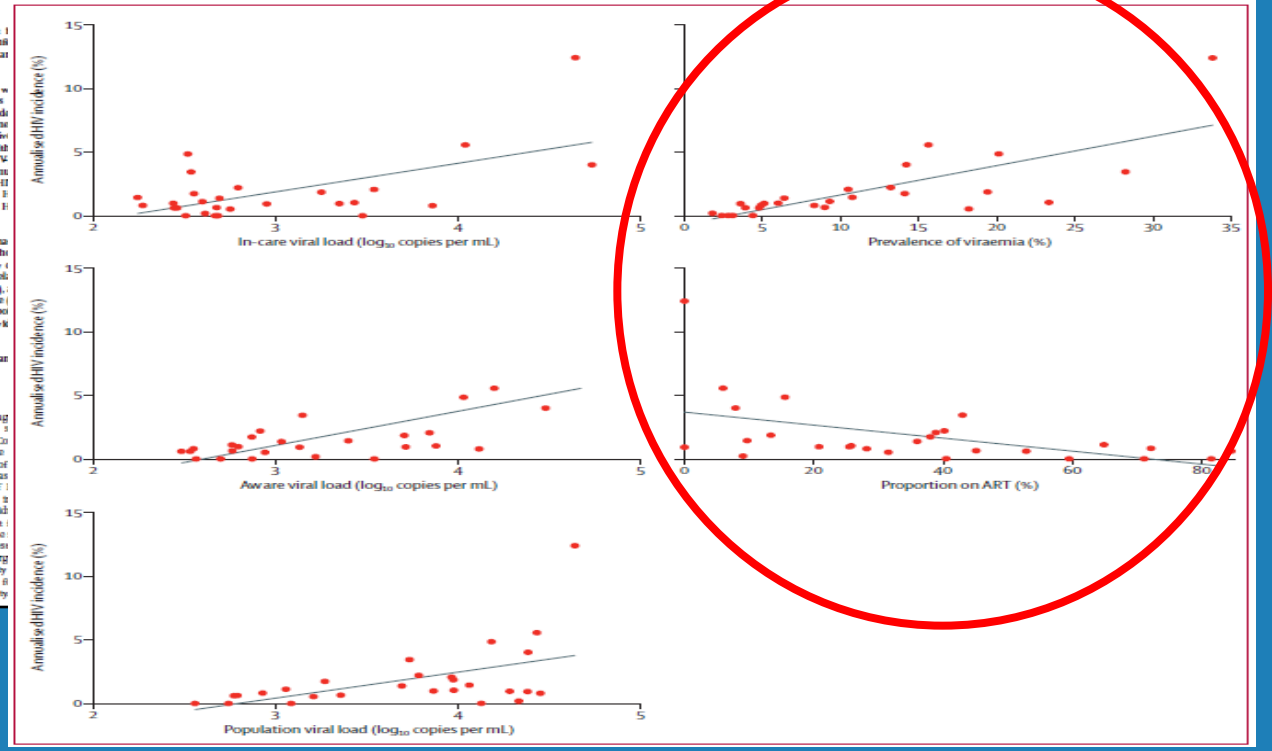
Interpretation Prevalence of viraemia had the strongest correlation with HIV incidence in this san useful measure of the effectiveness of a treatment programme.

Funding US National Institutes of Health, Elton John AIDS Foundation.

Introduction

Compelling evidence of HIV treatment as prevention from clinical studies[1] and expanding but highly variable global antiretroviral therapy (ART) coverage[2,3] has focused attention on the need to monitor community-level effectiveness of ART. HIV incidence is the best possible measure of the effectiveness of treatment-as-prevention programmes. However, measures of HIV incidence is difficult and expensive, and rarely done outside a research context.[4] Researchers have proposed the measures of community viral load[5,6] and population ART coverage[7] as capturing a causal association between community-level effectiveness of HIV treatments and HIV transmission.

Community viral load, a family of measures derived from HIV RNA measurements in subgroups of individuals with HIV, has been temporally correlated with HIV incidence or new HIV diag (retrofit databases) in ecological s these measures have limitations. Co data derived from administrative represents individuals who are out of their status—a population that has accounts for a large proportion of Community viral load measured f cohorts study might represent individ It is unlikely to adequately account are unaware of their status, because participants are usually routinely scr visits. Some researchers have arg sensitivity measures of community people with HIV do not account f which can vary widely by community



Soloman et al Lancet HIV 2016

Task shifting to address health worker shortage

Articles

Nurse versus doctor management of HIV-infected patients receiving antiretroviral therapy (CIPRA-SA): a randomised non-inferiority trial

Ian Sanne, Catherine Orrell, Matthew P Fox, Francesca C… Charlotte Ingram, Ravindre Panchia, Mohammed Rassa… James McIntyre, Robin Wood, for the CIPRA-SA Study Te…

Summary

Background Expanded access to combination… task shifting from doctors to other health-care… of ART care for HIV-infected patients.

Methods This randomised non-inferiority tri… individuals with a CD4 cell count of less tha… to nurse-monitored or doctor-monitored AR… randomisation, and neither the patients no… objective was a composite endpoint of treat… limiting toxic effects, and adherence to visit … versus doctor group for cumulative treatmen… was less than 1·40. This study is registered w…

Findings 408 patients were assigned to do… participants were analysed. 371 (46%) patient… and 179 (44%) in the doctor group. The haz… within the limits for non-inferiority. After a n… failures (44 vs 39), toxicity failures (68 vs 6… groups, respectively.

Interpretation Nurse-monitored ART is not… support to task shifting to appropriately train…

Funding National Institutes of Health; Unit… Allergy and Infectious Diseases.

Introduction

Combination drug therapy has had a remar… on the reduction of AIDS-related mo… mortality.[1] In industrialised countries, a… management is administered by specialist… who prescribe from the full range … antiretroviral drugs, supported by frequen… monitoring including resistance testing.[2] F… several studies in industrialised settings … that outpatients have better outcomes when … a physician with HIV expertise than do th… such a physician, including quality of care an… which could be an indicator of the complex… infection and its management.[2] By contra… small epidemic in resource-rich countries… 22·4 million people living with HIV in … Africa,[3] with an estimated 3·8 million in ur… treatment.[4] Globally, there is a shortage of … health workers (doctors, midwives, nurses, … workers);[5] in South Africa there are only 1…

www.thelancet.com Published online June 16, 2010 DOI:10…

Articles

Task shifting of antiretroviral treatment from doctors to primary-care nurses in South Africa (STRETCH): a pragmatic, parallel, cluster-randomised trial

Lara Fairall, Max O Bachmann, Carl Lombard, Venessa Timmerman, Kerry Uebel, Merrick… Christopher J Colvin, Simon Lewin, Gill Faris, Ruth Cornick, Beverly Draper, Mvula Tshaka… Ronald Chapman, Eric Bateman

Summary

Background Robust evidence of the effectiveness of task shifting of ant… health workers is scarce. We aimed to assess the effects on mortality, … and quality indicators of the Streamlining Tasks and Roles to Expa… programme, which provides educational outreach training of nur… decentralise care.

Methods We undertook a pragmatic, parallel, cluster-randomised tri… June 30, 2010. We randomly assigned 31 primary-care ART clinic… (intervention group) or to continue with standard care (control group)… many clinics were in each of nine strata. Two cohorts were enrolled: … ≥16 years) with CD4 counts of 350 cells per μL or less who were not re… had already received ART for at least 6 months and were being treated… 1 was time to death (superiority analysis). The primary outcome in coh… loads (≤400 copies per mL) 12 months after enrolment (equivalence a… and clinicians could not be masked to group assignment. The interim… masked after the database was locked for final analysis. Analyses … registered, number ISRCTN46836853.

Findings 5390 patients in cohort 1 and 3029 in cohort 2 were in the … 3202 in cohort 2 were in the control group. Median follow-up was 1… 18·0 months (18·0–18·0) in cohort 2. In cohort 1, 997 (20%) of 4943 p… 747 (19%) of 3862 in the control group with known vital status at the … differ (hazard ratio [HR] 0·94, 95% CI 0·76–1·15). In a preplanned su… counts of 201–350 cells per μL, mortality was slightly lower in the inter… 0·54–1·00; p=0·052), but it did not differ between groups in patients … (0·94, 0·76–1·15; p=0·577). In cohort 2, viral load suppression 12… intervention (2156 [71%] of 3029 patients) and control groups (2230… –2·4 to 4·6).

Interpretation Expansion of primary-care nurses' roles to include A… safely, and improve health outcomes and quality of care, but might not…

Funding UK Medical Research Council, Development Cooperation I… ment Agency.

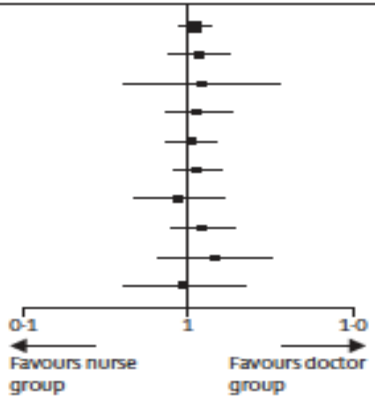
Introduction

Since 2006, efforts to increase access to antiretroviral therapy (ART) in Africa have emphasised task shifting—ie, delegation of clinical tasks from doctors to other health-care workers.[1] However, robust evidence of its effectiveness is scarce. A 2010 systematic review of task shifting in care of patients with HIV infection[2] showed that it is effective and can provide high-quality care, but of 25 original studies reviewed, only 11 made comparisons with alternatives, and only two of those were randomised trials. Neither trial assessed the effect of task shifting on… both was i… In South… has been… treatment, … because d… ART. Deli… mortality … waiting for treatment.[3,4] Thus, evidence from randomised trials is needed on whether other health workers can effectively and safely identify patients eligible for ART,

D Steyn MBChB, University of the Free State, Bloemfontein, South Africa

www.thelancet.com Vol 380 September 8, 2012 889

	Nurse (N=404)	Doctor (N=408)	Hazard ratio (95% CI)
Cumulative failure	192 (48%)	179 (44%)	1·09 (0·89–1·33)
All virological failure	44 (11%)	39 (10%)	1·15 (0·75–1·76)
Early virological failure*	7 (2%)	6 (2%)	1·18 (0·40–3·51)
Late virological failure†	37 (9%)	33 (8%)	1·14 (0·71–1·82)
Toxicity failure	68 (17%)	66 (16%)	1·04 (0·74–1·45)
All loss‡	70 (17%)	63 (15%)	1·13 (0·81–1·59)
Withdrew consent	18 (5%)	21 (5%)	0·87 (0·46–1·63)
Default clinic schedule	38 (9%)	32 (8%)	1·21 (0·76–1·93)
Lost to follow-up	14 (4%)	10 (3%)	1·42 (0·63–3·20)
Death	10 (3%)	11 (3%)	0·92 (0·39–2·17)



"ART initiation and prescribing by nurses can be done safely, and improve health outcomes and quality of care"

Sanne, 2012; Fairall 2012

Task shifting & decentralization

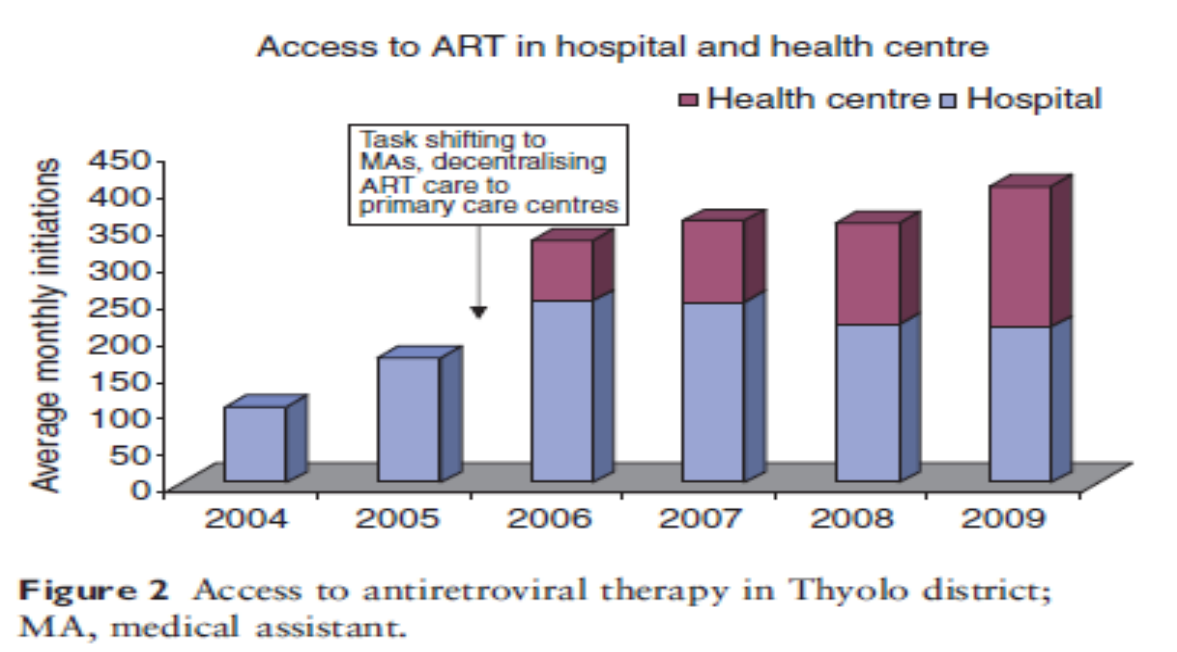
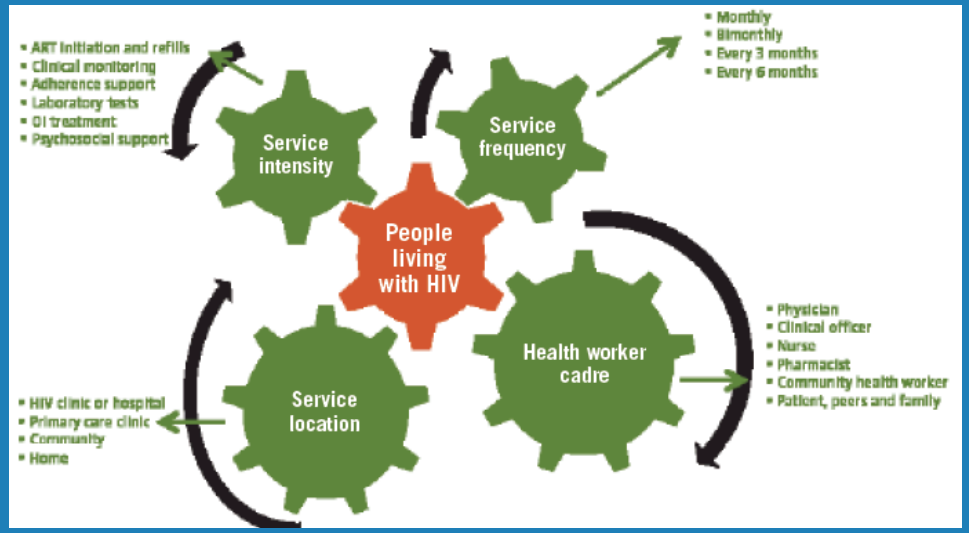


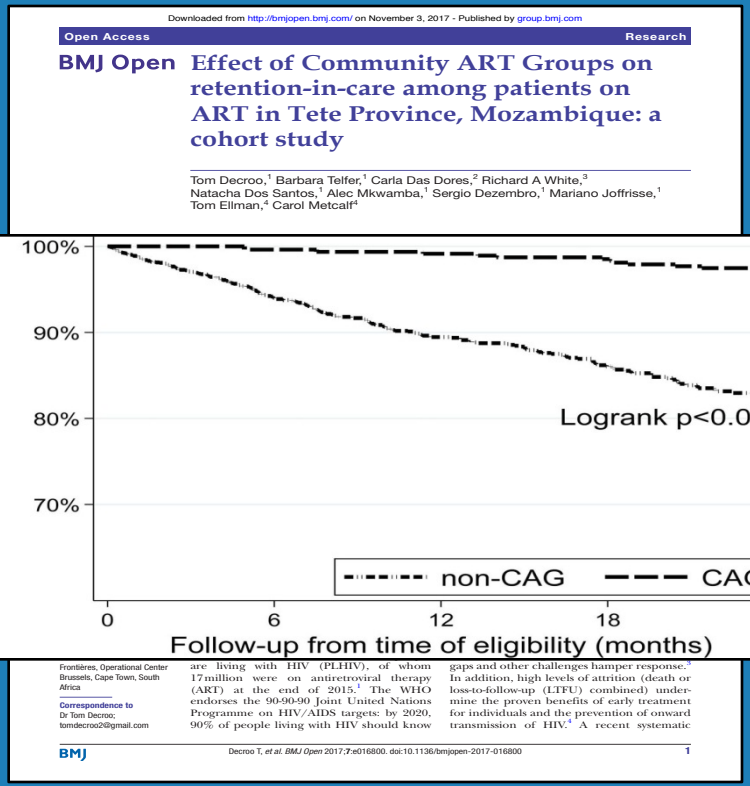
Figure 2 Access to antiretroviral therapy in Thyolo district; MA, medical assistant.

Time to ART initiation decreased from nearly 100 days in 2003 to less than 3 weeks in 2009

Bemelmans et al, Trop Med Int Health 2010

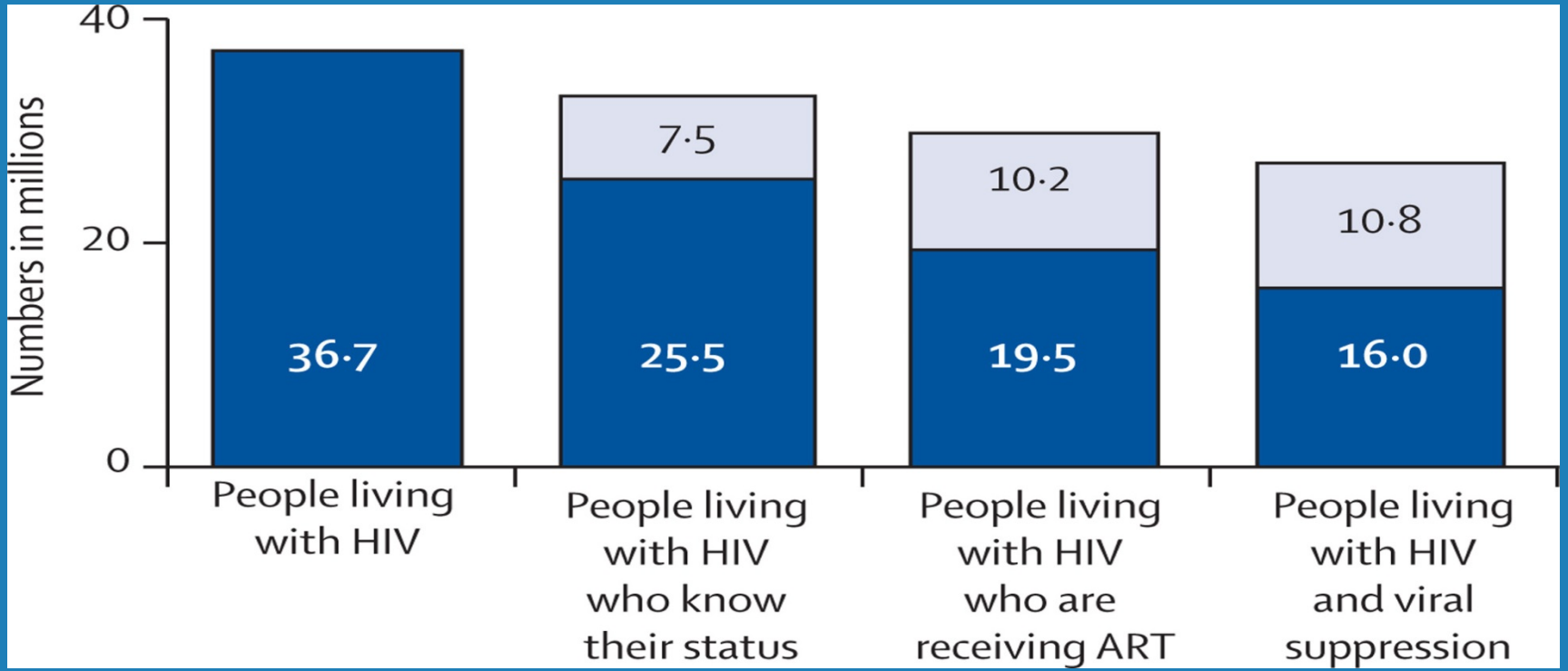
Service delivery: differentiated care





Decroo et al BMJ Open 2017

Tracking progress: the cascade of care



Ford et al Lancet ID 2017

Expanded access to testing

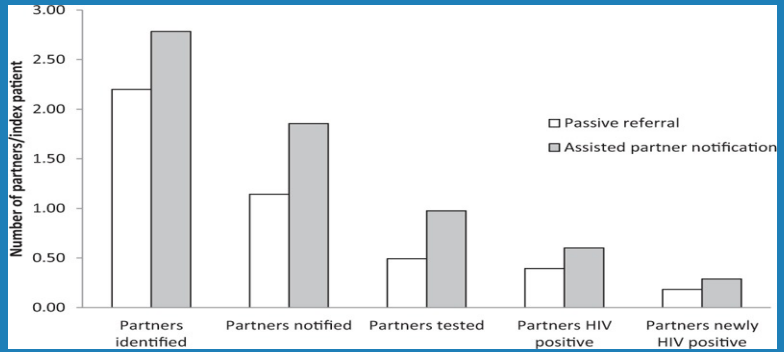
1. Health provider testing
2. Lay testing

   Already policy in 64% of African countries

3. Community testing

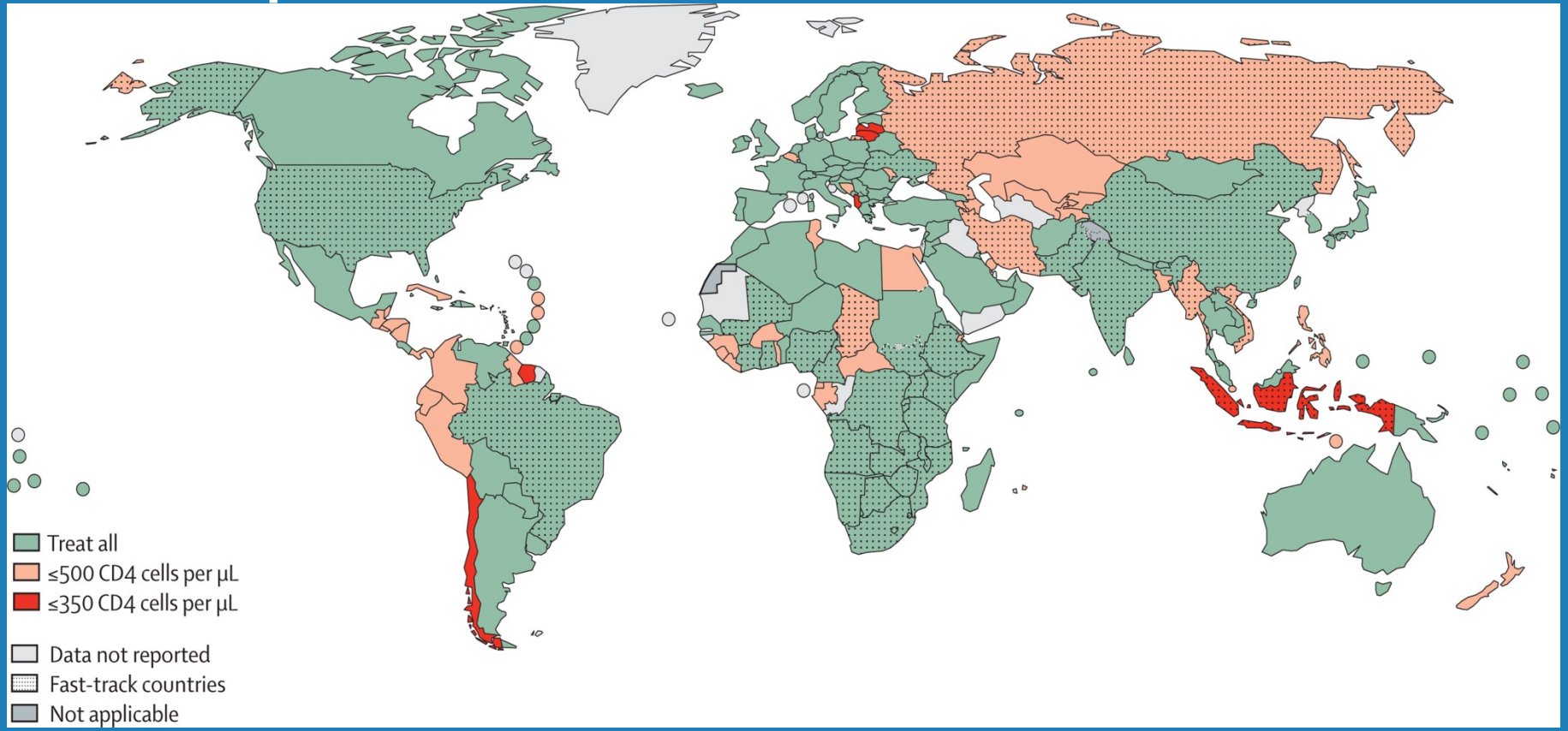
   Home, partner, workplace…

4. Self-testing



Dalal et al, AIDS 2017

Expanded access to treatment



Ford et al Lancet ID 2017

From “when to start” to “how quickly to start”

PLOS | MEDICINE

RESEARCH ARTICLE

Initiating Antiretroviral Therapy for HIV at a Patient’s First Clinic Visit: The RapIT Randomized Controlled Trial

Sydney Rosen[1,2]*, Mhairi Maskew[2], Matthew P. Fox[2,3], Cynthia Nyoni[2], Constance Mongwenyana[2], Given Malete[2], Ian Sanne[2], Dorah Bokaba[4], Celeste Sauls[2], Julia Rohr[1], Lawrence Long[2]

1 Department of Global Health, Boston University School of Public Health, Boston, Massachusetts, United States of America, **2** Health Economics and Epidemiology Research Office, Department of Internal Medicine, School of Clinical Medicine, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa, **3** Department of Epidemiology, Boston University School of Public Health, Boston, Massachusetts, United States of America, **4** Health Department, City of Johannesburg, Johannesburg, South Africa

* sbrosen@bu.edu

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Citation: Rosen S, Maskew M, Fox MP, Nyoni C, Mongwenyana C, Malete G, et al. (2016) Initiating Antiretroviral Therapy for HIV at a Patient's First Clinic Visit: The RapIT Randomized Controlled Trial. PLoS Med 13(5): e1002015. doi:10.1371/journal.pmed.1002015

Academic Editor: Agnes Binagwaho, Rwanda Ministry of Health, RWANDA

Received: November 17, 2015

Accepted: March 22, 2016

Published: May 10, 2016

Data Availability Statement: Data will be made publicly available in the Dryad repository (http://www.datadryad.org/) after the protocol has been closed (anticipated closure June 2018). Until then, data will remain under the supervision of the University of the Witwatersrand Human Research Ethics Committee (HREC). Requests should be sent to the HREC Research Administrator at: https://www.wits.ac.za/research/about-our-research/ethics-and-research-integrity/human-research-ethics-committee-medical/.

Funding: Funding for this study was provided by the U.S. National Institutes of Health (National Institute of

Abstract

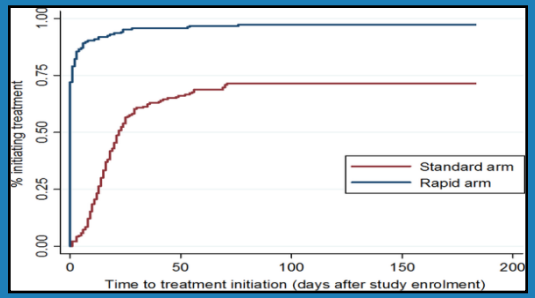
Background

High rates of patient attrition from care between HIV testing and antiretroviral therapy (ART) initiation have been documented in sub-Saharan Africa, contributing to persistently low CD4 cell counts at treatment initiation. One reason for this is that starting ART in many countries is a lengthy and burdensome process, imposing long waits and multiple clinic visits on patients. We estimated the effect on uptake of ART and viral suppression of an accelerated initiation algorithm that allowed treatment-eligible patients to be dispensed their first supply of antiretroviral medications on the day of their first HIV-related clinic visit.

Methods and Findings

RapIT (Rapid Initiation of Treatment) was an unblinded randomized controlled trial of single-visit ART initiation in two public sector clinics in South Africa, a primary health clinic (PHC) and a hospital-based HIV clinic. Adult (≥18 y old), non-pregnant patients receiving a positive HIV test or first treatment-eligible CD4 count were randomized to standard or rapid initiation. Patients in the rapid-initiation arm of the study (“rapid arm”) received a point-of-care (POC) CD4 count if needed; those who were ART-eligible received a POC tuberculosis (TB) test if symptomatic, POC blood tests, physical exam, education, counseling, and antiretroviral (ARV) dispensing. Patients in the standard-initiation arm of the study (“standard arm”) followed standard clinic procedures (three to five additional clinic visits over 2–4 wk prior to ARV dispensing). Follow up was by record review only. The primary outcome was viral suppression, defined as initiated, retained in care, and suppressed (≤400 copies/ml) within 10 mo of study enrollment. Secondary outcomes included initiation of ART ≤90 d of study enrollment, retention in care, time to ART initiation, patient-level predictors of primary

New studies show that ART can be started on same day as HIV diagnosis



WHO recommendation (July 2017)

- Start within 7 days of an HIV diagnosis
- Consider same day start

Rosen et al, Plos Med 2016

Simplified HCV service delivery in a public health approach

Simplified and standardized algorithms

Strategies to strengthen linkage to care

Differentiated care

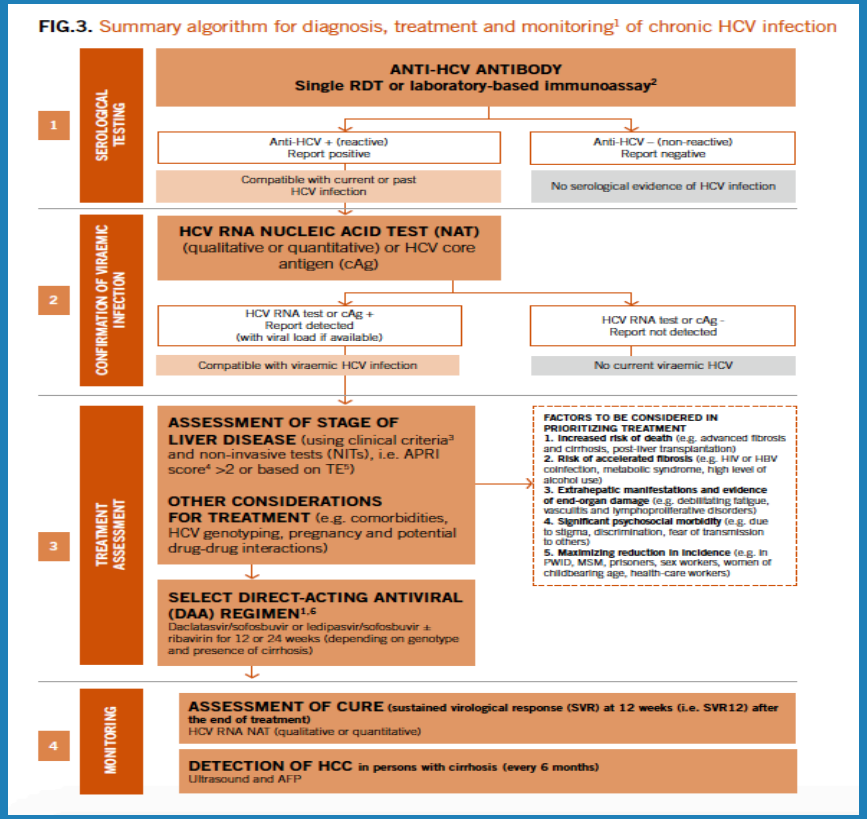
Integrated testing, care and treatment

Decentralisation of care to promote access

Community engagement and peer support

- Persons who inject drugs
- People in prisons and other closed settings
- MSM and sex workers
- Adolescents and Children
- Pregnant women
- Migrant/indigenous populations

Simplified HCV testing, treatment and monitoring algorithm



1. Single quality assured RDT

2. Prompt or reflex HCV RNA or core Ag

3. Assess and triage: Stage liver disease using NITs (APRI, FIB4, TE)

4. Treat All with Pan-genoptypic regimens

5. One-step monitoring
One test of cure SVR12

5 key steps

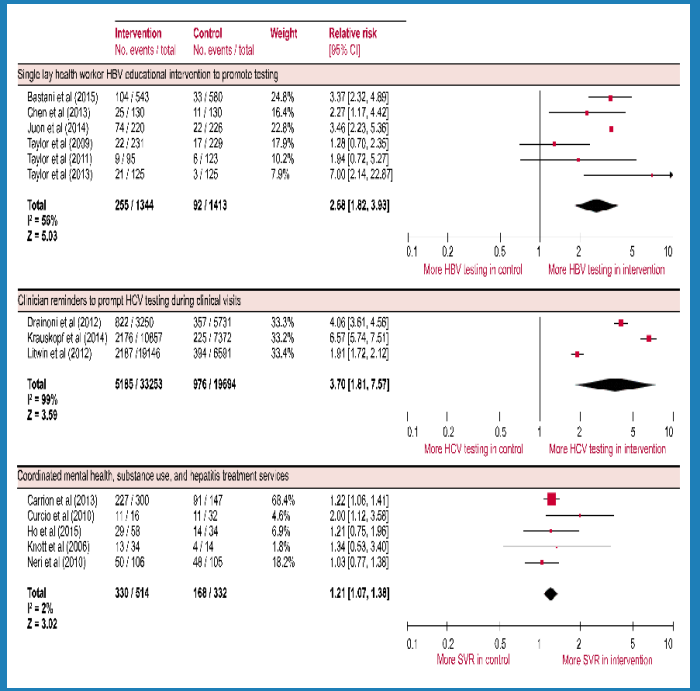
Strategies to consider for increasing uptake and improving linkage

Trained Peer and lay health workers in community settings *(and for treatment and adherence)*

Clinician reminders to prompt provider initiated, facility-based testing

Testing (*and treatment*) **as part of integrated services** at a single facility, especially within mental health/drug treatment services

On-site or immediate RDT testing with same day results

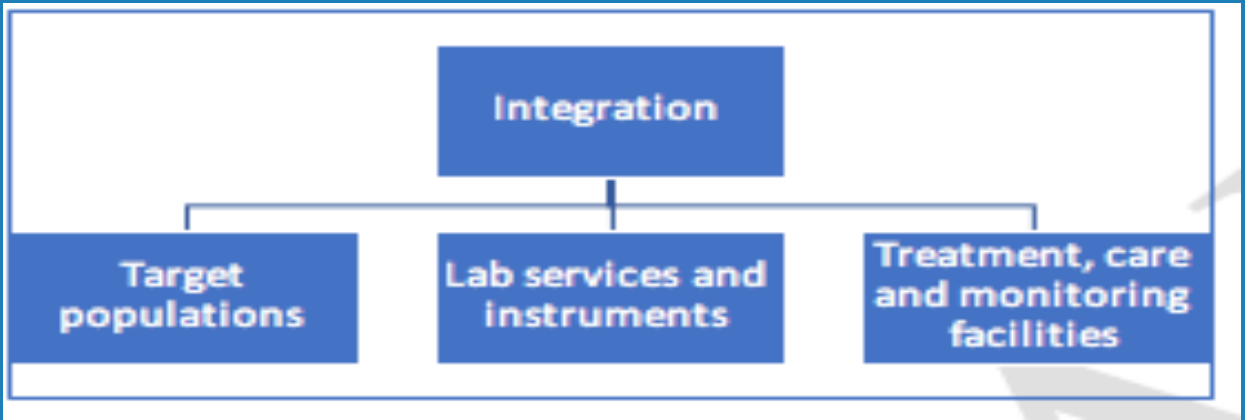


Zhou et al, Lancet ID 2017

Differentiated care

Who?	What?	Where?	By Whom ?
Persons clinically well and stable	Standard care package: Counselling, adherence support, treatment initiation and monitoring	Facility-based including primary care or community-based settings, including mobile/outreach	Physician or ?nurse
Advanced liver disease or serious co-morbidities, HCC, previous treatment failure	Requiring more intensive clinical support and follow-up: Management of liver related complications (eg. variceal bleed, ascites, encephalopathy, HCC treatment, genotyping)	Facility-based - hospital	Physician
Mental health issues, active injecting drug users, alcohol misuse, adolescents	Requiring more intensive psychosocial/mental health support	Can be Facility-based or Community-based, Harm reduction site	Physician and counsellor/peer support

Integration



Integration with other testing settings or opportunities eg. HIV, antenatal or TB

Integrated combo serology (HIV/HCV RDTs), including self-testing

Use of integrated multi-disease platforms for HCV RNA (centralised or decentralised)

HCV care at harm reduction sites

HCV care at HIV, STI, TB clinics

HCV care in prisons

Integrated information systems

Task shifting & decentralisation

Models

- Hub and spoke
- Mobile outreach
- Other…

ENABLERS

Community & peer support

HCW Training and mentorship

Training courses and curriculum

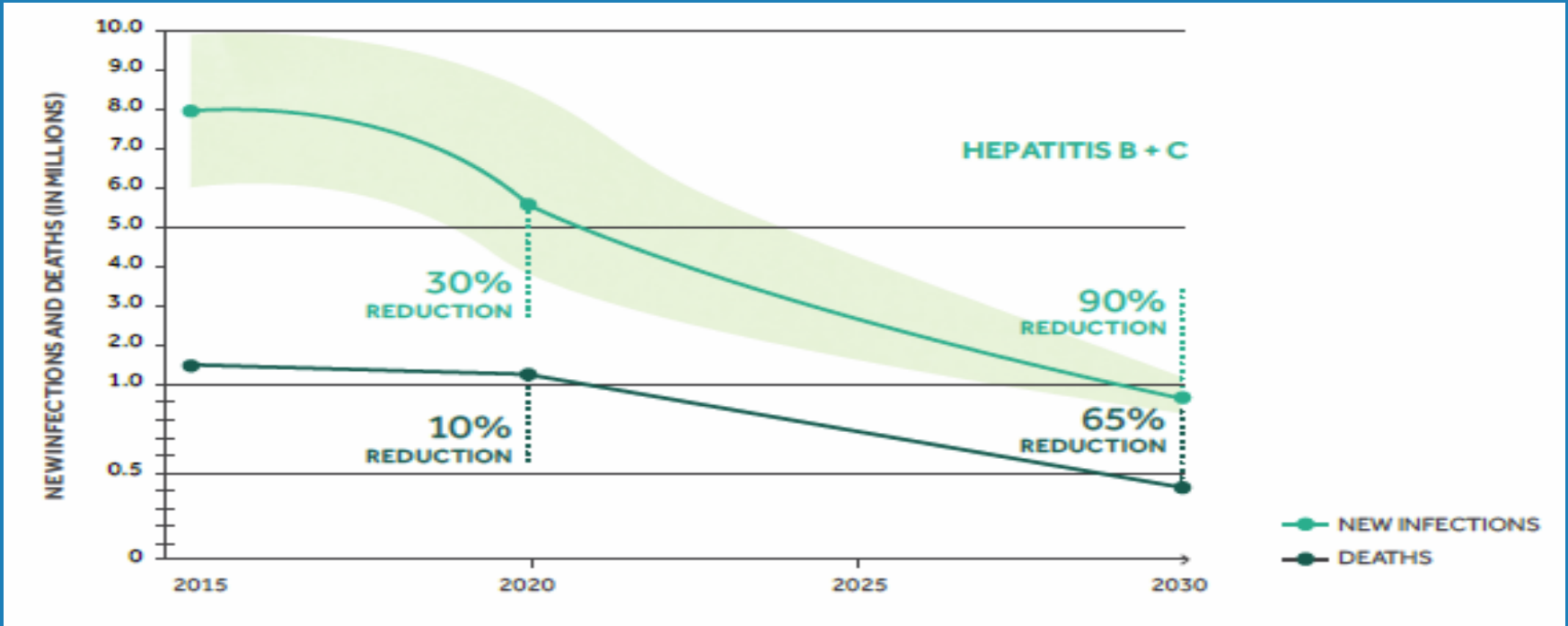
Distance support

Simpler treatment & labs

Integrated information systems

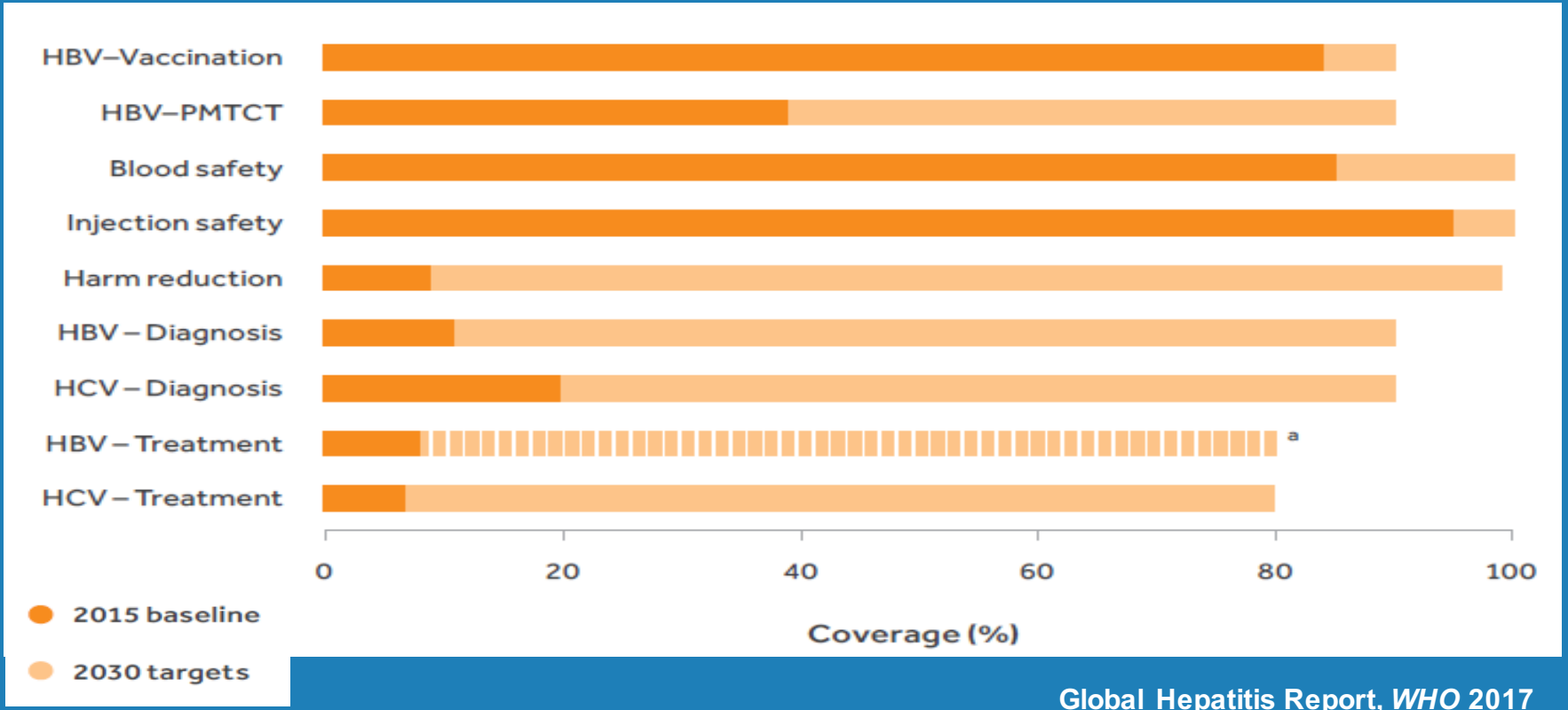
(enhanced sample referral system, connectivity, SMS results)

Elimination of viral hepatitis as a public health threat by 2030



Global Hepatitis Report, *WHO* 2017

We have a long way to go



Global Hepatitis Report, *WHO* 2017

Acknowledgements

- Graham Cooke
- Marco Vitoria
- Philippa Easterbrook
- Gilles Wandeler
- Judith van Holten