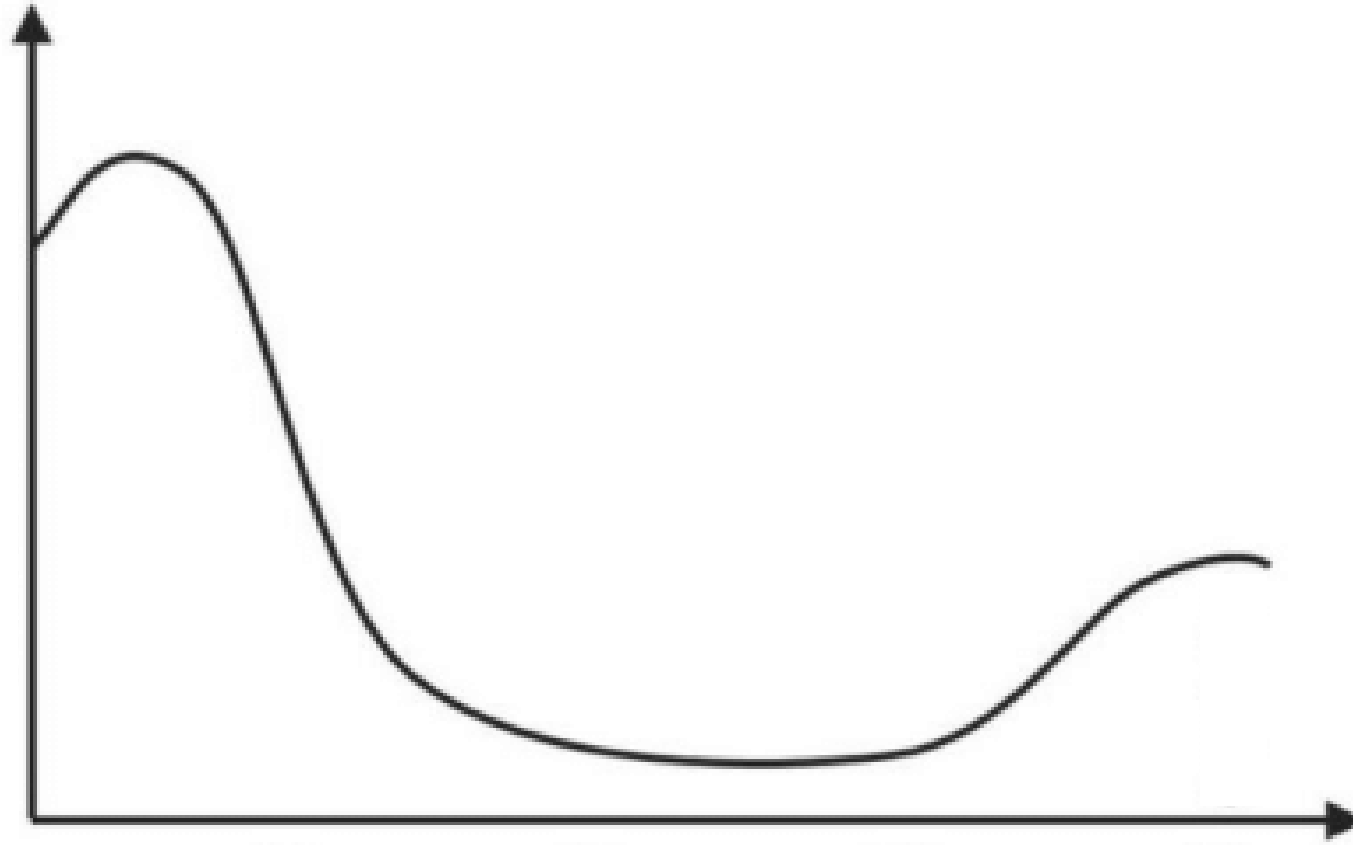


Cost-effective interventions to prevent and control NCDs

Dr Robert Totanes
Technical Officer
World Health Organization
totanesr@who.int



OBJECTIVES

By the end of the presentation, to be familiar with:

1. the meaning and significance of the term “**NCD Best Buys**”
2. the general principles of cost-effectiveness analyses and the process of updating Appendix 3 of the NCD Global Action Plan
3. the economic case for implementing the NCD Best Buys, and in particular health taxes

You can forget everything, **EXCEPT:**



- Health taxes are **some of the most highly cost-effective** interventions to address the NCD risk factors
- Impact / benefits from health taxes are likely understated, considering **revenue potential** and **possibility to do periodic tax increases**

What is “Appendix 3”?

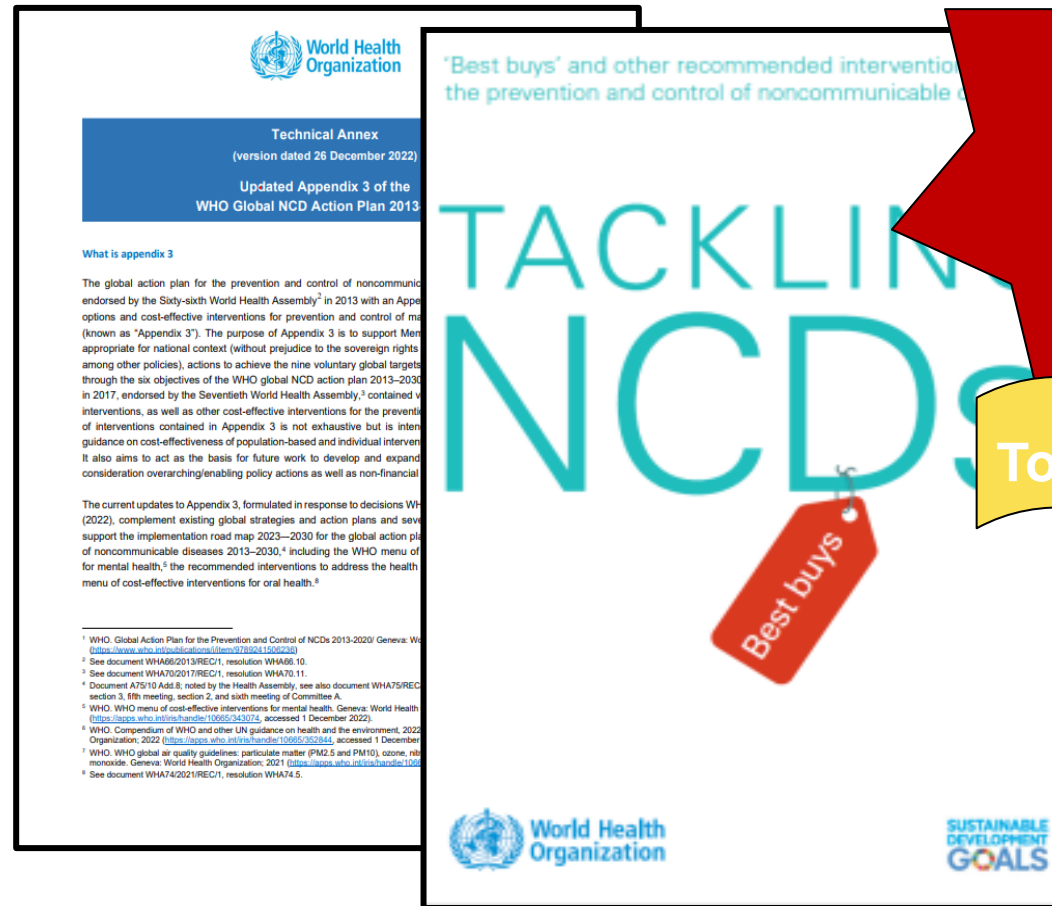
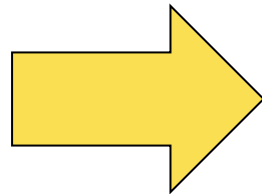
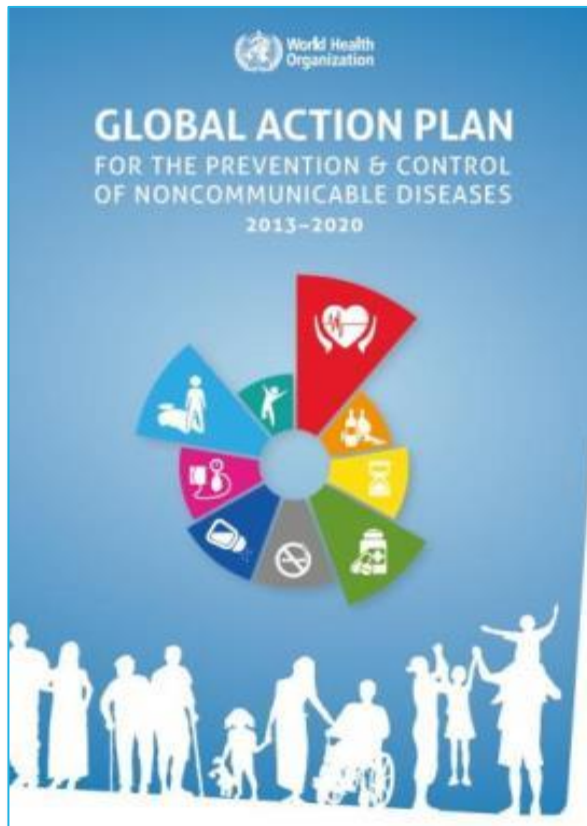


- Menu of policy options to support the implementation of the 6 objectives of the WHO Global NCD Action Plan 2013-2030¹
- Initial list of interventions as an Appendix to WHO Global NCD Action Plan 2013-2020, endorsed by WHA 66.10 resolution in 2013
- Provides guidance on the effectiveness and cost-effectiveness of selected population-based and individual interventions

¹ As per decision WHA72(11) in 2019 the period of the NCD GAP has been extended to 2030

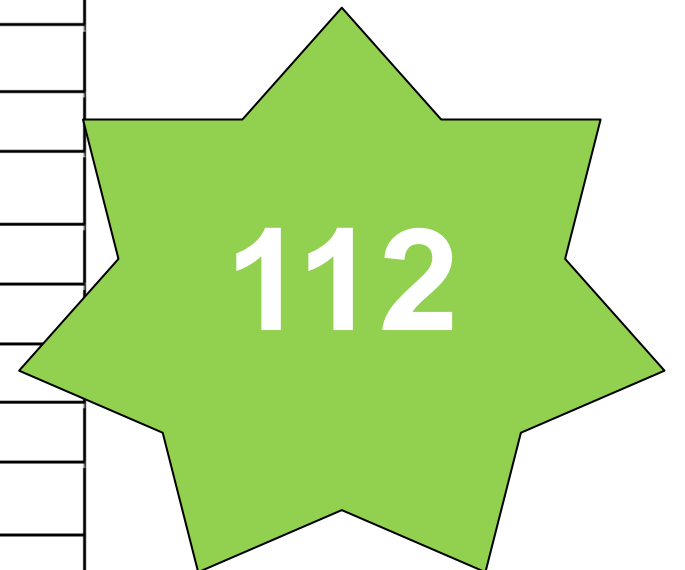
Updated Appendix 3 available at: https://cdn.who.int/media/docs/default-source/nods/mnd/2022-app3-technical-annex-v26jan2023.pdf?sfvrsn=62581aa3_5

The Global Action Plan for the Prevention & Control of NCDs



Interventions and Overarching / Enabling Actions to Prevent and Control NCDs

Interventions	Overarching/enabling actions	Interventions with WHO-CHOICE analysis	Interventions without WHO-CHOICE analysis
Objective 3			
Tobacco	3	7	2
Harmful use of alcohol	4	5	6
Unhealthy diet	2	7	4
Physical inactivity	5	2	5
Objective 4			
Cardio-vascular diseases	8	13	7
Diabetes		6	2
Chronic respiratory diseases		4	4
Cancer		14	2
Total	22	58	32



Rationale for the Best Buys and Updating Appendix 3

Information

Add new interventions

Prioritization

Revise current ones

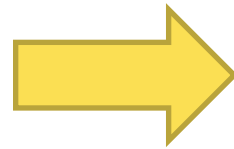
Acceleration

Consider new evidence

Key Changes Between 2017 and 2023

88

interventions, including
overarching/enabling
actions

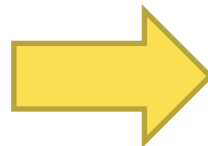


112

interventions, including
overarching/enabling
actions

36

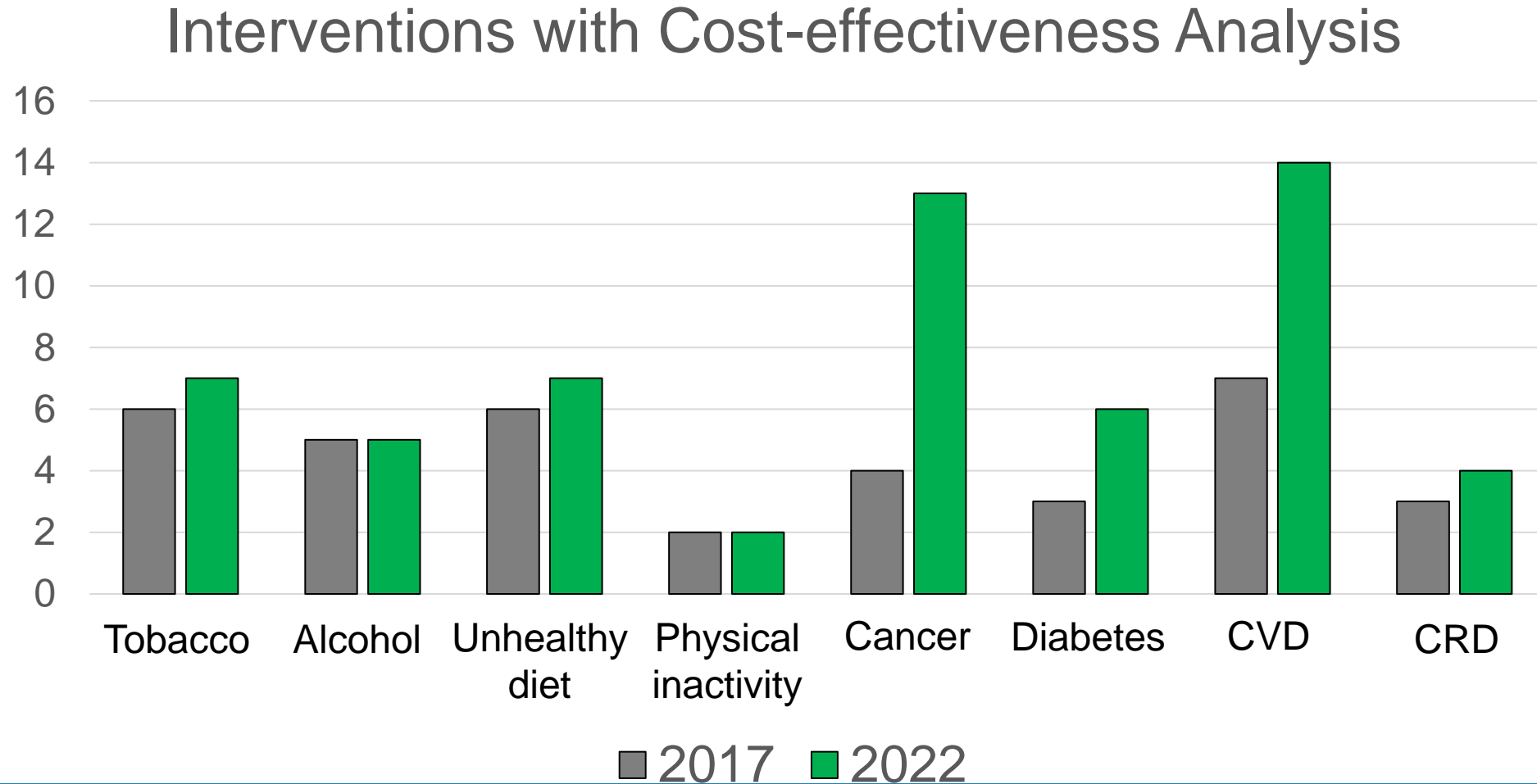
interventions with
cost-effectiveness
analysis (CEA)



58

interventions with
cost-effectiveness
analysis (CEA)

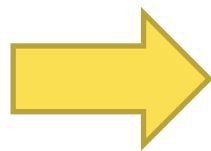
Key Changes Between 2017 and 2023



Key Changes Between 2017 and 2023

20

countries
(LICs, LMICs, UMICs, HICs)



62

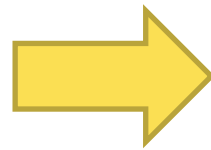
countries
(NO HICs)

L/LMIC	UM/HIC
Bangladesh	China
Ethiopia	Germany
Guatemala	Iran
India	Japan
Indonesia	Mexico
Nigeria	Russia
Pakistan	South Africa
Philippines	Thailand
Ukraine	Turkey
Vietnam	United States

Afghanistan	China	Guatemala	Madagascar	Pakistan	Togo
Algeria	Colombia	Guinea	Malawi	Peru	Turkey
Angola	Côte d'Ivoire	Guinea-Bissau	Malaysia	Philippines	Uganda
Argentina	DR Congo	Haiti	Mali	Russia	Ukraine
Bangladesh	Dominican Republic	India	Mexico	Rwanda	Tanzania
Brazil	Ecuador	Indonesia	Morocco	Sierra Leone	Uzbekistan
Burkina Faso	Egypt	Iran	Mozambique	South Africa	Viet Nam
Burundi	Eritrea	Iraq	Myanmar	Sri Lanka	
Cameroon	Ethiopia	Jordan	Nepal	Sudan	
CAR	Gambia	Kazakhstan	Niger	Tajikistan	
Chad	Ghana	Kenya	Nigeria	Thailand	

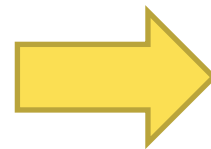
Key Changes Between 2017 and 2023

Results aggregated for
all 20 countries



Results for each of the 3 income
categories: **LICs, LMICs, UMICs**

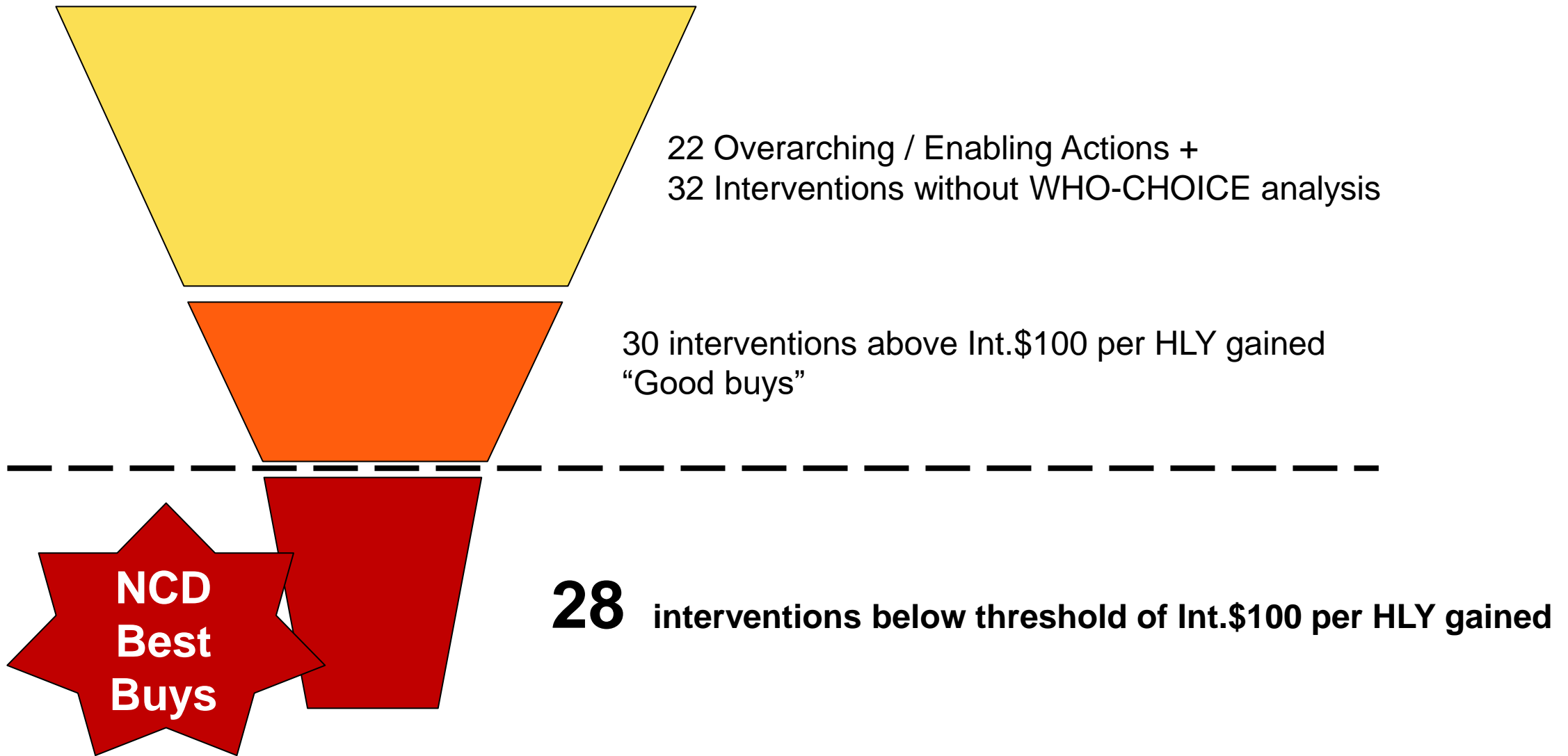
16



28

Interventions below
I\$100 per DALY
threshold

Interventions below I\$100
per HLY gained threshold in
L/LMICs



The NCD Best Buys

- **A set of the most cost-effective interventions to tackle NCDs**
 - Interventions delivering the **most health benefits while costing the least**
- Part of a larger menu of recommended policy options for countries *to consider* implementing
- Should be adapted to the local context: epidemiology, costs, impact
- Dynamic: evolving data and information
- Use health & econ analyses as tools that can help decision making

Tobacco

1. Increase tobacco taxes and prices
2. Smoke-free policies
3. Graphic health warnings / plain packaging
4. Advertising, promotion & sponsorship bans
5. Mass media campaigns
6. Offer cessation services

Alcohol

7. Increase taxes
8. Restrictions on advertising
9. Regulations on availability and physical access

Unhealthy Diet

10. Reformulation policies (inc. TFA elimination)
11. Front-of-pack labelling
12. Food procurement and service policies
13. BCC and mass media campaigns
14. Protect children from harmful impact of food marketing
15. Protection, promotion, support of optimal breastfeeding practices

PA

16. Sustained communication campaigns

17. Develop register for secondary prevention of rheumatic fever

18. Acute treatment of asthma exacerbations
19. Acute treatment of COPD exacerbations
20. Long-term management of COPD

21. HPV vaccination
22. Cervical CA: HPV DNA screening
23. Cervical CA: early diagnosis & treatment
24. Breast CA: early diagnosis & treatment
25. Colorectal CA: early diagnosis & treatment
26. Hepatitis B immunization
27. Childhood CAs: early diagnosis & treatment
28. Early detection and comprehensive treatment of cancer for those living with HIV

CVD

CRD

Cancer

Key Changes: Tobacco

Increase excise taxes and prices on tobacco products

Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages

Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship

Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport

Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second hand smoke

Provide cost-covered, effective and population-wide support (including brief advice, national toll-free quit line services) for tobacco cessation to all those who want to quit

Increase excise taxes and prices on tobacco products

Implement large graphic health warnings on all tobacco packages, accompanied by plain/standardized packaging

Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship

Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places and public transport

Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second-hand smoke, and encourage behavioural change

Provision of cost-covered effective population-wide support (including brief advice, national toll-free quit line services and mCessation) for tobacco cessation to all tobacco users

Provision of cost-covered effective pharmacological interventions to all tobacco users who want to quit, through the use of nicotine replacement therapy, bupropion and varenicline.

Implement measures to minimize illicit trade in tobacco products

Ban cross-border advertising, including using modern means of communication

Provide mcessation for tobacco cessation to all those who want to quit

Establish a tracking and tracing system to support the elimination of illicit trade in tobacco products that is in line with Article 8 of the Protocol to Eliminate Illicit Trade in Tobacco Products

Ban cross-border tobacco advertising, promotion and sponsorship, including those through modern means of communication

Key Changes: Unhealthy Diet

Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals

Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided

Reduce salt intake through a behaviour change communication and mass media campaign

Reduce salt intake through the implementation of front-of-pack labelling

Eliminate industrial trans-fats through the development of legislation to ban their use in the food chain

Reduce sugar consumption through effective taxation on sugar-sweetened beverages

Reformulation policies for healthier food and beverage products (for example, elimination of trans-fatty acids and/or reduction of saturated fats, free sugars and/or sodium)

Public food procurement and service policies for healthy diets (for example, to reduce the intake of free sugars, sodium and unhealthy fats, and to increase the consumption of legumes, wholegrains, fruits and vegetables)

Behavioural change communication and mass media campaigns for healthy diets (for example, to reduce the intake of energy, free sugars, sodium, and unhealthy fats, and to increase the consumption of legumes, wholegrains, fruits and vegetables)

Front-of-pack labelling as part of comprehensive nutrition labelling policies for facilitating consumers' understanding and choice of food for healthy diets

Policies to protect children from the harmful impact of food marketing on diet

Protection, promotion and support of optimal breastfeeding practices

Taxation on sugar-sweetened beverages as part of fiscal policies for healthy diets

Key Changes: Unhealthy Diet

Promote and support exclusive breastfeeding for the first 6 months of life, including promotion of breastfeeding

Implement subsidies to increase the intake of fruits and vegetables

Replace trans-fats and saturated fats with unsaturated fats through reformulation, labelling, fiscal policies or agricultural policies

Limiting portion and package size to reduce energy intake and the risk of overweight/obesity

Implement nutrition education and counselling in different settings (for example, in preschools, schools, workplaces and hospitals) to increase the intake of fruits and vegetables

Implement nutrition labelling to reduce total energy intake (kcal), sugars, sodium and fats

Implement mass media campaign on healthy diets, including social marketing to reduce the intake of total fat, saturated fats, sugars and salt, and promote the intake of fruits and vegetables

Subsidies on healthy foods and beverages (for example, fruits and vegetables) as part of comprehensive fiscal policies for healthy diets

Limiting portion and package size for healthy diets (for example, to reduce the intake of energy, free sugars, sodium and/or unhealthy fats)

Nutrition education and counselling for healthy diets in different settings (for example, in preschools, schools, workplaces and hospitals)

Menu labelling in food service for healthy diets (for example, to reduce the intake of energy, free sugars, sodium and/or unhealthy fats)

Key Changes: Cancer

Vaccination against human papillomavirus (2 doses) of 9–13 year old girls

Prevention of cervical cancer by screening women aged 30–49, either through:

- Visual inspection with acetic acid linked with timely treatment of precancerous lesions
- Pap smear (cervical cytology) every 3–5 years linked with timely treatment of pre-cancerous lesions
- Human papillomavirus test every 5 years linked with timely treatment of pre-cancerous lesions

Treatment of cervical cancer stages I and II with either surgery or radiotherapy +/- chemotherapy

Treatment of breast cancer stages I and II with surgery +/- systemic therapy

Screening with mammography (once every 2 years for women aged 50–69 years) linked with timely diagnosis and treatment of breast cancer

Treatment of colorectal cancer stages I and II with surgery +/- chemotherapy and radiotherapy

Vaccination against human papillomavirus (1–2 doses) of 9–14-year-old girls

Cervical cancer: human papillomavirus DNA screening, starting at the age of 30 years with regular screening every 5–10 years (using a screen-and-treat approach or screen, triage and treat approach)

Cervical cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment

Breast cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment

Breast cancer: screening with mammography (once every two years for women aged 50–69 years) linked with timely **diagnostic work-up and comprehensive breast cancer treatment** in settings where a mammographic screening programme is recommended

Colorectal cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment

Key Changes: Cancer

Prevention of liver cancer through hepatitis B immunization

Basic palliative care for cancer: home-based and hospital care with multidisciplinary team and access to opiates and essential supportive medicines

Oral cancer screening in high-risk groups (for example, tobacco users, betel-nut chewers) linked with timely treatment

Population-based colorectal cancer screening, including through a faecal occult blood test, as appropriate, at age >50, linked with timely treatment

Childhood cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment, focusing on six index cancers of WHO's Global initiative for childhood cancer

Early detection & comprehensive treatment of cancer for those living with HIV

Prevention of liver cancer through hepatitis B immunization

Basic palliative care for cancer: home-based and hospital care with multidisciplinary teams and access to opiates and essential supportive medicines

Oral cancer: early detection programme of oral cancer, including, as appropriate, targeted screening programme for high-risk groups in selected settings, according to disease burden and health system capacities linked with comprehensive cancer management

Colorectal cancer screening: population-based programmes, by means including stool-based tests, as appropriate, at age >50 years, linked with timely treatment in settings where a screening programme is recommended

Prostate cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment

Head and neck cancers including oral cancers: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment

Influenza vaccination for patients with cancer

COVID-19 vaccination for patients with cancer

Key Changes: Chronic Respiratory Disease

Symptom relief for patients with asthma with inhaled salbutamol

Symptom relief for patients with chronic obstructive pulmonary disease with inhaled salbutamol

Treatment of asthma using low dose inhaled beclometasone and short acting beta agonist

Acute treatment of exacerbations of asthma with inhaled bronchodilators and oral steroids

Acute treatment of exacerbations of chronic obstructive pulmonary disease with inhaled bronchodilators and oral steroids

Long-term management of chronic obstructive pulmonary disease with inhaled bronchodilator

Long-term management of asthma with inhaled bronchodilator and low-dose beclometasone

Access to improved stoves and cleaner fuels to reduce indoor air pollution

Cost-effective interventions to prevent occupational lung diseases, for example, from exposure to silica, asbestos

Influenza vaccination for patients with chronic obstructive pulmonary disease

Access to improved stoves and cleaner fuels to reduce indoor air pollution

Cost-effective interventions to prevent occupational lung diseases, for example, from exposure to silica and asbestos

*Seasonal influenza vaccination for people with chronic **respiratory disease***

COVID-19 vaccination for people with chronic respiratory diseases

Key Changes Between 2017 and 2023

Expanded Best Buys now include:

- tobacco cessation interventions
- elimination of TFA under reformulation policies; promotion of breastfeeding; protecting children from harmful marketing
- secondary prevention of rheumatic fever and rheumatic heart disease
- early diagnosis and treatment of multiple cancers
- acute treatment of asthma and COPD, and long-term management of COPD

Tobacco

1. Increase tobacco taxes and prices
2. Smoke-free policies
3. Graphic health warnings / plain packaging
4. Advertising, promotion & sponsorship bans
5. Mass media campaigns
6. Offer cessation services

Alcohol

7. Increase taxes
8. Restrictions on advertising
9. Regulations on availability and physical access

Unhealthy Diet

10. Reformulation policies (inc. TFA elimination)
11. Front-of-pack labelling
12. Food procurement and service policies
13. BCC and mass media campaigns
14. Protect children from harmful impact of food marketing
15. Protection, promotion, support of optimal breastfeeding practices

PA

16. Sustained communication campaigns

17. Develop register for secondary prevention of rheumatic fever

18. Acute treatment of asthma exacerbations
19. Acute treatment of COPD exacerbations
20. Long-term management of COPD

21. HPV vaccination
22. Cervical CA: HPV DNA screening
23. Cervical CA: early diagnosis & treatment
24. Breast CA: early diagnosis & treatment
25. Colorectal CA: early diagnosis & treatment
26. Hepatitis B immunization
27. Childhood CAs: early diagnosis & treatment
28. Early detection and comprehensive treatment of cancer for those living with HIV

CVD

CRD

Cancer

Timeline

1st WHO discussion paper published for web-based consultation (June 1)

1st consultation with Member States (June 20) and non-State actors (June 21)

2nd consultation with Member States (Sept 16) and non-State actors (Sept 19)

WHA76 will be invited to endorse the 2022 update of Appendix 3

Oct 2021-Jan 2022

1 August-28 Aug 2022

Jan 2023

1-26 June 2022

16-20 Sept 2022

May 2023

Review and update of list of interventions & validation by technical units across WHO

2nd WHO discussion paper published for web-based consultation (Aug. 28)

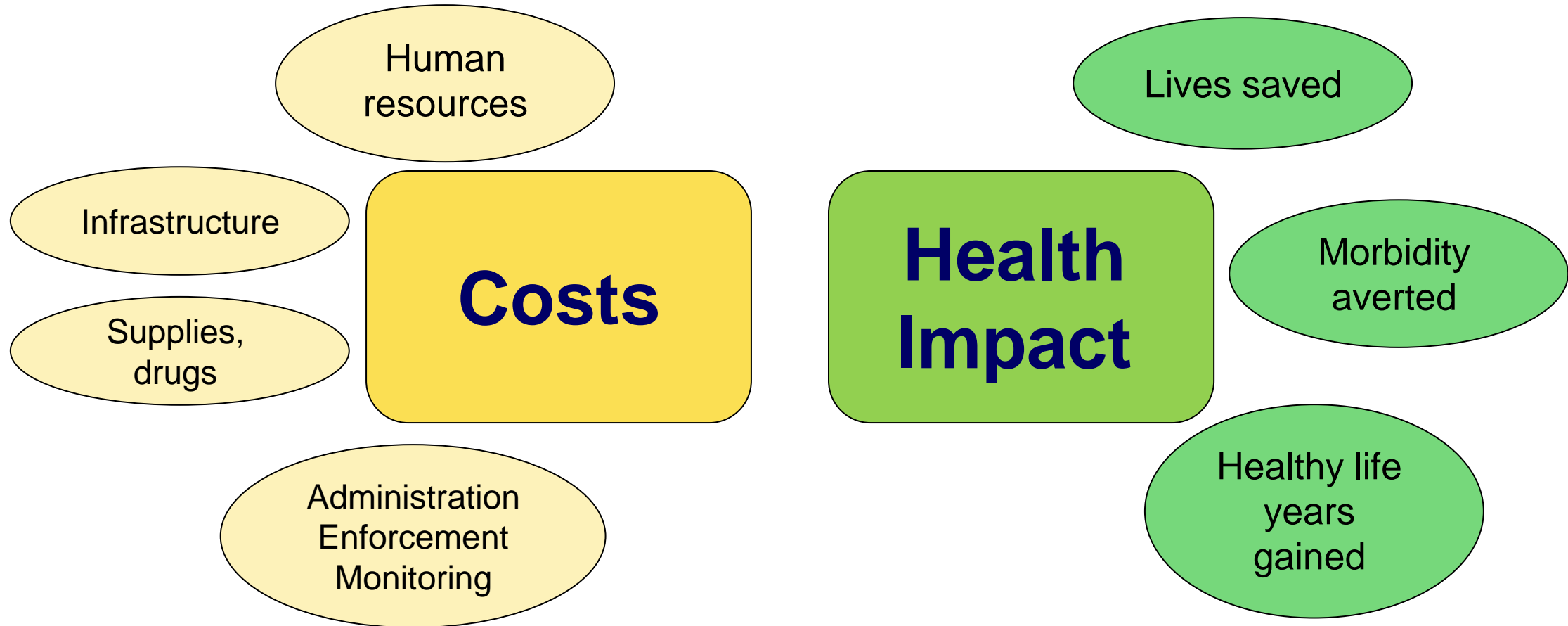
EB152 recommends consideration of decision to WHA76

Analysis (Feb-July 2022)

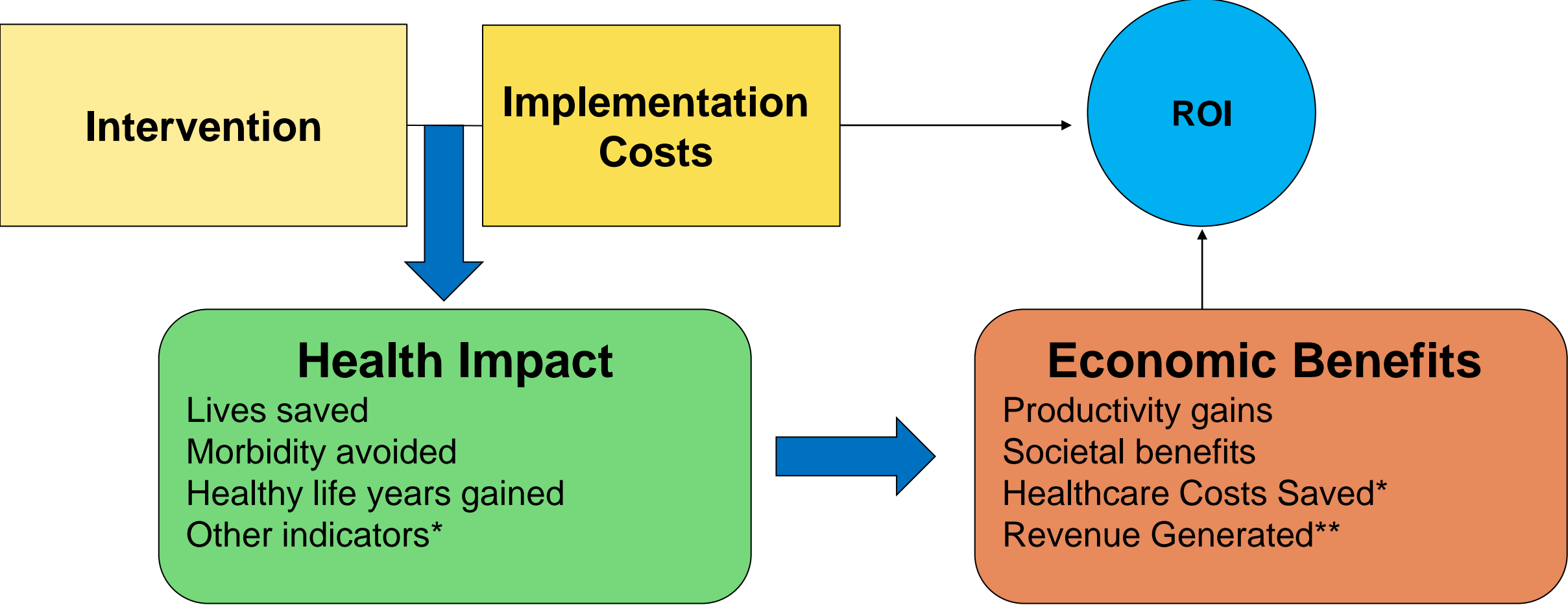
Key Changes Between 2017 and 2023

- Confirmed Appendix 3 updates within technical purview of WHO
 - No need for endorsement at WHA by Member States
- Possibility of more frequent updates as new evidence / studies come in
- WHO secretariat is setting up the new process for updating the list of interventions

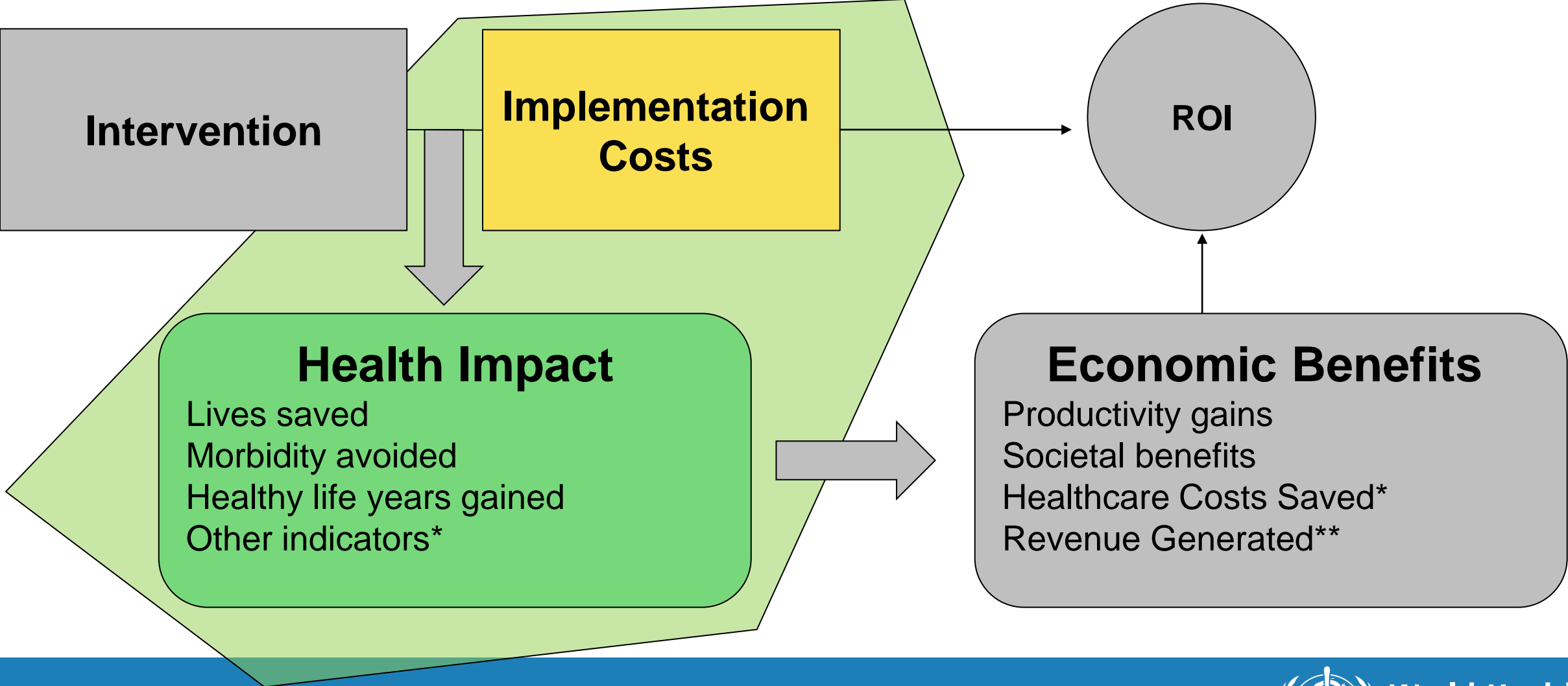
Cost-effectiveness analysis



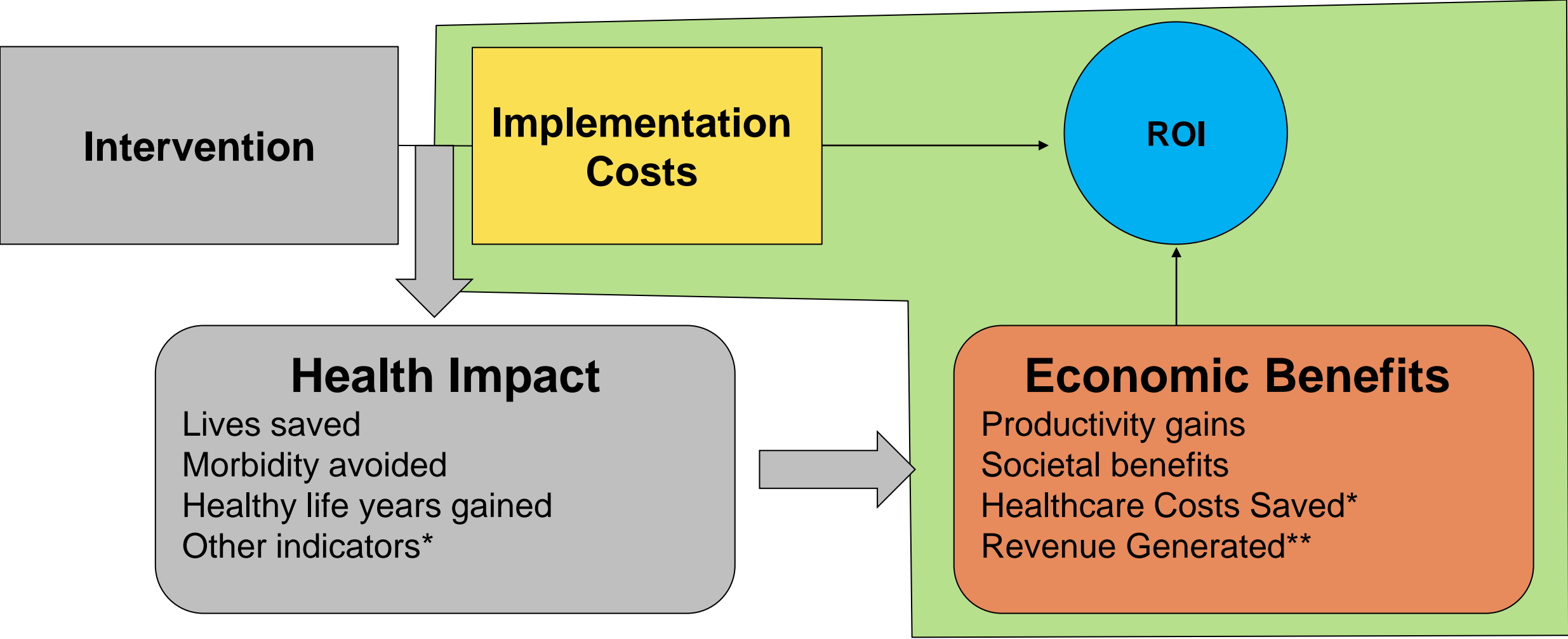
Cost-Effectiveness vs Cost Benefit Analysis



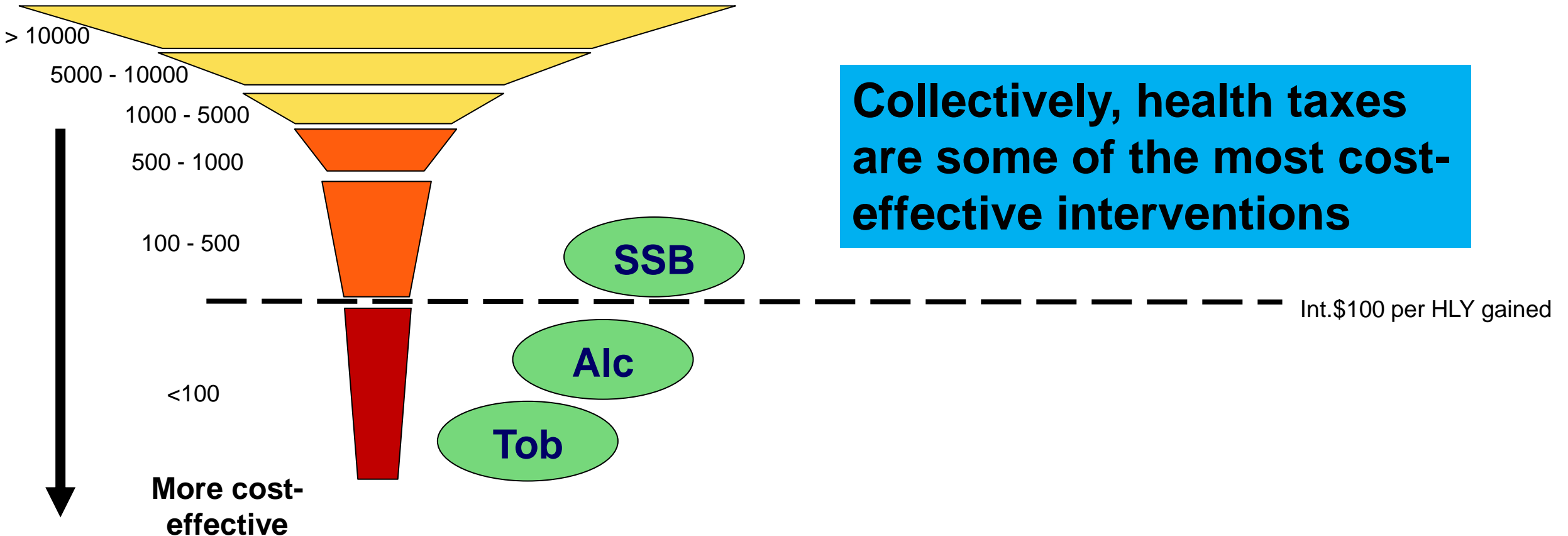
Cost-Effectiveness Analysis (i.e. Appendix 3 GCEA)



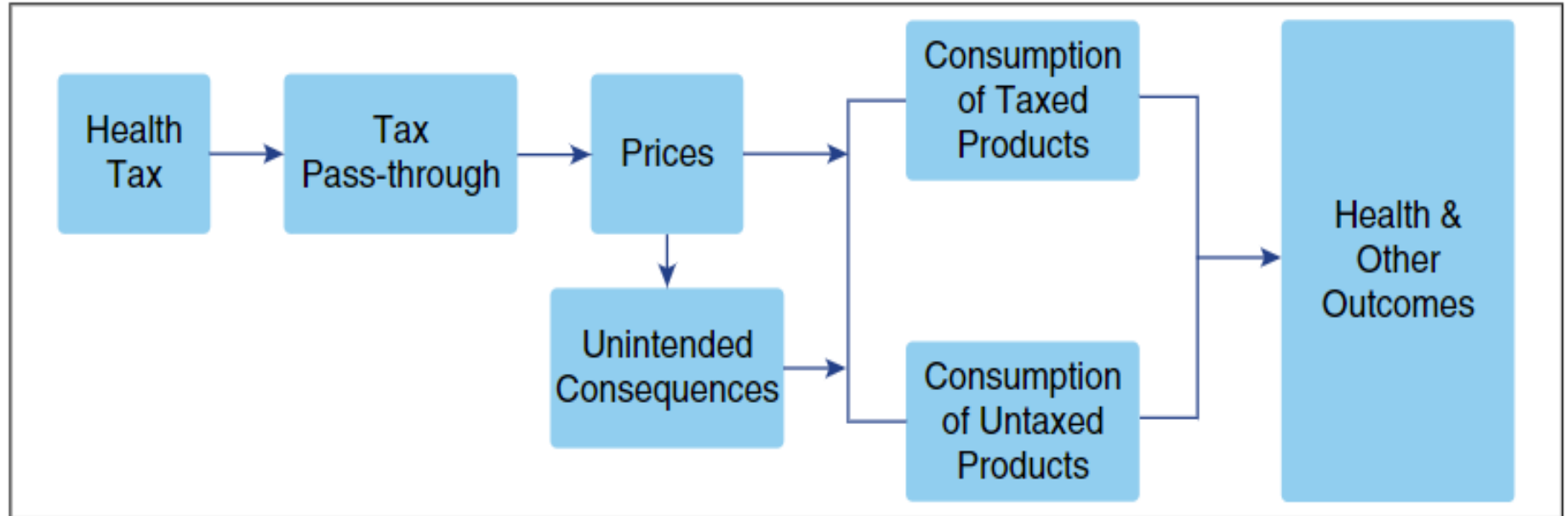
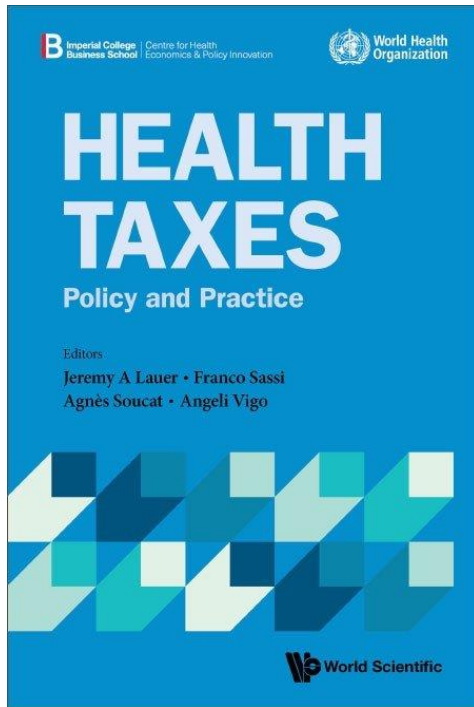
Cost-Benefit Analysis (as in Investment Cases)



Cost-effectiveness of Health Taxes



Impact of Health Taxes

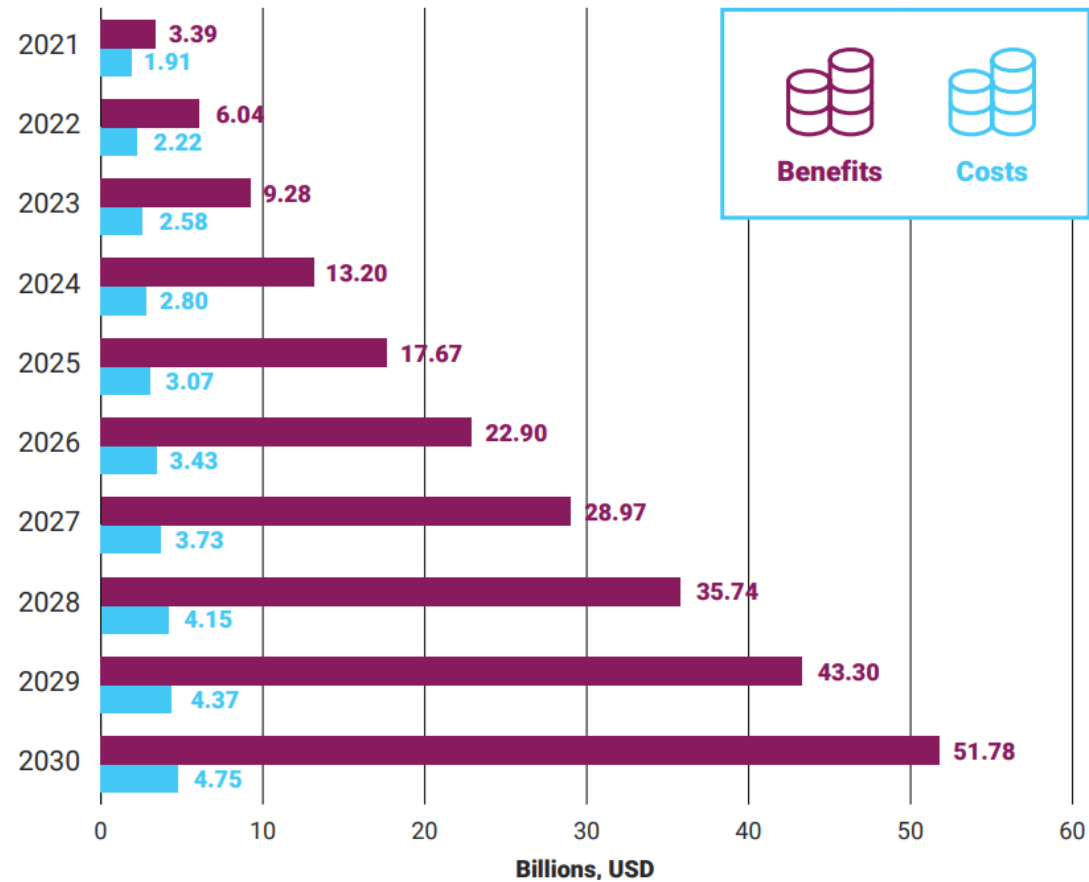


What's so special with Health Taxes?

- Very high impact
- Relatively low cost
- Revenue potential
- Can have a positive impact on equity
- Possibility of periodic increases – can be increased/adjusted as needed

An Investment with Increasing Returns

Value of Economic and Social Benefits vs. Costs of Implementing the 16 NCD Best Buys



Based on an ambitious scale-up pattern for all 76 LICs and LMICs included in the analysis, where all policy interventions are immediately implemented and pharmaceutical interventions reach 50% coverage in 2030. Many of the investments needed are in prevention activities. Further details of the assumptions and analytic process are detailed in the accompanying methods document.

- Investing in the NCD Best Buys through to 2030 means countries will accrue valuable long-term benefits
- Investing earlier increases the potential benefits gained
- Measures include those that can actively generate tax revenue for governments

OBJECTIVES

By the end of the presentation, to be familiar with:

1. the meaning and significance of the term “**NCD Best Buys**”
2. the general principles of cost-effectiveness analyses and the process of updating Appendix 3 of the NCD Global Action Plan
3. the economic case for implementing the NCD Best Buys, and in particular health taxes

You can forget everything else, **EXCEPT:**



- Health taxes are **some of the most highly cost-effective** interventions to address the NCD risk factors
- Impact / benefits from health taxes are likely understated, considering **revenue potential** and **possibility to do periodic tax increases**

THANK YOU!

Dr Robert Totanes
Technical Officer
World Health Organization
totanesr@who.int