

**BREACH**  
BELGIAN RESEARCH AIDS&HIV CONSORTIUM

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# Modeling the Added Value of AIDS Reference Centers



## FAST-TRACK

ENDING THE AIDS EPIDEMIC BY **2030**

### | Objectives 95-95-95:

- | Reduce undiagnosed
- | Improve continuum of care

### | Improve quality of life

- | “The fourth 95”

### | Reduce stigma and discrimination

by 2020

**90-90-90**

Treatment

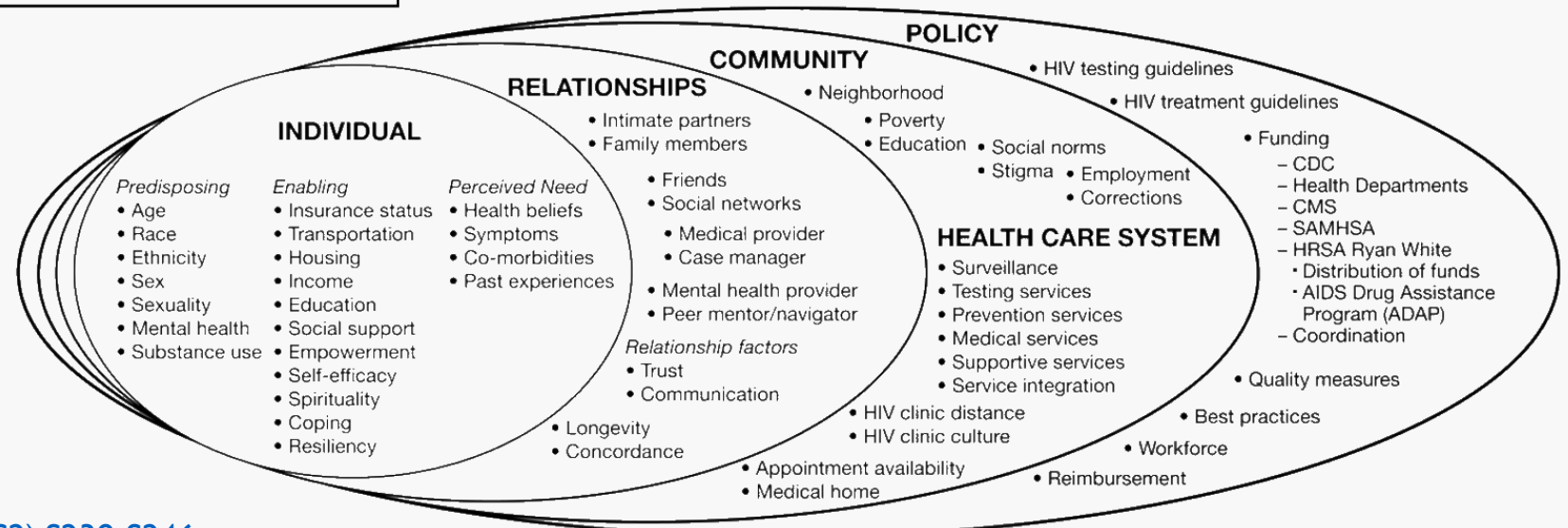
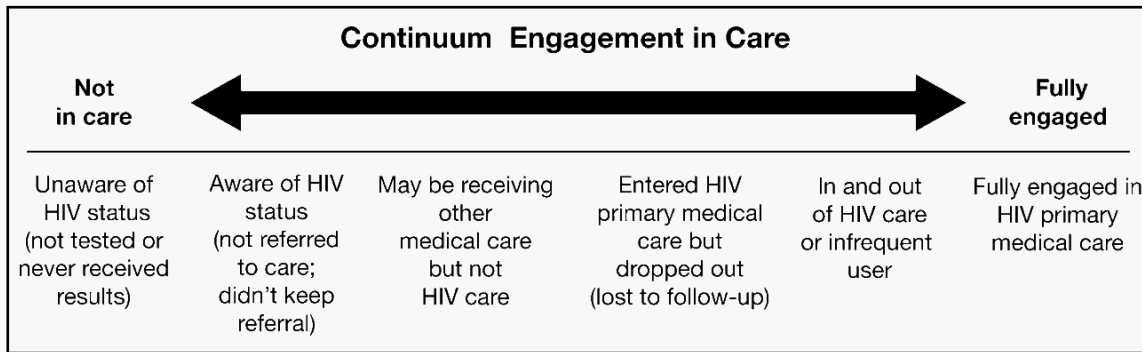
by 2030

**95-95-95**

Treatment

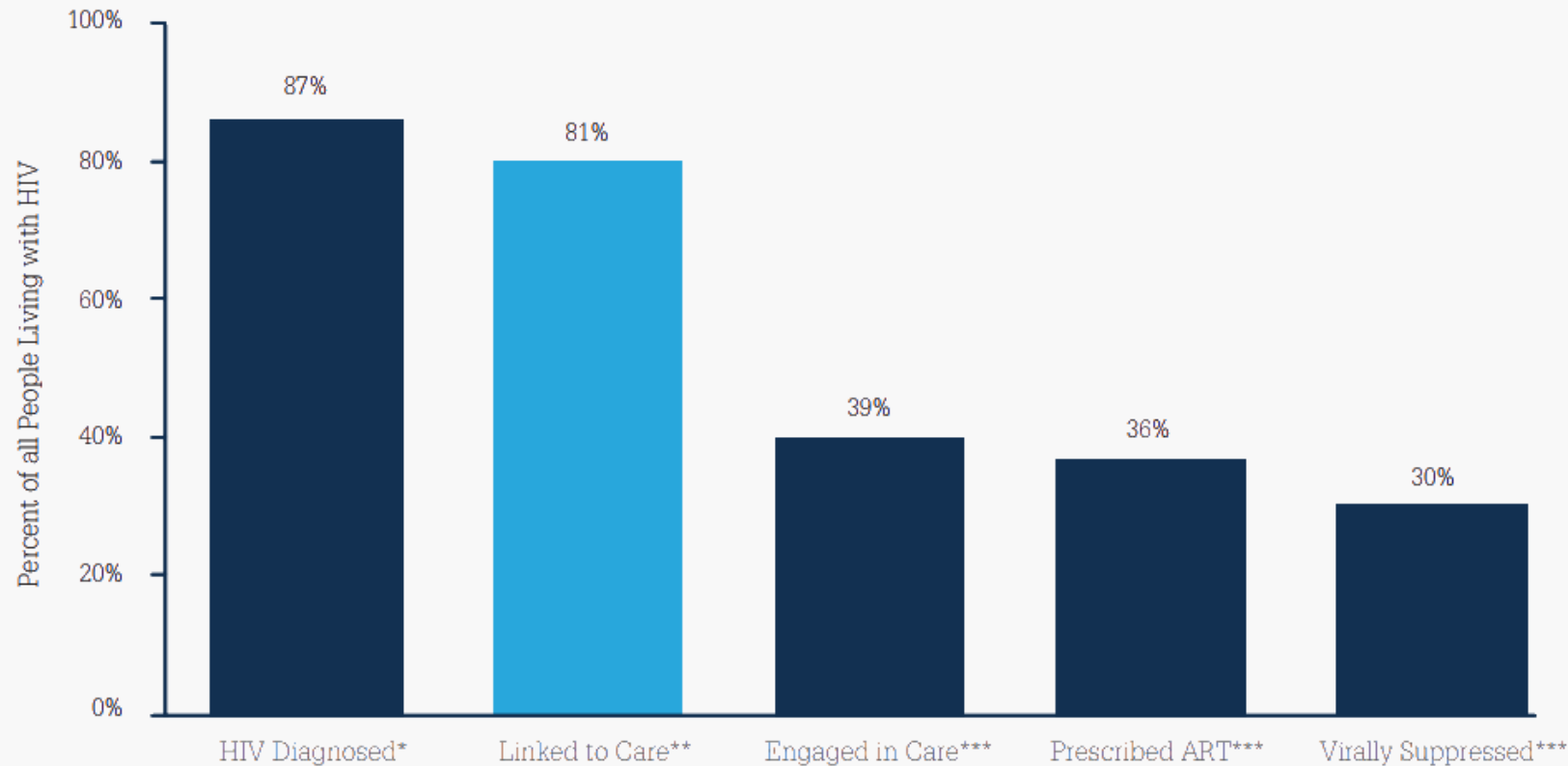
# Importance of integrated care

‘Engaging’ patients in care requires an **interplay** of individual, relationship, community, health care system and policy factors



# Impact of care fragmentation

**FIGURE 3: The HIV care continuum among persons living with HIV infection in the United States 2012<sup>8</sup>**



\* Diagnosed is a calculated estimate based on data reported to the National HIV Surveillance System, the denominator is the estimated number of persons living with HIV (1.2 million).

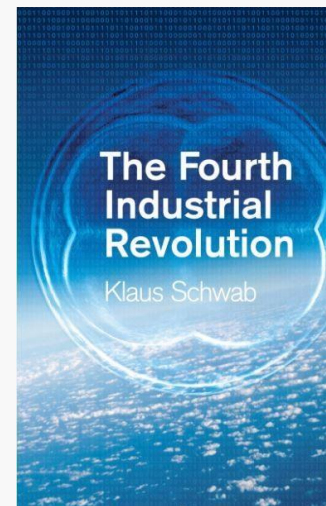
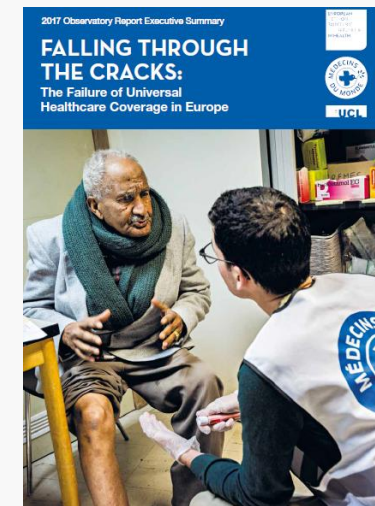
\*\* Linkage to care is the percentage of persons linked to medical care within 3 months after diagnosis (numerator) among those newly diagnosed in 2012 (denominator). Data are from 28 jurisdictions with complete reporting of CD4 and viral load test results to CDC.

\*\*\* Engaged in care, prescribed ART and virally suppressed data (numerators) come from the Medical Monitoring Project and based on people who had at least one HIV care visit during January to April 2012. The denominator is the estimated number of persons living with HIV (1.2 million).

# Context impacting the challenge

- | Political instability, austerity
- | Increasing inequality
- | Health care system restructuring
- | Migration
- | Ageing cohort of PLHIV
- | Fourth industrial revolution & mobile technology

➔ We have to **avoid a fragmentation** of our **HIV Medical Care Delivery System**



# ARCs provide integrated care



State of the art knowledge and expertise

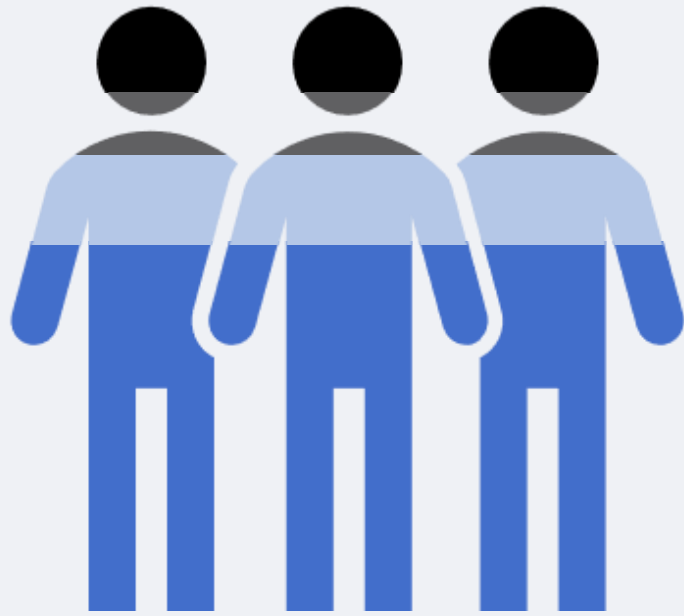


Multidisciplinary patient management



Linking to and retaining patients in care

# 20 000 PLHIV



**2 800**  
unknown

**15 500**  
in medical  
follow-up

**12 500**  
in ARC

**>80%**

follow-up in ARC

# 200 M€ yearly budget



**170 M€**  
ART

**2 M€**  
Consultations

**5 M€**  
ARC

**<3%**

budget allocated to ARC

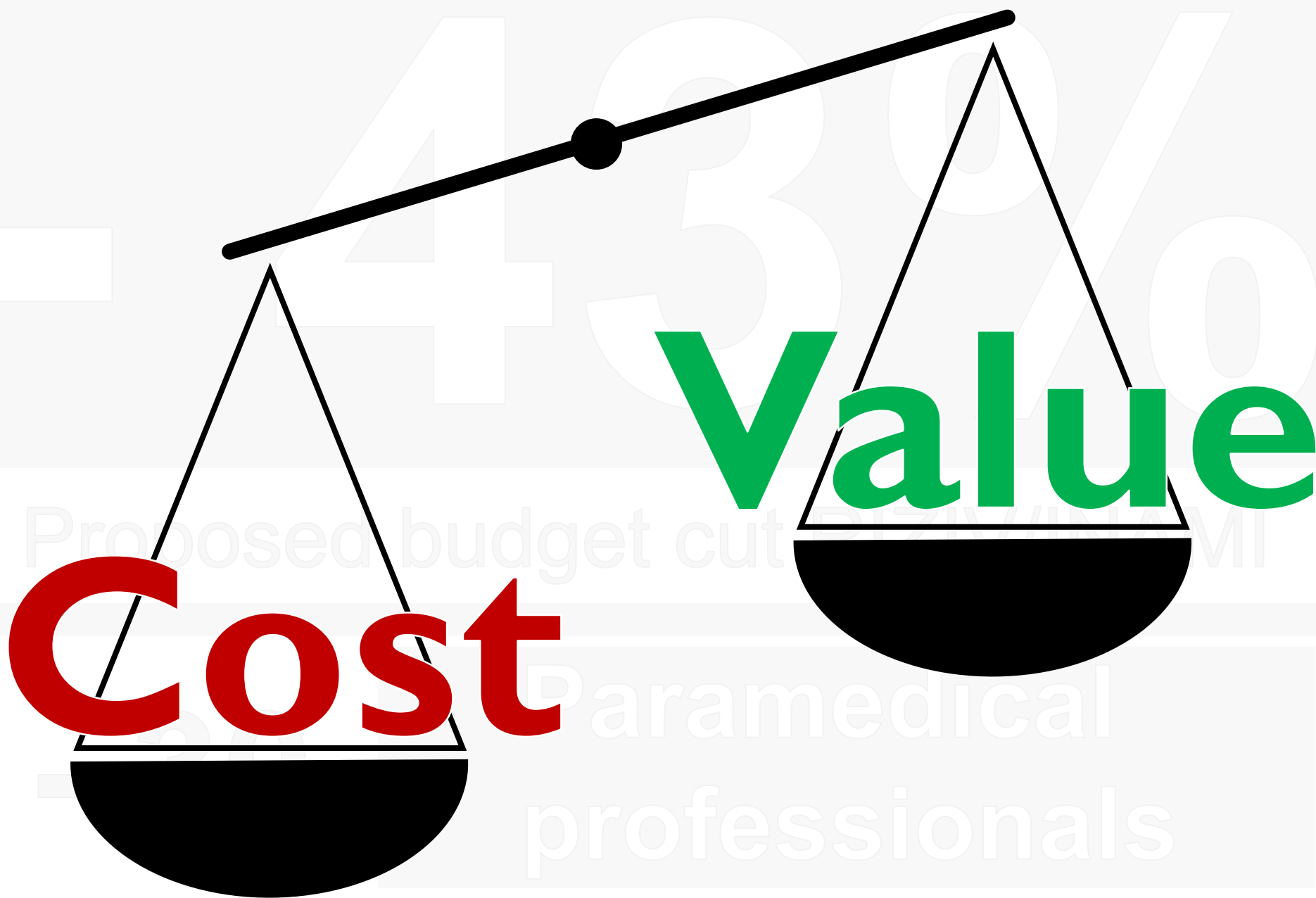
**- 43%**

**Proposed budget cut RIZIV/INAMI**

**- 30**

**Paramedical  
professionals**





# 10 value adding activities

- 1 Prevent new infections
- 2 Reduce the number of undiagnosed
- 3 Link to care
- 4 Retain in care
- 5 Achieve and maintain virological control

- 6 Support quality of life
- 7 Manage and reduce comorbidities
- 8 Maintain sexual and reproductive health
- 9 Perform data collection
- 10 Drive and execute research

**Multidisciplinary ARC team:** the foundation for realizing these value-adding activities

## | Leveraging the published BELHIVPREV Model

ACTA CLINICA BELGICA: INTERNATIONAL JOURNAL OF CLINICAL AND LABORATORY MEDICINE, 2017  
<https://doi.org/10.1080/17843286.2017.1339978>







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ORIGINAL PAPER

 OPEN ACCESS

 Check for updates

### Health and budget impact of combined HIV prevention – first results of the BELHIVPREV model

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# Quantifying ARC value

**1 Prevent new infections**

**2 Reduce the number of undiagnosed**

**3 Link to care**

**4 Retain in care**

**5 Achieve and maintain virological control**

**6 Support quality of life**

**7 Manage and reduce comorbidities**

**8 Maintain sexual and reproductive health**

**9 Perform data collection**

**10 Drive and execute research**

Included in our analysis

# Consequences of budget reduction

- 1 Prevent new infections
- 2 Reduce the number of undiagnosed
- 3 Link to care
- 4 Retain in care
- 5 Achieve and maintain virological control

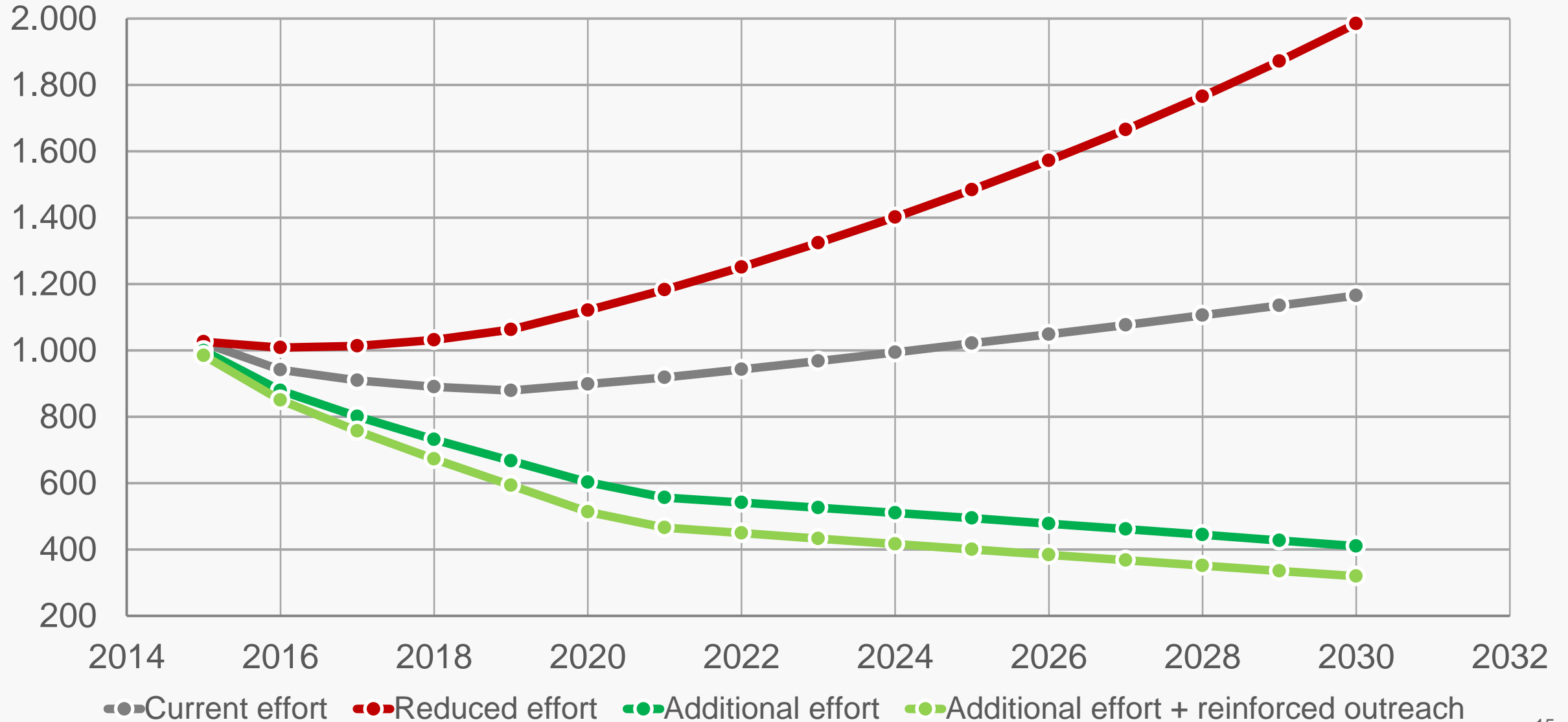
Included in our analysis

- | Reduced support for **testing**
- | Reduced opportunity for rapid **linkage** to care
- | Less resources to tackle barriers to **access** to care
- | Reduced **engagement** in care
- | Reduced **retention** in care
- | Less multidisciplinary support to guarantee **adherence** and undetectable viral load

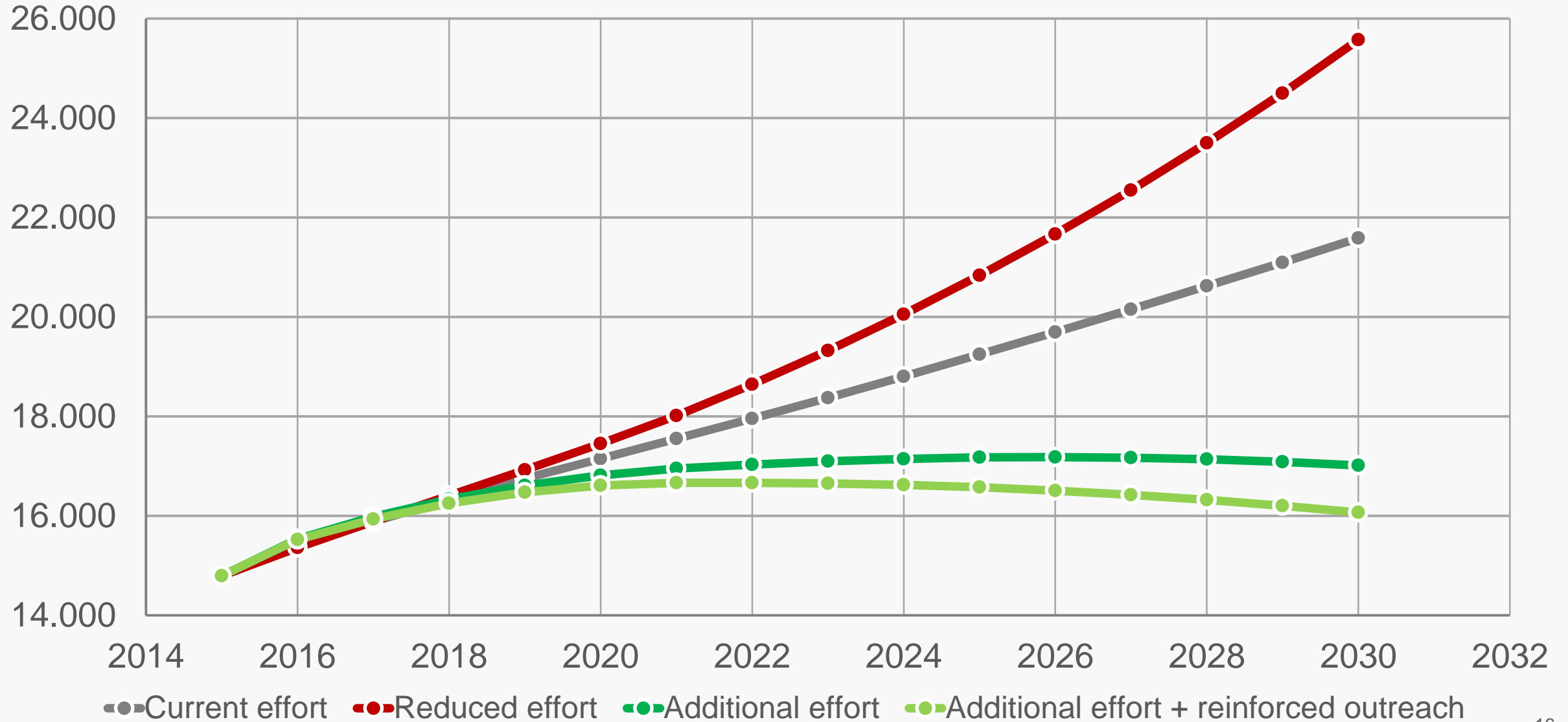
# BELHIVPREV: 4 scenario's for 2020

	Current effort	Reduced effort	Additional effort	Additional effort + reinforced outreach
Undiagnosed	11%	12%	10%	8%
Treated	94%	92%	97%	97%
Viral load < 200 c/ml	96%	94%	98%	98%
Linked to care	98,2%	95%	99%	99%
Retained in care	97,9%	97%	99%	99%
PrEP (patients)	1 500	1 000	2 633	2 633

# Results: new HIV diagnoses

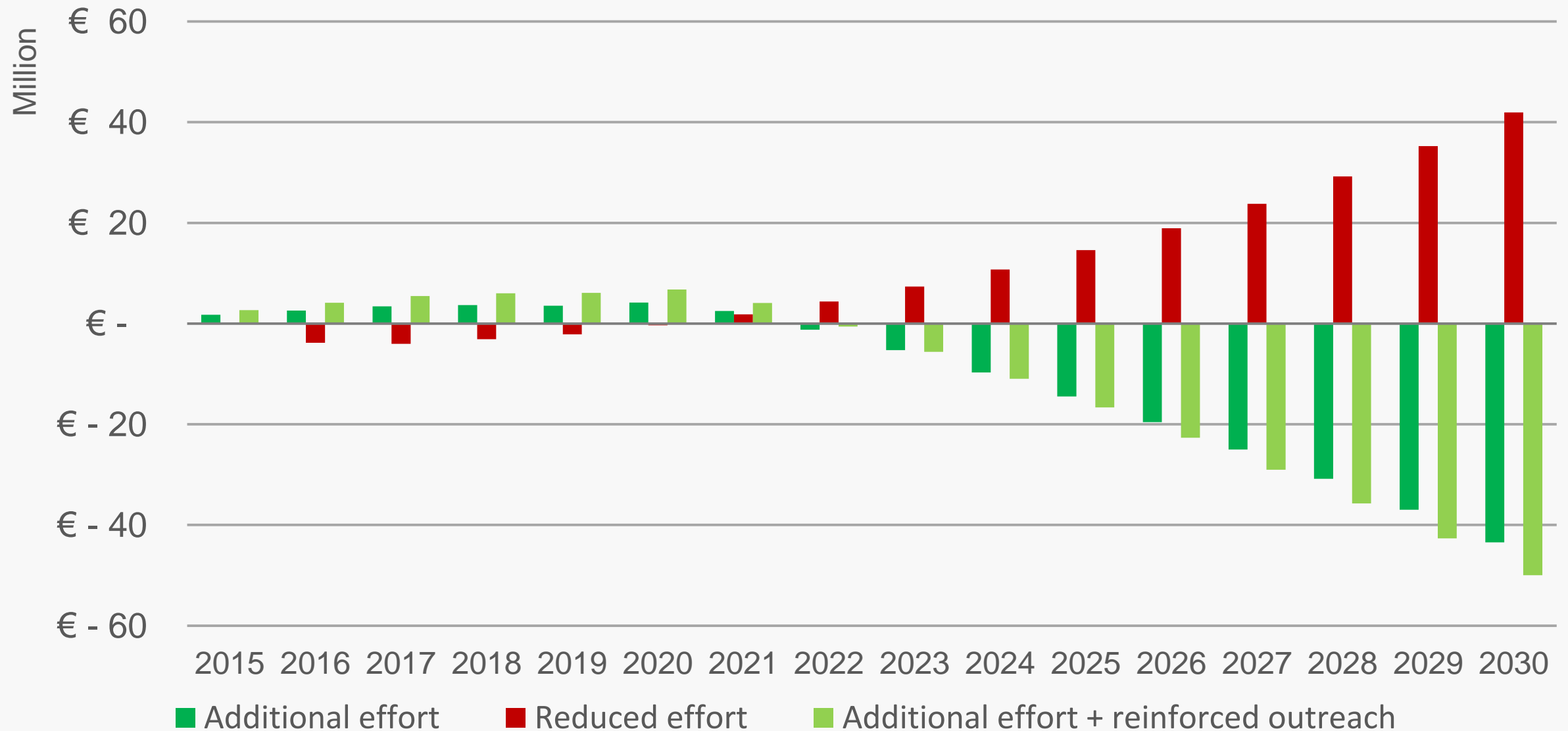


# Results: patients in medical follow-up

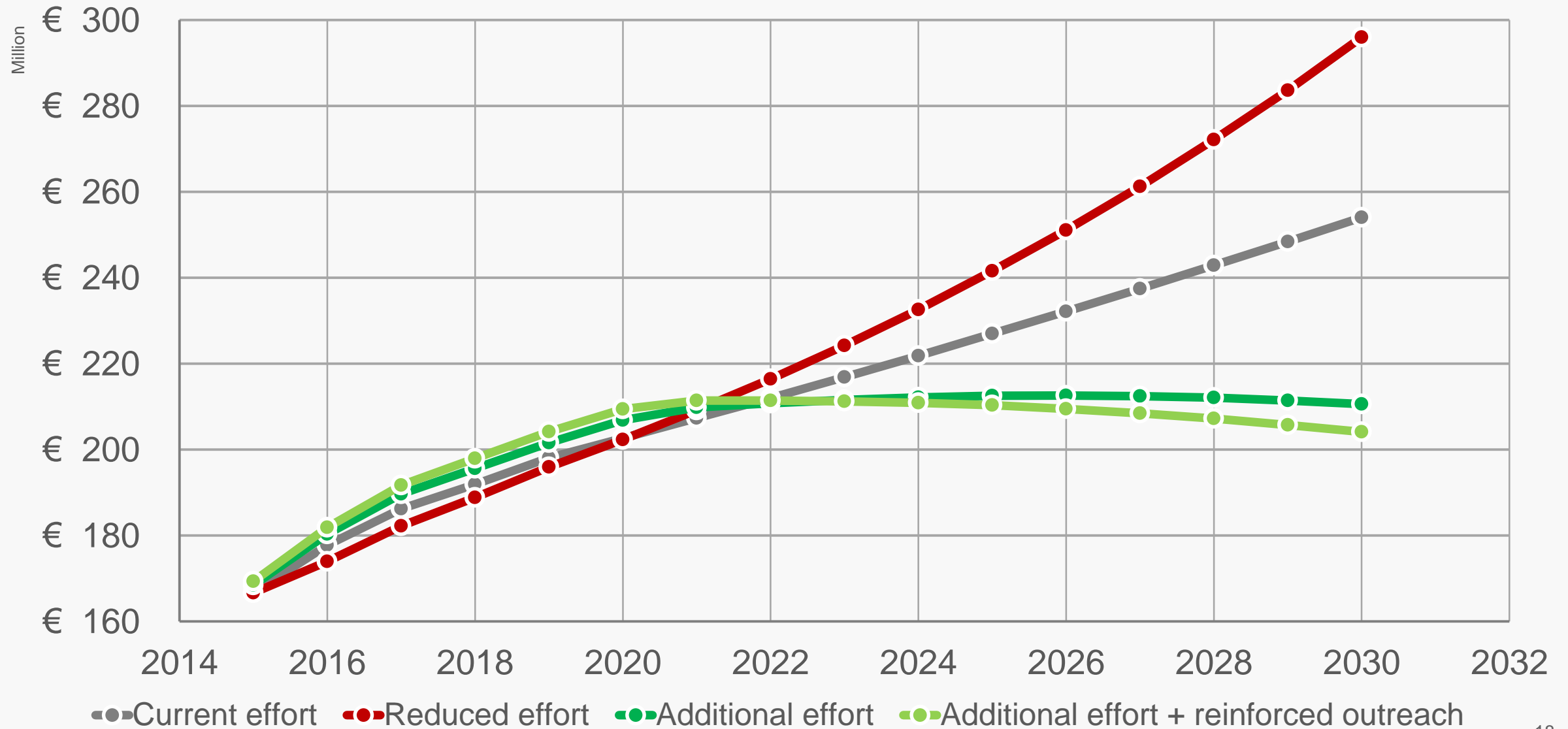




# Results: budget impact vs current effort

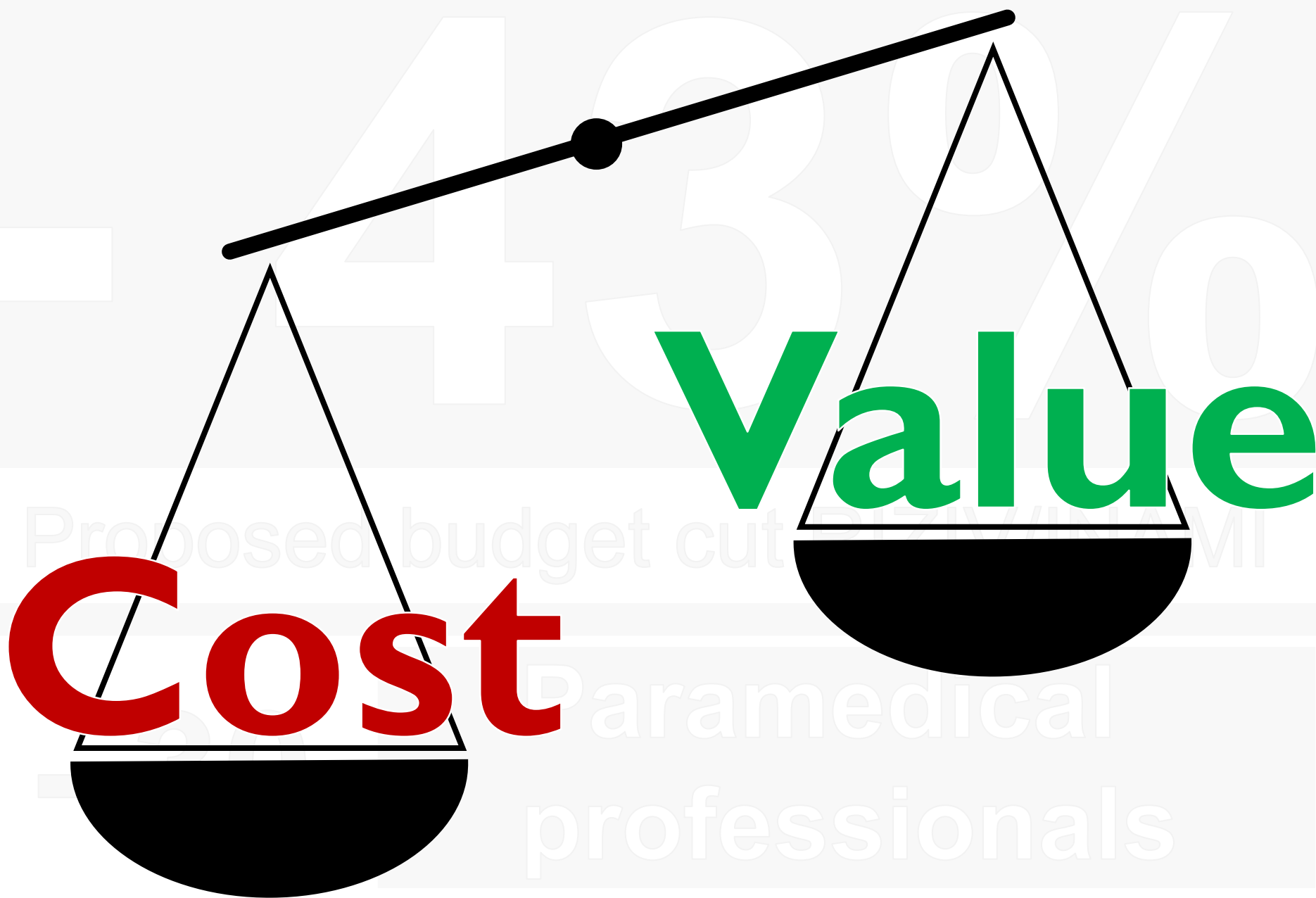


# Results: total budget



# BELHIVPREV: results of the 4 scenarios

	Current effort	Reduced effort	Additional effort	Additional effort + reinforced outreach
Undiagnosed	11%	12%	10%	8%
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PrEP (patients)	1 500	1 000	2 633	2 633
New diagnoses <b>2020</b> (patients)	899	1 121	603	513
New diagnoses <b>2030</b> (patients)	1 165	1 985	410	319
Annual budget <b>2020</b> (euro)	203 M€	202 M€	207 M€	209 M€
Annual budget <b>2030</b> (euro)	254 M€	296 M€	211 M€	204 M€



## | **Additional effort scenario**

| Assume additional **3 M€ cost** per year (+ 60% of total ARC cost)

## | **Reduced effort scenario**

| Assume **2,2 M€ 'saved'** per year (- 43% of total ARC cost)

## | **ROI**

$$\frac{\text{Cumulative budget impact} - \text{cumulative investment cost}}{\text{Cumulative investment cost}}$$

## Return on investment

2,4

Every € invested results in 2,4 € saved by 2030

## Cost of non-investment

-4,0

Every € saved results in 4,0 € lost by 2030

## Return on investment

2,4

Every € invested results in 2,4 € saved by 2030

ROI

## Cost of non-investment

-4,0

Every € saved results in 4,0 € lost by 2030

CON



## Reducing ARC budget



Healthcare budget



Epidemic



## Investing in ARCs



Healthcare budget



Epidemic



# Next steps

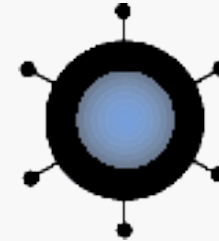
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- | Model validation with experts
- | Development of value-based indicators

# More info?

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