



HIV and obesity: remarkably similar epidemics

Professor François Venter

Ezintsha, University of Witwatersrand



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- Research Support: USAID; Unitaid; South African Medical Research Council; Bill and Melinda Gates Foundation; study drug donations from ViiV Healthcare, Merck and Gilead Sciences; study support Merck, ViiV, J&J
- Speaker's Bureau/Board Member/Advisory Panel: Gilead, ViiV, Mylan/Viatris, Merck, Adcock-Ingram, Aspen, Abbott, Roche, J&J, Sanofi, Boehringer Ingelheim, Thermo-Fischer and Virology Education
- The unit does investigator-led studies with Merck, J&J and ViiV providing financial support and is doing commercial drug studies for Merck and Novo. The unit performs evaluations of diagnostic devices for multiple biotech companies.



HIV and Obesity



Overall: Obesity = HIV circa 1996



		MORNING DOSE		EVENING DOSE		
		☀️		🌙		
		1	2	1	2	3
		Stovudine	3TC	Stovudine	3TC	BDQ/CRV
		capsule	tablet	capsule	tablet	capsules
AUGUST	Friday	27				
	Saturday	28				
	Sunday	29				
	Monday	30				
	Tuesday	31				
September	Wednesday	1				
	Thursday	2				
	Friday	3				
	Saturday	4				
	Sunday	5				
	Monday	6				
	Tuesday	7				
	Wednesday	8				
	Thursday	9				
	Friday	10				
	Saturday	11				
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	Thursday	23				
	Friday	24				

The HIV story

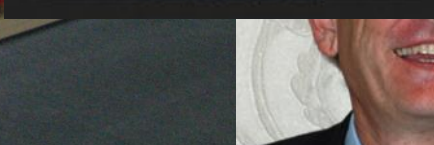
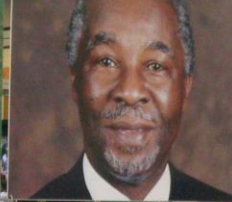
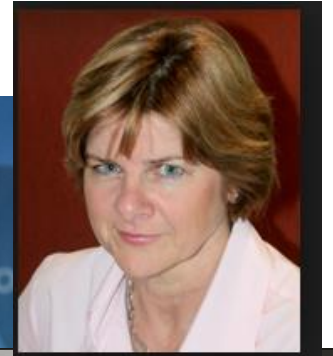


- “Treating diabetes is hard. Treating HIV is easy.” – endocrinologist, August 2023
- HIV 2023: Test once, start treatment same day with one tablet
- HIV 2003:
 - 2-3 formal blood tests to confirm HIV, results take up to a week to get back
 - ‘Stage’ with a CD4, results can take weeks
 - Drug one (d4T) one tablet in morning, one at night, dose adjusted for weight
 - Drug 2 (3TC), one in morning, one at night
 - Drug 3, depends on if you are a woman of ‘child-bearing potential’ (nevirapine) vs ‘other’ (efavirenz)
 - Drug 4 (cotrimoxazole) titrated away once stage improved >1 year





How bad was HIV? 1000 deaths/day



Garlic no substitute for ARVs

'A well-fed population on its own is not going to resist HIV/Aids'

BY LOUISE FLARAGAN

Good food is no substitute for antiretroviral drugs in combating Aids. This is the finding of an "exclusive" study by top South African scientists on the scientific research on the links between improved nutrition and the treatment of HIV/Aids and TB.

The scientists said this did not mean that nutritional interventions had no role in the management of these infections, especially where nutritional deficiencies were rife.

The panel included nutritionists, immunologists, microbiologists, infectious disease physicians, paediatricians, policy experts and epidemiologists.

It was chaired by Professor Barry Madhoo of Wits University and the National Health Laboratory Service, and included Dr Mohamed Ali of the Council for the Medical Research Council, Dr Chas Crisp of the Communicable Diseases Institute for Communicable Diseases, and Dr Helen Ross and Dr Francois Venter.

"There's one thing important Madhoo has been clear since health, but it is not sufficient to contain either the HIV/Aids or the tuberculosis epidemic," said panel member Dr Chas Crisp.

"We need a well nourished population on its own is not going to resist HIV/Aids without antiretroviral drugs. Poverty contributed to but did not cause HIV/Aids and TB," said panel member Dr Helen Ross.

What the health minister said

June 7 2006: "I shall report garlic, shall talk about beetroot, shall I talk about lemons, shall I talk about...

both from the Reproductive Health and HIV Research Unit in Johannesburg.

The report has already been presented to the government and senior policymakers on public policy and the more research.

The report is likely to contribute to the calls for the firing of ministerial Health Minister Manto Tshabalala-Msimang, who has been accused of not taking the role of ARV against Aids, but also to focus on strong emphasis on good nutrition for her role in leading Aids.

This has contributed to the ongoing conflict between the scientific health professionals, Aids activists and opposition parties.

"Our government policy remained in the HIV and Aids and TB strategic plan for South Africa 2007-2011, released last week, emphasises the need for ARV access and to integrate HIV and TB care. ARV treatment is estimated at 40% of the total costs.

"Health workers have previously warned of the violent effects of the combination of the Aids and TB epidemics. This has become particularly problematic with the emergence last year of extensively drug-resistant TB in South Africa.

AIDS/TB, which is virtually incurable, has also been found in all nine provinces.

The minute of health received a copy of the report two weeks ago.

THE STAR SMS FEEDBACK
 12546
 Text 445 626 22



HIV/AIDS, TB AND NUTRITION

inquiry into the nutritional influences on human immunity with special reference to malnutrition, infection and active TB in South Africa

ASSAf
 Knowing & Helping



nature
 www.nature.com/nature
 Vol 447 | Issue no. 7140 | 3 May 2007

South Africa's AIDS plan

A strategic plan has been developed to tackle the nation's HIV crisis — at last.

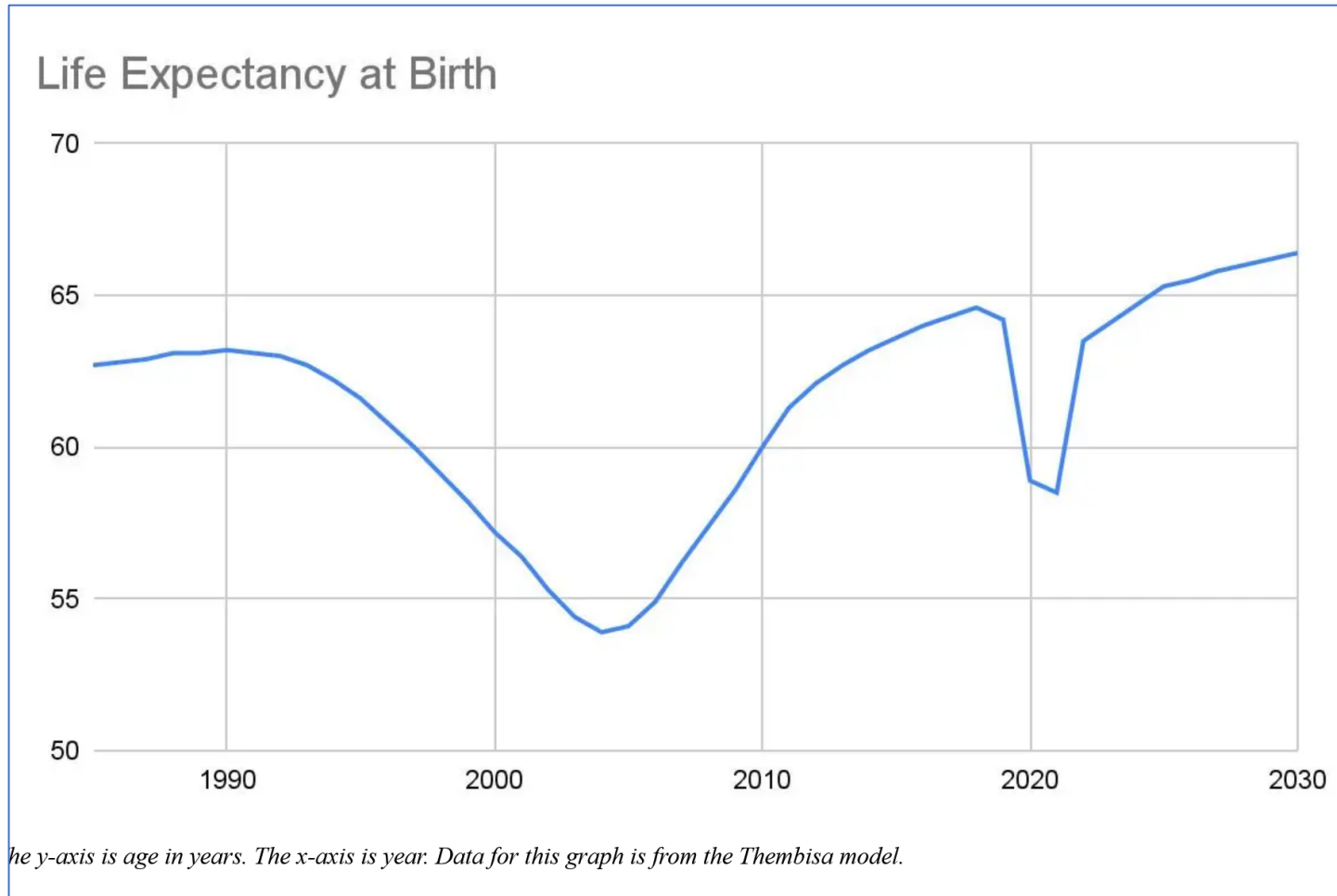
After years of preparation, the government of South Africa has finally adopted a sound and comprehensive strategy for managing the country's AIDS epidemic. The 160-page plan, in many cases they don't have, as well as consent from a biological parent — a problem because many are cared for by other members of the extended family. There is no other medical condition where such



2008 – Zuma took power
2024 – about 6 million South Africans
with HIV alive on world-class therapy



SA life expectancy



HIV treatment pre-2008 in LMICs was ugly

- Drugs toxic, fragile and twice daily





A Longitudinal Study of the Changes in Body Fat and Metabolic Parameters in a South African Population of HIV-Positive Patients Receiving an Antiretroviral Therapeutic Regimen Containing Stavudine

Jaya A. George,¹ Willem D.F. Venter,² Hendrick E. Van Deventer,¹ and Nigel J. Crowther¹



ORIGINAL ARTICLES



Symptomatic hyperlactataemia in adults on antiretroviral therapy: A single-centre experience

June Fabian, Willem D F Venter, Louisa Mkhabela, Jonathan B Levin, Lee Baker, Saraladevi Naicker

Objective. There are limited data on symptomatic hyperlactataemia caused by antiretroviral therapy (ART)

risk factor was being female (risk ratio (RR) 3.27). Significant clinical symptoms associated with symptomatic hyperlactataemia

Price tag of HIV response to more than double by 2033

By Laura Lopez-Gonzalez on June 12, 2015 in [HIV - Antiretrovirals \(ARV\)](#), [HIV/AIDS](#)

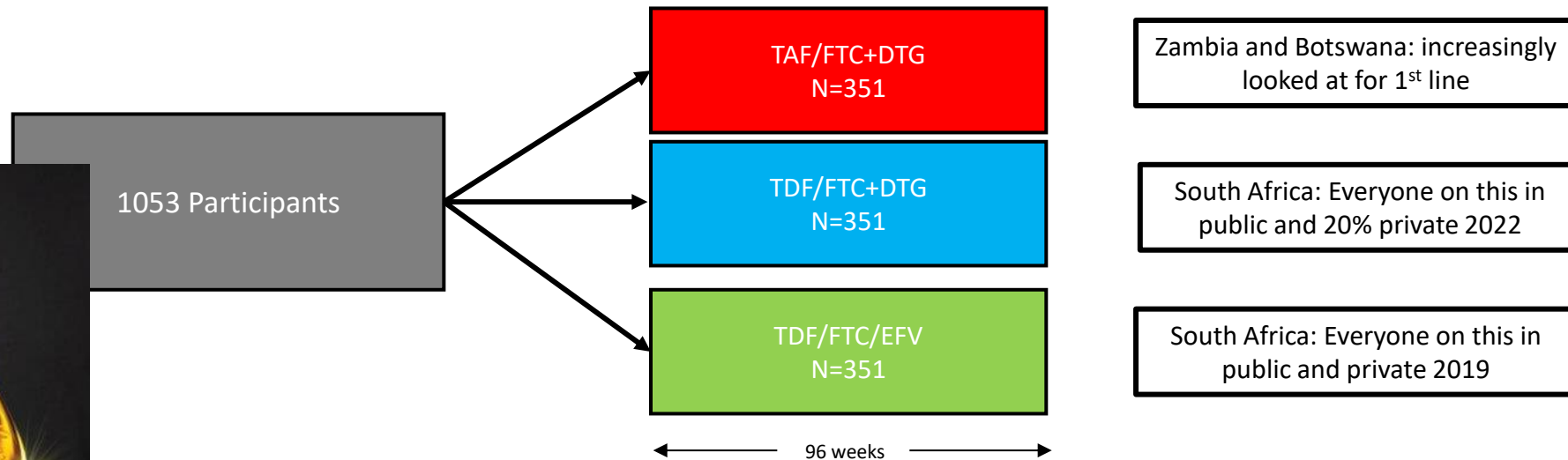
With 3.1 million people on antiretrovirals (ARV), South Africa has the world's largest ARV programme, but sustaining it - and the HIV response - will more than double in the next two decades, according to new research.



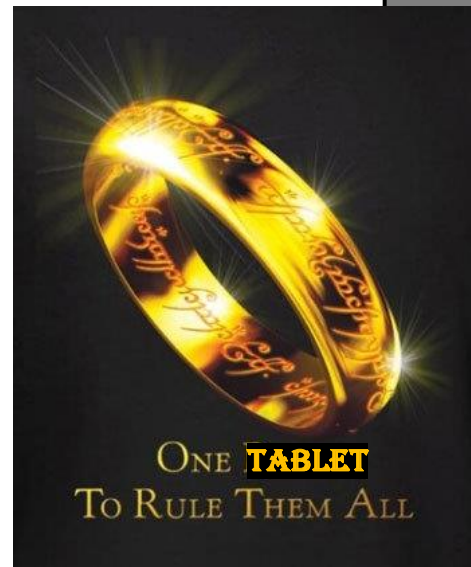
Then came ADVANCE – results April 2019

- Three different WHO regimens - cost and toxicity differences

Inclusion criteria: treatment-naïve, HIV-1 RNA level ≥ 500 copies/mL, no TB or pregnancy, no baseline genotyping



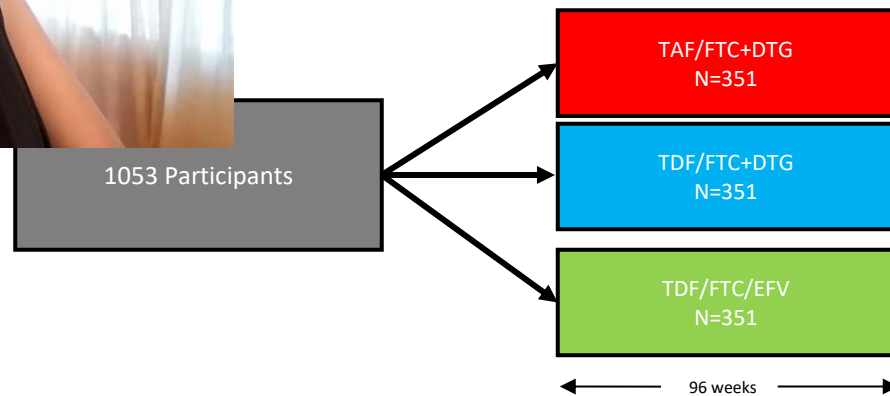
Open-label, 96-week study in Johannesburg, South Africa
Study visits at Baseline, Week 4, 12, 24, 36, 48, 60, 72, 84, and 96
Funders: Unitaid, USAID, SA MRC, ViiV, drugs Gilead, ViiV





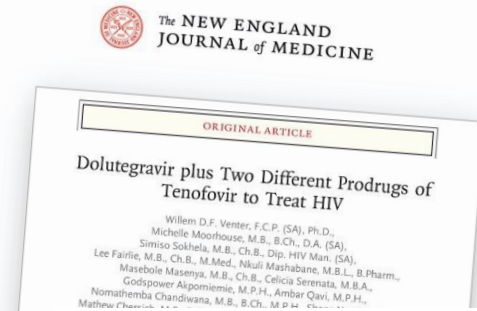
ADVANCE: Study design

Criteria: treatment-naïve, HIV-1 RNA level \geq 500 copies/mL, no TB or pregnancy, genotyping



Open-label, 96-week study in Johannesburg, South Africa
Study visits at Baseline, Week 4, 12, 24, 36, 48, 60, 72, 84, and 96

 EACS European AIDS Clinical Society



 Clinical Infectious Diseases
BRIEF REPORT

 AIDS  hivma  OXFORD

Weight and Metabolic Changes After Switching From Tenofovir Alafenamide/Emtricitabine (FTC) +Dolutegravir (DTG), Tenofovir Disoproxil Fumarate (TDF)/FTC + DTG, and TDF/FTC/Efavirenz to TDF/Lamivudine/DTG

Simiso Sokhela, Andrew Hill, Kaitlyn McCann, Ambar Qavi, Marya Mochandani, and Willem Daniel Francois Venter*

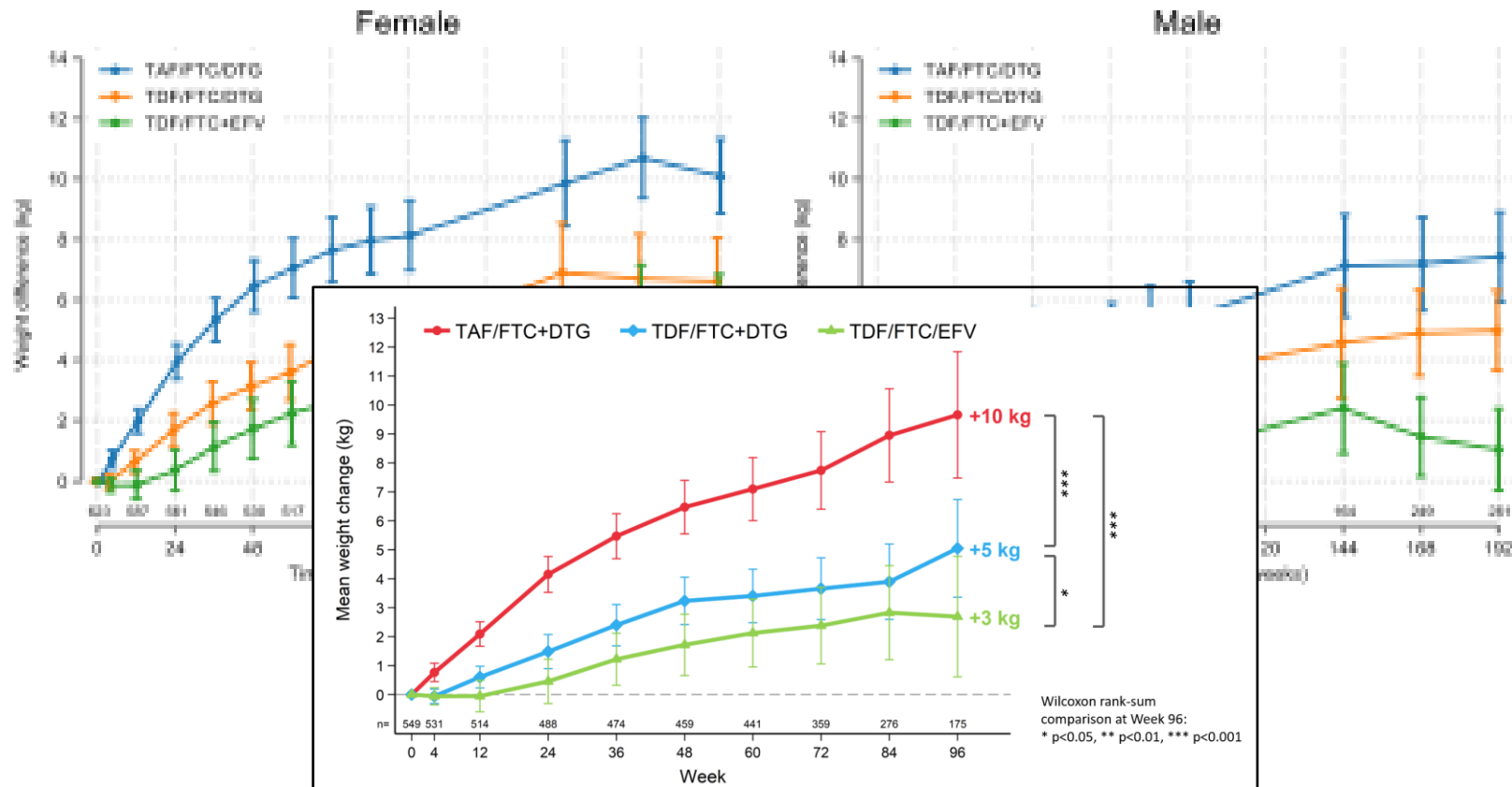
Simiso Sokhela, Andrew Hill, Kaitlyn McCann, Ambar Qavi, Marya Mochandani, and Willem Daniel Francois Venter
Simiso Sokhela, Andrew Hill, Kaitlyn McCann, Ambar Qavi, Marya Mochandani, and Willem Daniel Francois Venter
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Simiso Sokhela, Andrew Hill, Kaitlyn McCann, Ambar Qavi, Marya Mochandani, and Willem Daniel Francois Venter

gain, worsened lipid profile, equivalent renal and bone toxicity and virological potency when compared to unboosted TDF, as well as concerns regarding drug interactions, unknown pregnancy outcomes, and high cost [1, 3].
In contrast, some studies have observed the mitigating effect of TDF and EFV on weight gain. EFV has been associated with significant side effects including neuropsychiatric side effects and increases in lipids and serum glucose levels [4]. Weight loss is higher for people with cytochrome polymorphisms, resulting in slower metabolism of the drug, which then confers other neurological and metabolic toxicities [5, 6]. TDF has been associated with a higher risk of weight loss in a recent analysis of HIV-negative people taking pre-exposure prophylaxis therapy [5, 6].

Dr Simiso Sokhela (co-PI on ADVANCE): “Our patients are gaining weight!”

- Immediate reaction: New drugs caused weight gain

ADVANCE: Weight change from baseline over time





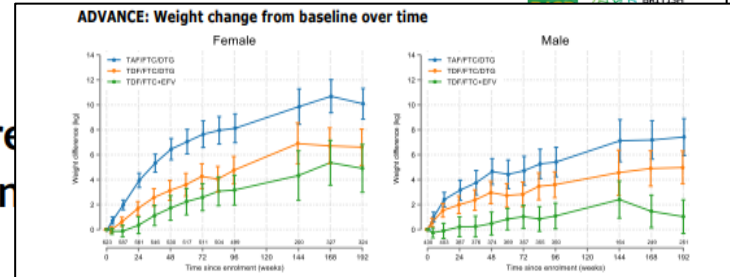
October 2021 | Accepted: 1 December 2021

Weight gain on dolutegravir: Association is not the same as causation



Authors:
Gary Maartens¹
Phumla Sinxadi²
W.D. Francois Venter²

Dolutegravir and other integrase strand transfer inhibitors are associated with more weight gain in Antiretroviral regimens.^{1,2} Whether the association is most



response re
efavirenz with weight char
therapy

Rulan Griesel^{1,2} | Aida N. Kawuma¹ | Roeland Wasmann¹ | Simiso Sokhela³ |

Gods
Paol

Clinical Infectious Diseases

MAJOR ARTICLE



CYP2B6 Genotype and Weight Gain Differences Between Dolutegravir and Efavirenz

Rulan Griesel,^{1,2} Gary Maartens,^{1,2} Maxwell Chirehwa,¹ Simiso Sokhela,³ Godspower Akpomiemie,³ Michele Phumla Sinxadi^{1,2}

¹Division of Clinical Pharmacology, Department of Medicine, University of Cape Town, Cape Town, South Africa, ²Wellcome Centre for Infectious Disease and Molecular Medicine, University of Cape Town, Cape Town, South Africa, and ³Ezintsha, Wits Reproductive Health and HIV Institute, Witwatersrand, Johannesburg, South Africa

Background. Dolutegravir is associated with more weight gain than efavirenz. Loss-of-

TRANSLATIONAL RESEARCH

Genetic Associations with Weight Gain among South Africans who Initiated Dolutegravir-Containing and Tenofovir-Containing Regimens

Zihle Cindi, MSc,^a Gary Maartens, MBChB, FCP, MMed,^{a,b} Yuki Bradford, MS,^c Willem D.F. Venter, MBBCh, FCP, PhD,^d Simiso Sokhela, MBChB,^d Nomathemba C. Chandiwana, MBBCh, MPH,^d David W. Haas, MD,^{e,f} and Phumla Sinxadi, MBChB, MMed, PhD^d

But why did you not notice?

ORIGINAL RESEARCH

Journal of Virus Eradication 2020; 6: 70–73

Phase 3 trials of new antiretrovirals are not representative of the global HIV epidemic

Toby Pepperrell¹, Andrew Hill^{2*}, Michelle Moorhouse³, Polly Clayden⁴, Kaitlyn McCann⁵, Simiso Sokhela³, Celicia Serenata⁶, Willem Daniel Francois Venter³

¹Faculty of Medicine, Imperial College London, UK

²Department of Translational Medicine, Liverpool University, Pharmacology, Liverpool, UK

- Most registration studies done in white males for almost all newer antiretrovirals

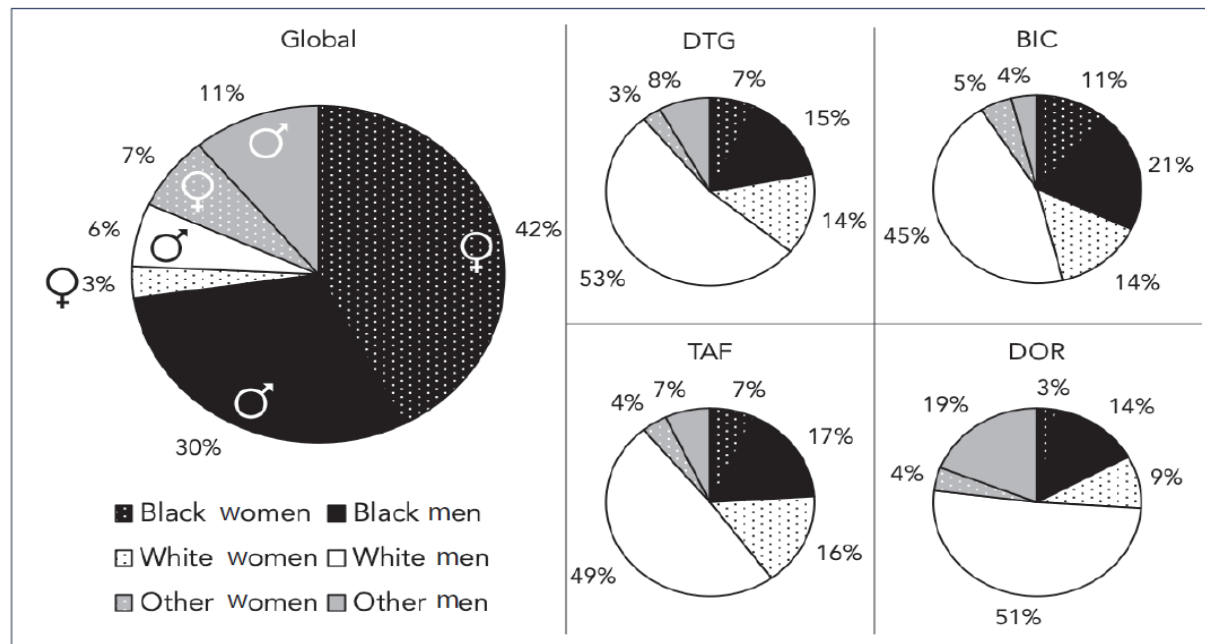


Figure 1. Estimated global demographics of PLWH vs RCT demographics. Percentages may be rounded up to make 100. Data are given as percentage. BIC: bicitegravir; DOR: doravirine; DTG: dolutegravir; PLWH: people living with HIV; RCT: randomised controlled trial; TAF: tenofovir alafenamide.



What we have learned from antiretroviral treatment optimization efforts over the last 5 years?

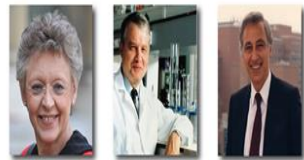
W.D. Francois Venter^a, Celicia Serenata^{a,*}, Marco Vitoria^b, Luckyboy Mkhondwane^c, Kenly Sikwese^d, Toby Pepperrell^e, Polly Clayden^f, Ambar Qavi^g, Meg Doherty^b, Martina Penazzato^b and Andrew Hill^h

Progression in the development of antiretroviral therapy has been remarkable, with new agents continuing to appear as options for modern regimens, including in low-and-middle income countries where the HIV epidemic is concentrated. Here, we reflect on progress made in guiding regimen changes to public health programmes, and the challenges facing selection of newer agents.

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AIDS 2021, 35 (Suppl 2):S113–S115

Keywords: Treatment optimisation, antiretrovirals, toxicity, potency, dosing



HIV-1 discovered

1983

1987



AZT monotherapy

AZT/3TC

1995

1996



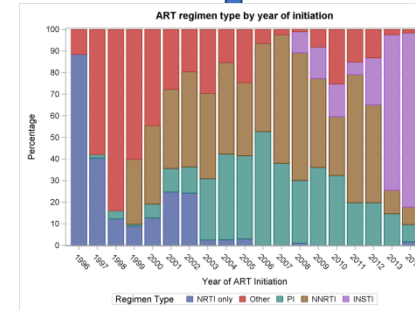
Triple-Drug Therapy



Single-Tablet Regimens

2006

The Integrase Era



2012–2013

2018

2023

3TC=lamivudine; AZT=zidovudine

Long-acting era

Integrase single tablets

Clinical Infectious Diseases SUPPLEMENT ARTICLE



Barriers to Uptake of Long-Acting Antiretroviral Products for Treatment and Prevention of HIV in Low- and Middle-Income Countries (LMICs)

Cissy Kityo,¹ Claudia P. Cortes,² Nittaya Phanuphak,³ Beatriz Grinsztejn,⁴ and Francois Venter⁵

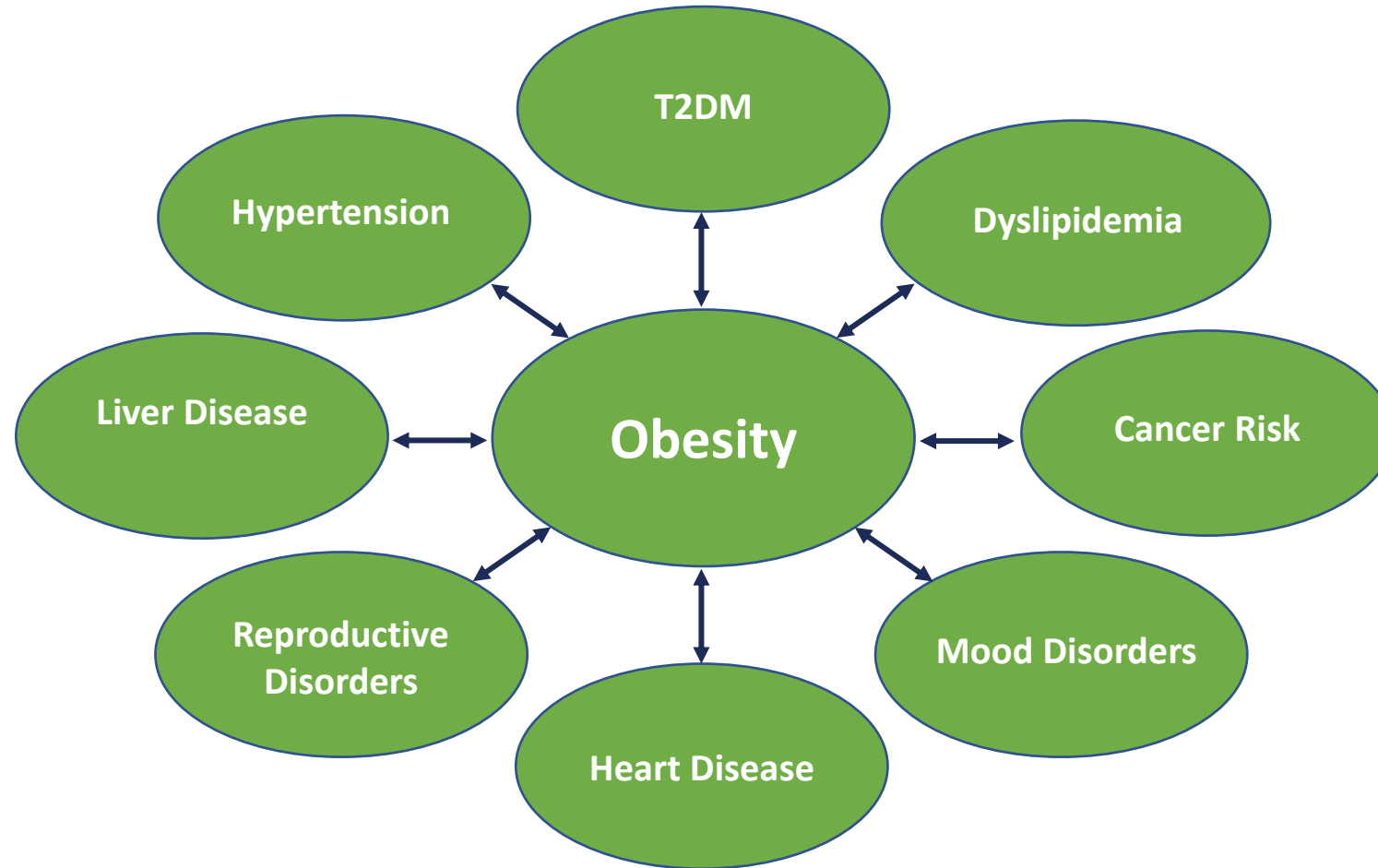
¹Joint Clinical Research Centre, Kampala, Uganda; ²Faculty of Medicine, Universidad de Chile, Santiago, Chile; ³Institute of HIV Research and Innovation in Bangkok, Bangkok, Thailand; ⁴Nacional de Infectologia Evandro Chagas-Fiocruz, Rio de Janeiro, Brazil; and ⁵Ezintha, Wits Reproductive Health and HIV Institute, Faculty of Health Sciences, University of Johannesburg, Johannesburg, South Africa



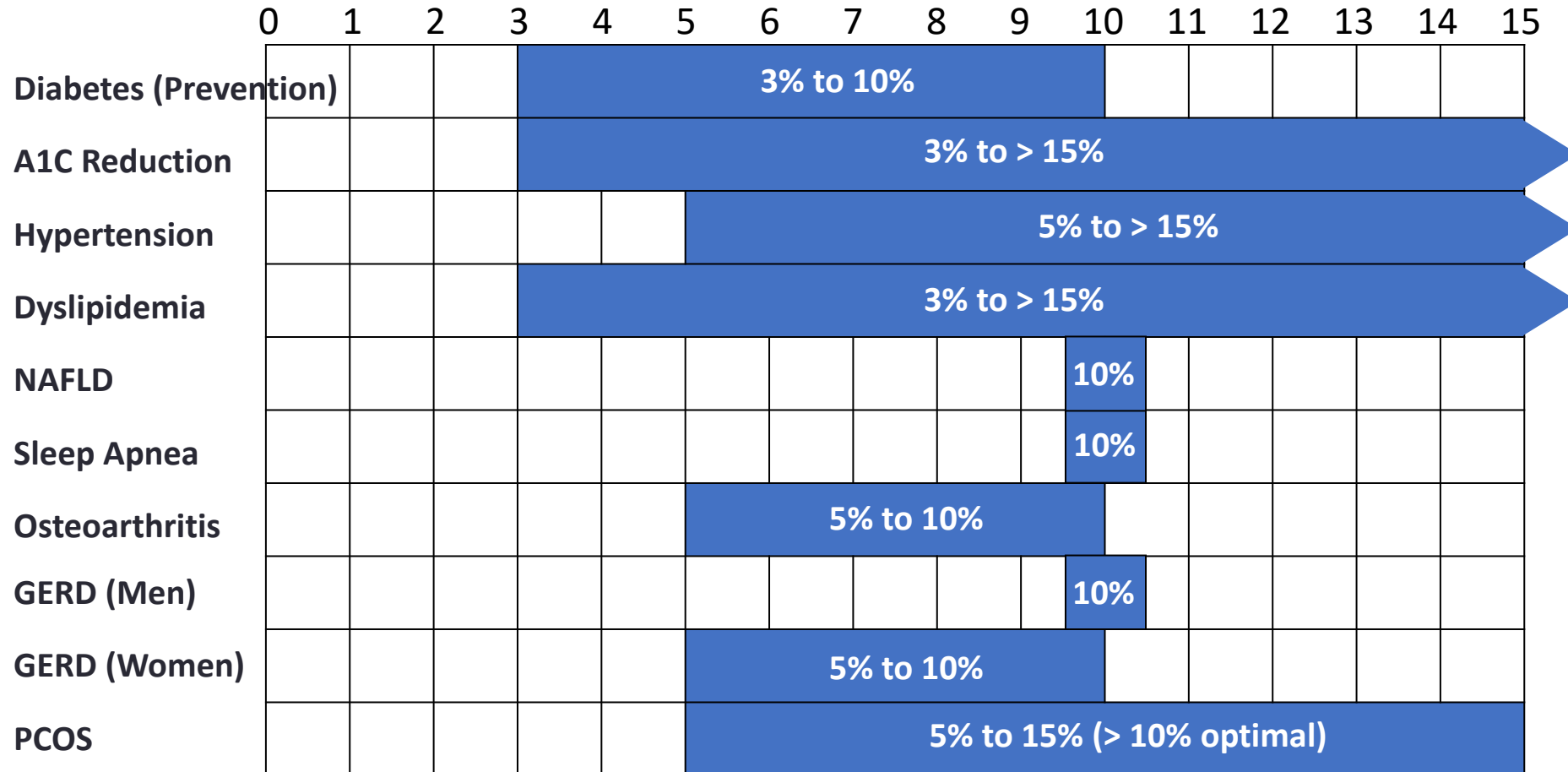
Similarly, for obesity: The drugs are revolutionising everything



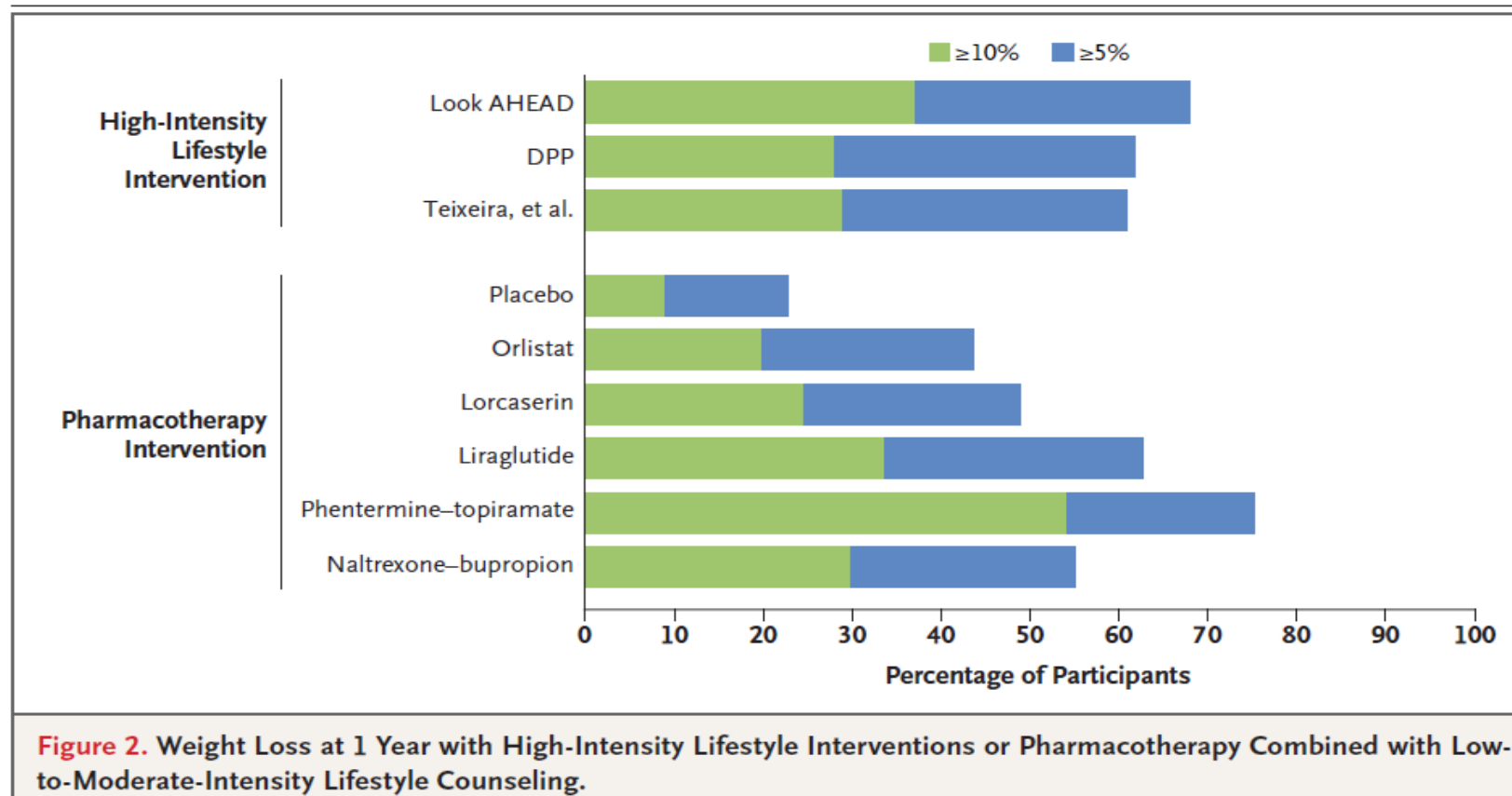
Health Consequences of Obesity



Weight Loss Required for Therapeutic Benefit

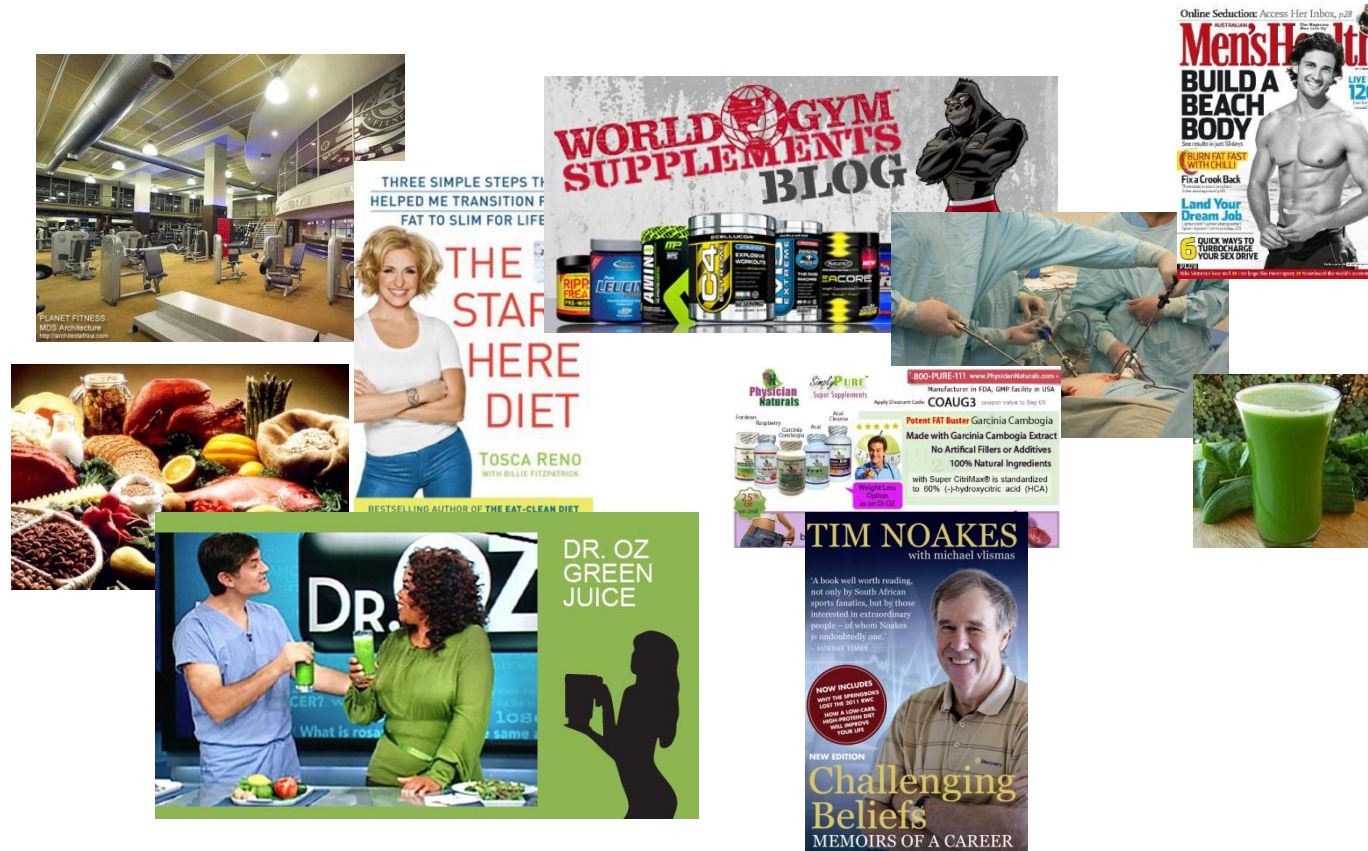


Lifestyle changes are bleak for weight loss



People make a LOT of money from making you feel horrible about your body – implicated in everything from depression to anorexia

- And we've made many people rich, and health workers have colluded





Semaglutide

Setmelanotide

Tirzepatide

Oral Semaglutide

Danuglipron

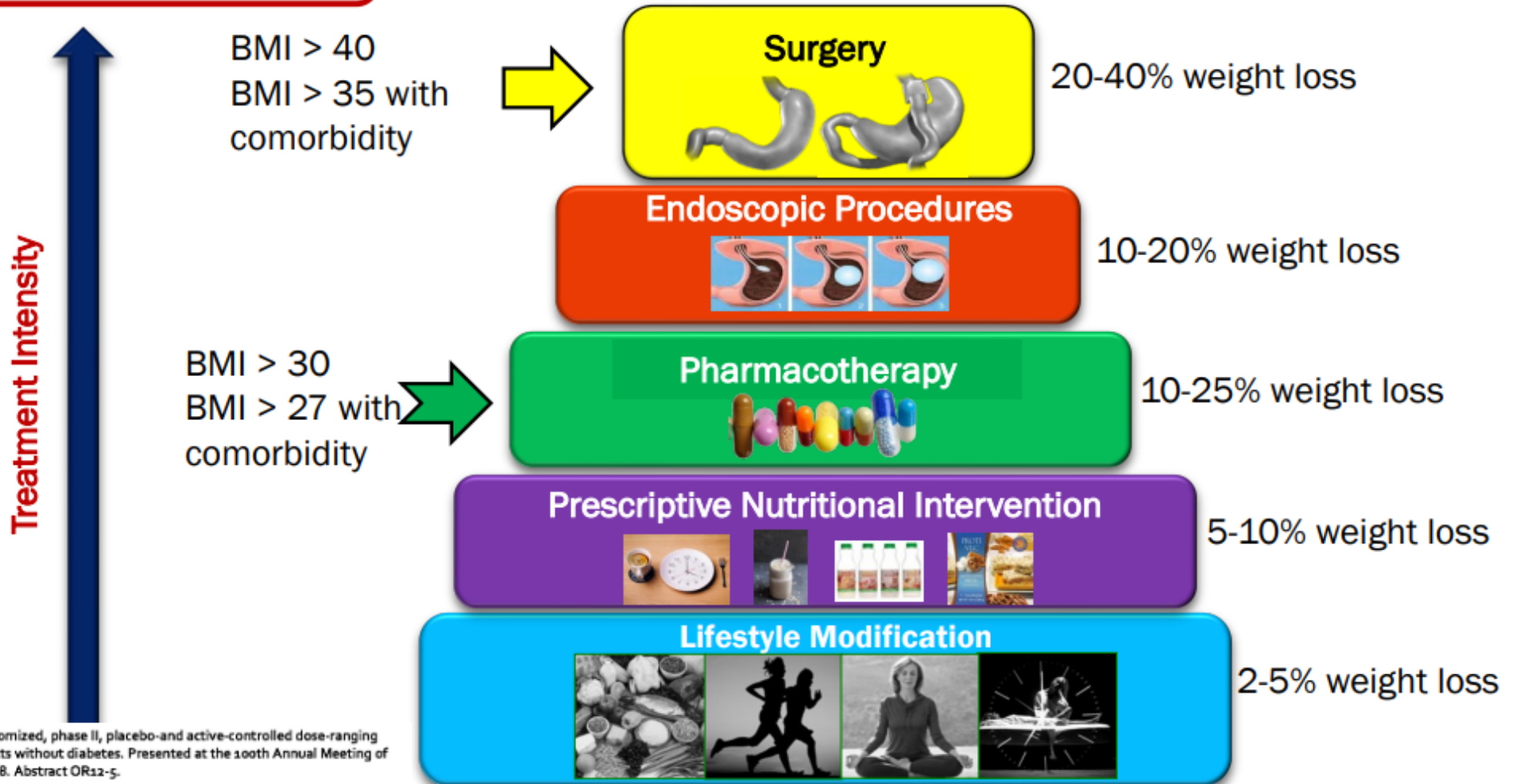
Cagrisema

Bimagrumab



Increasing health risks
Increasing adiposity

Obesity Treatment Pyramid



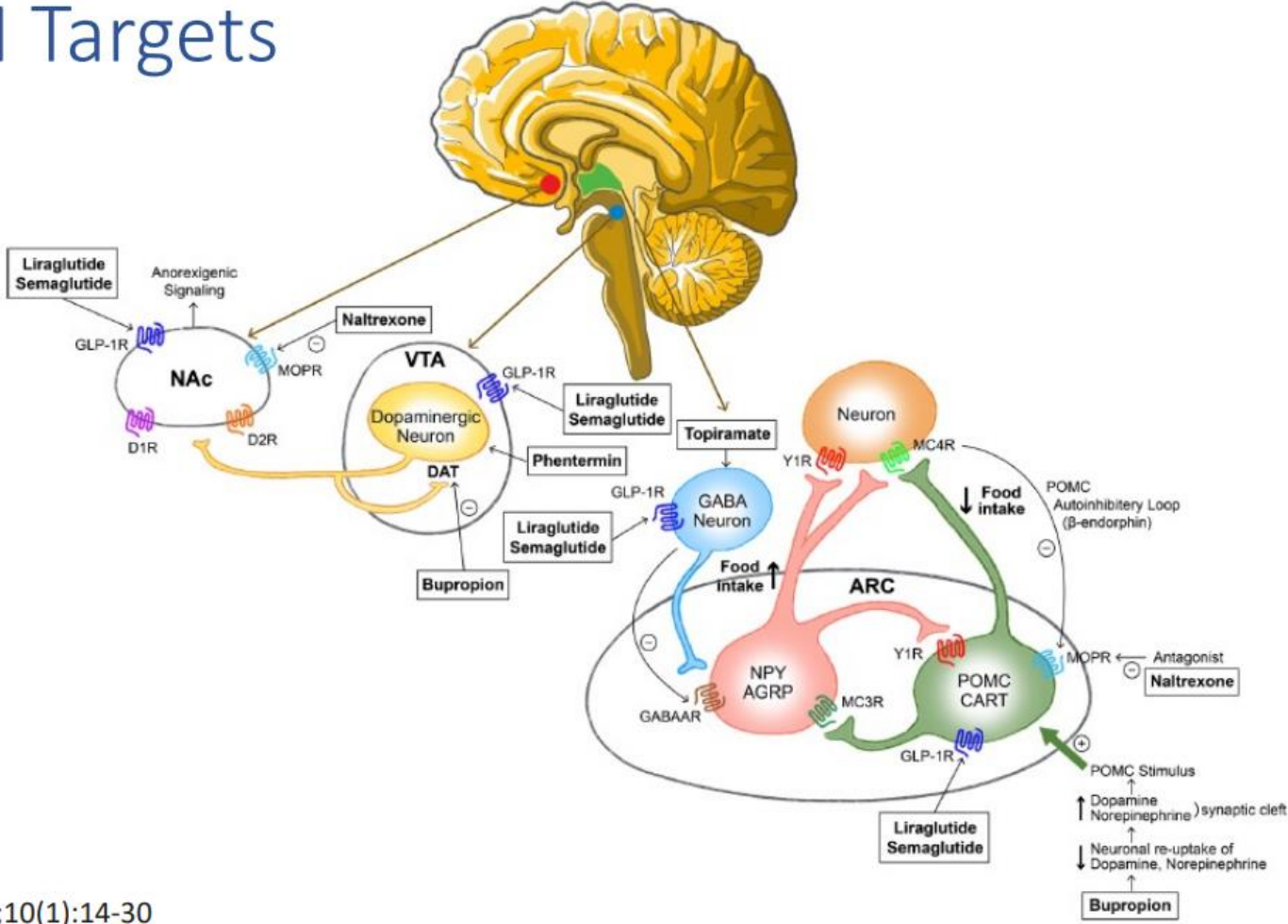
1. O'Neil PM, Birkenfield AL, McGowan B, et al. A randomized, phase II, placebo-and active-controlled dose-ranging study of semaglutide for treatment of obesity in subjects without diabetes. Presented at the 100th Annual Meeting of The Endocrine Society, Chicago, Illinois; March 18, 2018. Abstract OR12-5.

2. *Lancet*. 2011 Oct 22; 378(9801): 1485-1492. 5. *Obesity (Silver Spring)*. 2019 Jan; 27(1):75-86

3. *JAMA Surg*. 2016 Nov 1; 151(11):1046-1055.

4. *Obesity (Silver Spring)*. 2011 Jan; 19(1): 110-120.

Current AOM Targets



New agents

Table 2 | Weight loss drugs in clinical development

Agent	Company	Development stage	Indication	ClinicalTrials.gov ID/ref.*
GLP1/glucagon dual agonists				
Cotadutide (MED10382)	AstraZeneca	Phase II	T2D, NASH	NCT04019561 NCT032335050
BI 456906	Boehringer Ingelheim	Phase II	Obesity, T2D	NCT04153929
Elinoglutide (4 th GLP/CCG)	Hanmi Pharmaceutical	Phase II	NASH	NCT03486392
OXM	Eli Lilly	Phase I	T2D	See Related links
GIP/GLP1 dual agonists				
Tirzepatide	Eli Lilly	Phase III	Obesity, T2D	NCT04657003
GIP/GLP peptide I	Eli Lilly	Phase I	T2D	See Related links
GIP/GLP peptide II	Eli Lilly	Phase I	T2D	See Related links
NN9709	Novo Nordisk	Discontinued	Obesity, T2D	See Related links
GIP/GLP1/glucagon tri-agonists				
HM15211 (4 th Triple Agonist)	Hanmi Pharmaceutical	Phase II	NASH	NCT04505436
GGG tri-agonist	Eli Lilly	Phase I	T2D	See Related links
NN9423	Novo Nordisk	Discontinued	Obesity, T2D	See Related links
GIPR agonists				
GIPR agonist long acting	Eli Lilly	Phase I	T2D	See Related links
ZP 6590	Zealand Pharma	Preclinical	Obesity	See Related links
GLP1R agonists				
Efpeglenatide (4 th Exd4 Analog)	Hanmi Pharmaceutical	Phase III	T2D	NCT03353350 NCT03496298
Rybelsus	Novo Nordisk	Phase III	Obesity	NCT039319929
Daruglipron (PF-06882961)	Pfizer	Phase II	Obesity, T2D	NCT04707313 NCT03985293
GLP1-NPA	Eli Lilly	Phase I	T2D	See Related links
PF-07081532	Pfizer	Phase I	T2D	NCT04305587
Glucagon analogue				
HM15130 (4 th Glucagon Analog)	Hanmi Pharmaceutical	Phase I	Obesity	See Related links
Leptin sensitizers				
Withaferin A	Academic, non-commercial	Phase I	Obesity, T2D	¹⁰³
Celastrol	Academic, non-commercial	Preclinical	Obesity, T2D	¹⁰⁴
Leptin/amylin	Amylin Pharmaceuticals	Discontinued	Obesity, T2D	See Related links
Y2R agonists				
PYY analogue	Eli Lilly	Phase I	T2D	See Related links
NN9748 (NN9747)	Novo Nordisk	Phase I	Obesity, T2D	NCT03574584
NNC0165-1875 + semaglutide	Novo Nordisk	Phase II	Obesity, T2D	NCT04969939
Amylin/calcitonin dual agonists				
KBP-089	Nordic Biosciences	Phase I	T2D	NCT03907202
KBP-042	Nordic Biosciences	Discontinued	T2D	NCT03230786
Davalintide	Amylin Pharmaceuticals	Discontinued	Obesity, T2D	See Related links
Amylin analogues				
Cagrilintide	Novo Nordisk	Phase II	Obesity, T2D	NCT04940078 NCT04982575
ZP 8396	Zealand Pharma	Preclinical	Obesity	See Related links

- ?how long do we take the drugs?
- Side effects of new agents?
- Will people take injections? Titrations are complex
- Cost \$\$\$\$

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Julie R. Ingelfinger, M.D., Editor

Reassessing Human Adipose Tissue

Aaron M. Cypess, M.D., Ph.D.

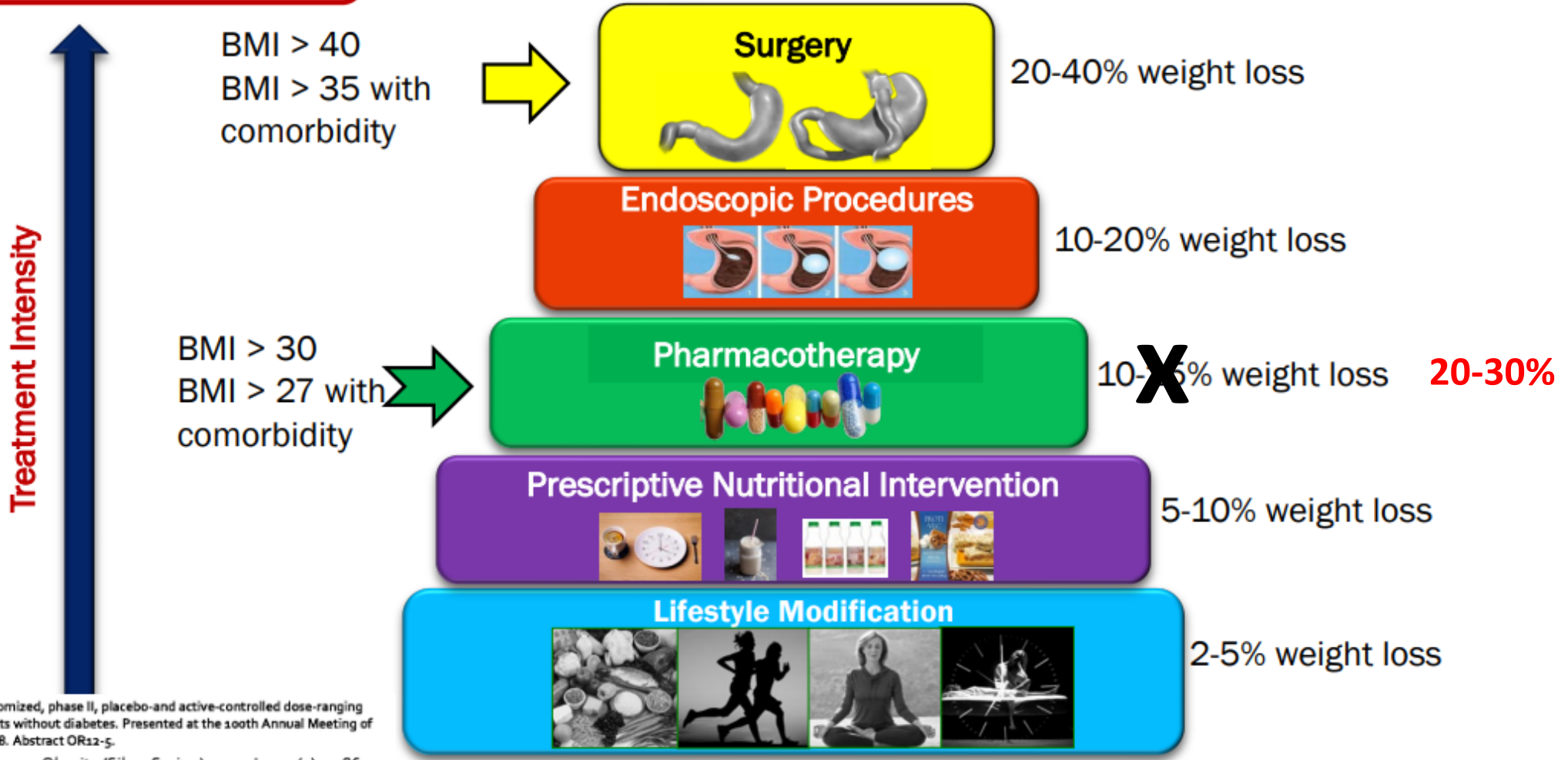
rinology, and
stitute of Dia-
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Ith, Bethesda,
contacted at
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ADIPOSE TISSUE IS AN UNDERAPPRECIATED AND MISUNDERSTOOD ORGAN. Capable of more than doubling in mass and then returning to baseline,¹ white adipose tissue (WAT) continues to play an essential role in the development of humans. WAT efficiently stores sufficient energy to free us from constantly seeking food, permitting us to devote our physical and mental efforts to



Increasing health risks
Increasing adiposity

Obesity Treatment Pyramid ~~X~~



1. O'Neil PM, Birkenfield AL, McGowan B, et al. A randomized, phase II, placebo-and active-controlled dose-ranging study of semaglutide for treatment of obesity in subjects without diabetes. Presented at the 100th Annual Meeting of The Endocrine Society, Chicago, Illinois; March 18, 2018. Abstract OR12-5.
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 3. JAMA Surg. 2016 Nov 1;151(11):1046-1055.
 4. Obesity (Silver Spring). 2011 Jan; 19(1): 110-120.



Estimated minimum prices and lowest available national prices for antiobesity medications: Improving affordability and access to treatment

Jacob Levi Junzheng Wang, Francois Venter, Andr

First published: 23 February 2023 | <https://doi.org/>

IMPROVING AFFORDABILITY AND ACCESS TO TREATMENT

TABLE 1 Comparison of antiobesity medications showing treatment effect from RCTs, highest and lowest available national prices, and estimated minimum price per course

Drug (route) [course duration]	Average weight loss on treatment vs. placebo, % (kg) [study duration]	Highest national price	Lowest national price	Estimated minimum price
<i>Oral treatments</i>				
Orlistat (PO) [120 mg TDS for 30 days]	Treatment –8.8% (–8.7 kg) vs. placebo –5.7% (–5.8 kg) [after 52 weeks] [20]	\$100 (US VETS)	\$1 (Vietnam)	\$7
Naltrexone-bupropion (PO) [8 mg/90 mg QDS for 30 days]	Treatment –6.4% (–6.2 kg) vs. placebo –1.9% (–1.3 kg) [after 56 weeks] [21]	\$326 (US PHARM)	\$56 (South Africa)	\$54
Topiramate-phentermine (PO) [92/15 mg/d for 30 days]	Treatment –9.8% (–10.2 kg) vs. placebo –1.2% (–1.4 kg) [after 56 weeks] [22]	\$199 (US PHARM)	\$1.3 (Kenya)	\$1.4–\$5
Semaglutide (PO) [14 mg/d for 30 days]	Treatment –5.3% (–5.0 kg) vs. placebo –1.3% (–1.2 kg) [after 20 mg OD for 26 weeks, in patients with T2DM] [23]	\$578 (US VETS)	\$65 (India)	NA
<i>Subcutaneous treatments</i>				
Semaglutide (S/C) [2.4 mg/wk, price calculated for 10.25 mg per 30 days]	Treatment –14.9% (–15.3 kg) vs. placebo –2.4% (–2.6 kg) [after 68 weeks] [10, 24],	\$804 (US PHARM)	\$95 (Turkey)	\$40
Liraglutide (S/C) [3 mg OD for 30 days]	Treatment –8.0% (–8.4 kg) vs. placebo –2.8% (–2.8 kg) [after 3 mg OD for 56 weeks] [25]	\$1418 (US PHARM)	\$252 (Norway)	\$50
Tirzepatide (S/C) [15 mg once weekly, price calculated for 12.67 mg per 30 days]	Treatment –20.9% (–21.4 kg) vs. placebo –3.1% (–3.2 kg) [after 72 weeks] [11]	\$1100.70 (US PHARM)	\$715.56 (US VETS)	NA





 57 Comments

HEALTH

Ozempic users say weight loss ‘wonder drug’ curbs cravings for booze, cigarettes, gambling

By [Marc Lallanilla](#)

Published Aug. 28, 2023 | Updated Aug. 29, 2023, 1:26 p.m. ET



- Alcohol intake
- Binge eating and impulse snacking
- Cigarette smoking, use of other tobacco products
- Use of vaping products
- Impulse and “shopaholic” buying
- Nail biting
- Opioid use
- Gambling



HIV and Obesity: New epidemics



The bigger, the worse

2

World, overweight and obesity forecasts

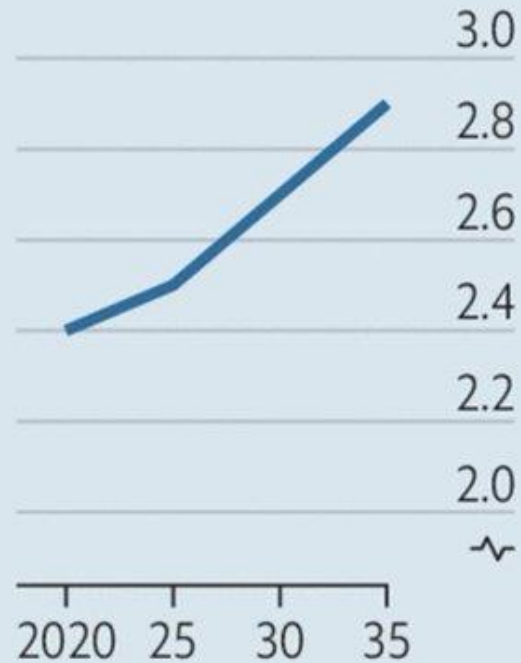
Share of population

%



Economic cost

% of GDP



Source: World Obesity Federation

*Estimate



South African epidemic



Percentage of women and men age 15+ who have a BMI ≥ 35

■ Women ■ Men

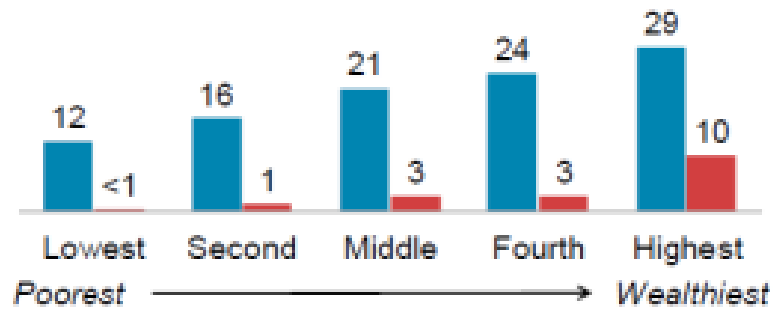


Figure 3: BMI threshold in South African adults by household wealth



HIV and Obesity: Big impact on SA health

* Type II diabetes # 1 killer of women; TB #1 killer of men



Global Health Action



ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/zgha20>

Estimating the healthcare cost of overweight and obesity in South Africa

Micheal Kofi Boachie, Evelyn Thsehla, Mustapha Immurana, Ciaran Kohli-Lynch & Karen J Hofman

.... equivalent to 0.67% of GDP. Annual per person cost of overweight and obesity is ZAR2,769.



HIV and Obesity: Science understanding is evolving



What is a “healthy diet”?

- move away from processed foods with additives
- all diets associated with weight loss, all temporary

HEALTH

A Call for a Low-Carb Diet

By ANAHAD O'CONNOR SEPT. 1, 2014



THE LANCET

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The Lancet, Volume 384, Issue 9953, Pages 1479 - 1480, 25 October 2014
doi:10.1016/S0140-6736(14)61413-6 [Cite or Link Using DOI](#)

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Low carbohydrate diets: going against the grain

[Jim Mann](#), [Rachael McLean](#), [Murray Skeaff](#), [Lisa Te Morenga](#)

Low carbohydrate high fat (LCHF) diets continue to attract media attention, despite a substantial amount of disconfirming evidence that such diets do not reduce disease risk.

THE LANCET Diabetes & Endocrinology

PDF

Long-Term Effects of 4 Popular Diets on Weight Loss and Cardiovascular Risk Factors: A Systematic Review of Randomized Controlled Trials

Circ Cardiovasc Qual Outcomes, 2014;CIRCOUTCOMES.113.000723 published online before print November 11 2014,

Home » Low-Carb Diet » 23 Studies on Low-Carb and Low-Fat Diets – Time to Retire The Fad

23 Studies on Low-Carb and Low-Fat Diets – Time to Retire The Fad

October 15, 2013 | by Kris Gunnars | 104,408 views | C

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 APRIL 4, 2013 VOL. 368 NO. 14

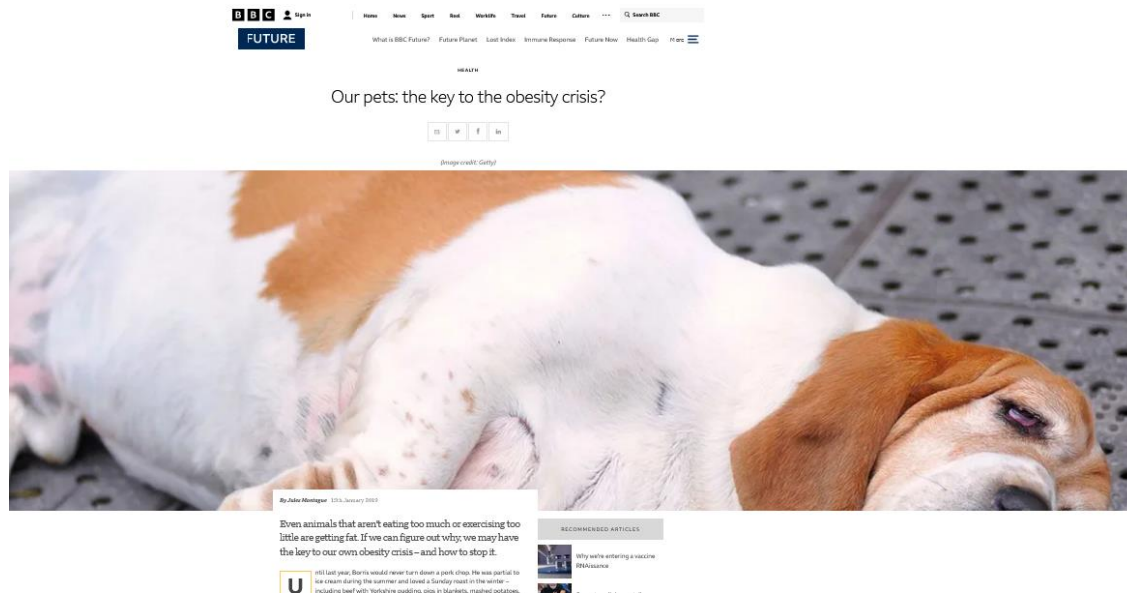
Primary Prevention of Cardiovascular Disease with a Mediterranean Diet

Ramón Estruch, M.D., Ph.D., Emilio Ros, M.D., Ph.D., Jordi Salas-Salvadó, M.D., Ph.D., María Teresa Barón-Arias, Ph.D., Dolores Corella, Ph.D., Begoña de la Cruz, M.D., Ph.D.,



Our pets are also getting larger...

- “Even animals that aren’t eating too much or exercising too little are getting fat.”
- “The worldwide prevalence of pet obesity lies between 22% and 44%, and rates seem to be rising.”



VetRecord

Letters and notices | [Open Access](#) | [©](#) | [i](#)

Dangerous trends in pet obesity

Alexander J. German [✉](#) Georgiana R. T. Woods, Shelley L. Holden, Louise Brennan, Caroline Burke

First published: 06 January 2018 | <https://doi.org/10.1136/vr.k2> | Citations: 42



HIV and Obesity: Prevention is (very) complicated



Reasons for obesity

- **Lay public and most health workers: poor self control, laziness, not enough exercise – its your fault**
- **Obesity experts – social determinants, genes, modern food – it's the environment, stupid**

elemental⁺

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Americans Are Heavier Than Ever — But Not for the Reasons You Think

Hint: it's not about willpower, calories, or exercise



Brandy L. Schillace · 4 days ago · 6 min read · ★



HIV : Genes, environment

- HIV and targets: Professor Jennifer Cohen, Global and Intercultural Studies at Miami University: “Its capitalism, stupid”.



VIEWPOINT

The same lesson over and over: drugs alone will not get us to 90–90–90

Jennifer Cohen^{a,b}, Toby Pepperrell^c and Willem Daniel Francois Venter^b

Addressing social determinants of health (SDH) has far greater potential to improve the real-world effectiveness of HIV treatment than expensive, incremental changes in antiretroviral therapy. The ADVANCE study demonstrates that SDH is more impactful

Brennan AT et al. *Journal of the International AIDS Society* 2019, 22:e25358
<http://onlinelibrary.wiley.com/doi/10.1002/jia2.25358/full> | <https://doi.org/10.1002/jia2.25358>

JIAS
JOURNAL OF THE
INTERNATIONAL AIDS SOCIETY

SHORT REPORT

Who is seeking antiretroviral treatment for HIV now? Characteristics of patients presenting in Kenya and South Africa in 2017-2018

Alana T Brennan^{1,2,3*}, Mhairi Maskew^{3*}, Bruce A Larson^{1,8*}, Isaac Tsikhutsu^{4,5}, Margaret Bii^{4,5}, Lungisile Vezi³, Matthew P Fox^{1,2,3}, Willem DF Venter⁶, Peter Ehrenkrantz⁷ and Sydney Rosen^{1,3*}

*Corresponding author: Bruce A Larson, 801 Massachusetts Avenue, Boston, MA 02118, USA. Tel: +1 617 414 1267. (blarson@bu.edu)
*These authors have contributed equally to the work
Clinical Trial Number: NCT02891135 and NCT03315013

Obesity: Genes, environment

- Professor Jeff Wing, endocrinologist: “Choose your parents carefully”



- Growing consensus that obesity due to food constituent change



Obesity

- Not a single country has reversed it's epidemic





HIV and Obesity: Denialism in government and society is a major issue





“Those of us who live affluent lives, well-attended by medical care and treatment, should not ask how Germans or white South Africans could tolerate living in proximity to moral evil. We do so ourselves today, in proximity to the impending illness and death of many millions of people with AIDS.”

Edwin Cameron



Outbreak of Listeriosis in South Africa Associated with Processed Meat

J. Thomas, N. Govender, K.M. McCarthy, L.K. Erasmus, T.J. Doyle, M. Allam, A. Ismail, N. Ramalwa, P. Sekwadi, G. Ntshoe, A. Shonhiwa, V. Essel, N. Tau, S. Smouse, H.M. Ngomane, B. Disenyeng, N.A. Page, N.P. Govender, A.G. Duse, R. Stewart, T. Thomas, D. Mahoney, M. Tourdjman, O. Disson, P. Thouvenot, M.M. Maury, A. Leclercq, M. Lecuit, A.M. Smith, and L.H. Blumberg

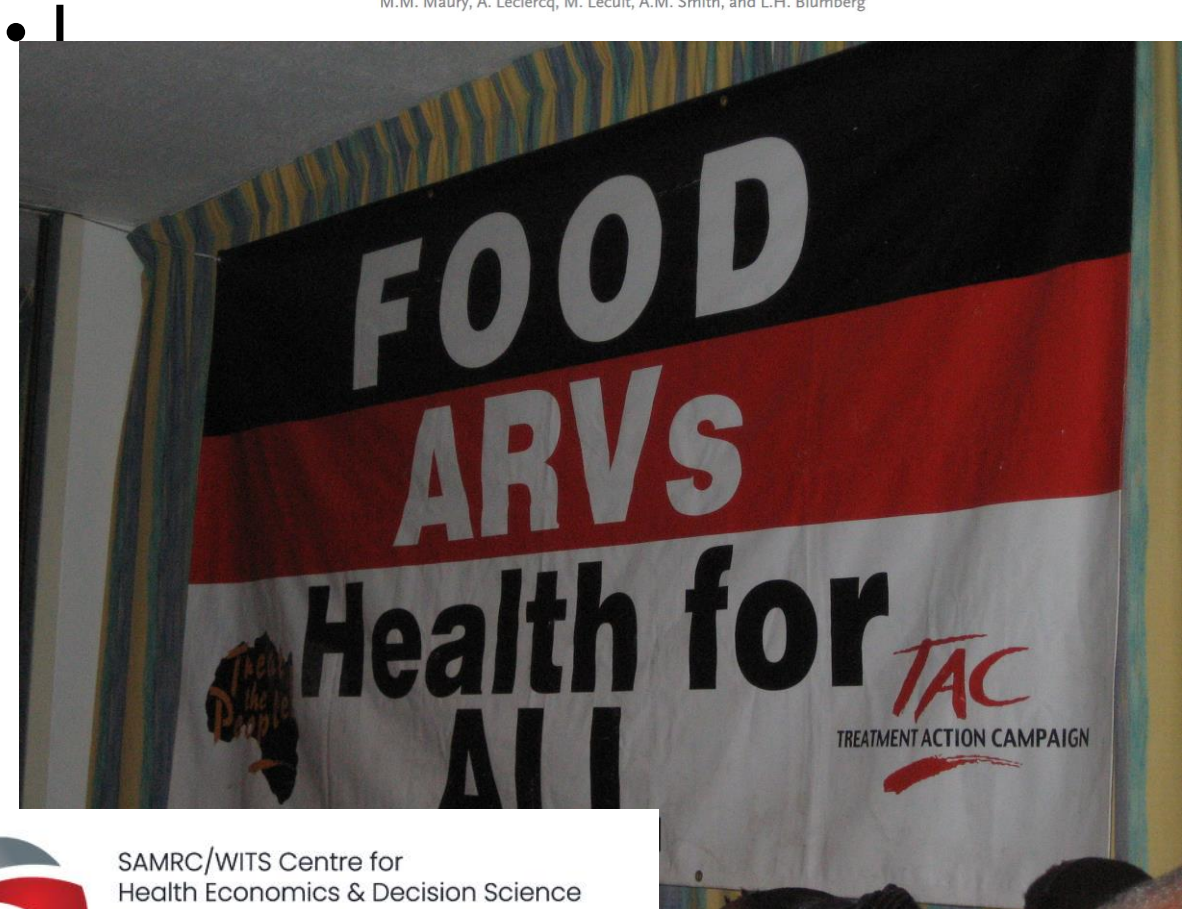
Similar for obesity...



RE: HEALA Technical Public Comment - Draft Regulation
Relating to the Labelling and Advertising of Foodstuffs (R3337)

Dear Director General of Health

HEALA applauds the National Department of Health (NDoH) for taking proactive steps toward improving South Africa's health by empowering all consumers to understand what is in their food to avoid making unhealthy food choices. Food policies¹ that help prevent and



SAMRC/WITS Centre for
Health Economics & Decision Science

PRICELESS SA



So how are HIV and obesity similar?

- Common, complex, hugely important health issues
- Both are preventable but need government intervention
- Both highly dependent on external social factors
- Black women highly vulnerable
- Stigma and blame
- New drugs transformative
- Delivery systems will be the Achilles heel - as they already are in rich countries

