Interim impact and ongoing treatment requirements for achieving HCV elimination in Georgia

Dr. Josephine Walker, <u>Professor Peter Vickerman</u>

University of Bristol, UK

Walker et al. Lancet Global Health in press

- Developed a dynamic HCV transmission model:
  - Capture current and historic epidemic,
  - Include role of people who inject drugs (PWID)

- Main aim of modelling:
  - Calculate interim impact of treatments done so far
  - Determine when we will reach elimination
 - Cost-effectiveness of programme

Important assumptions to remember!

- Model calibrated to changing PWID epidemic:
  - **Reduced** number of young PWID in recent IBBAs
  - **Decreasing** HCV prevalence in young PWID, and
  - **Very high prevalence of HCV** in middle aged men, but much lower in young men and women
  - ➢ Suggests considerable but decreasing past IDU epidemic
- Use estimated SVR rates:
  - Assume proportion of those lost to follow-up are cured
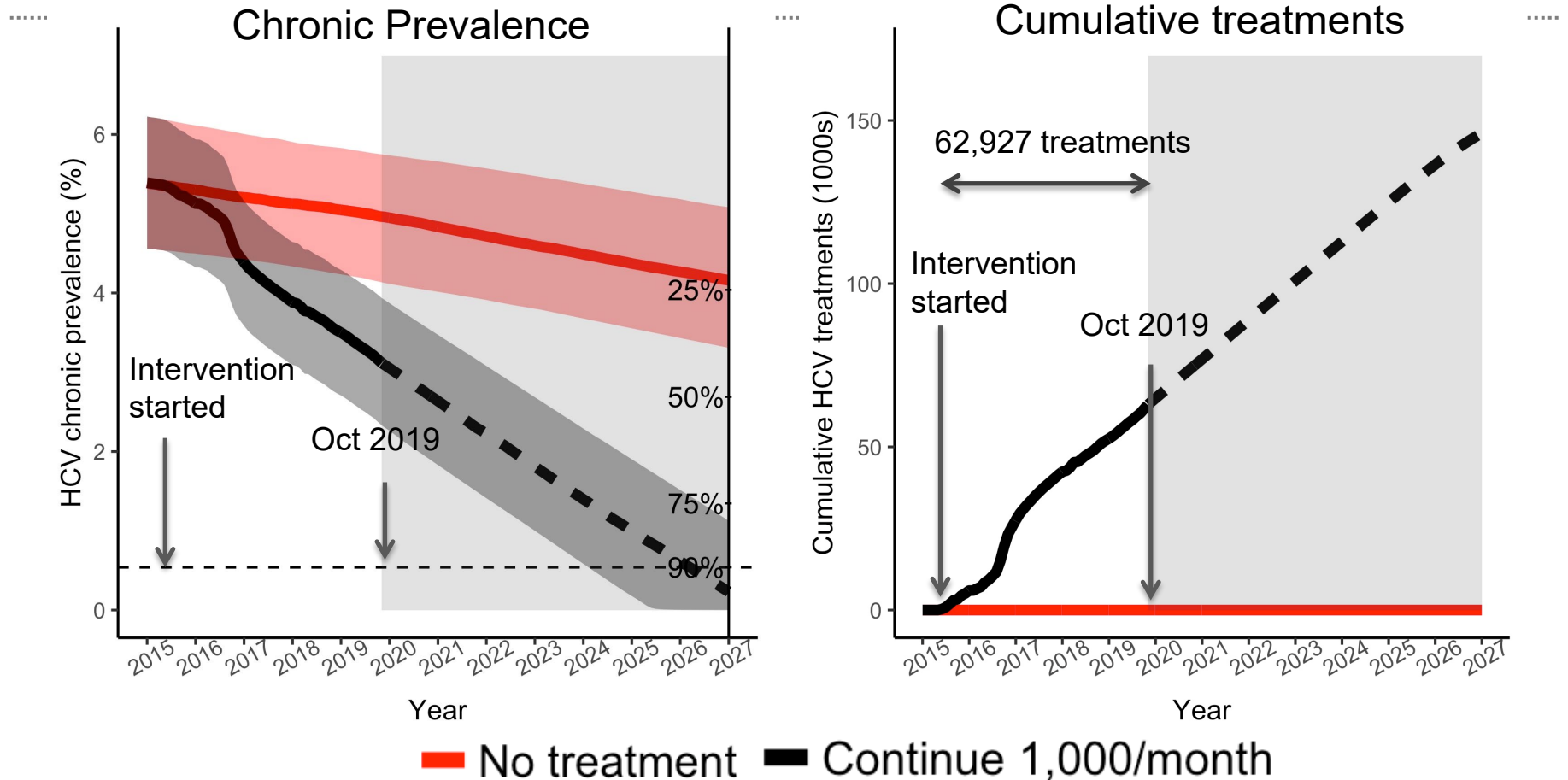- Assumed equal treatment of PWID
  - Little data on this

What has been achieved so far?

Treatments initiated by **Oct 2019**
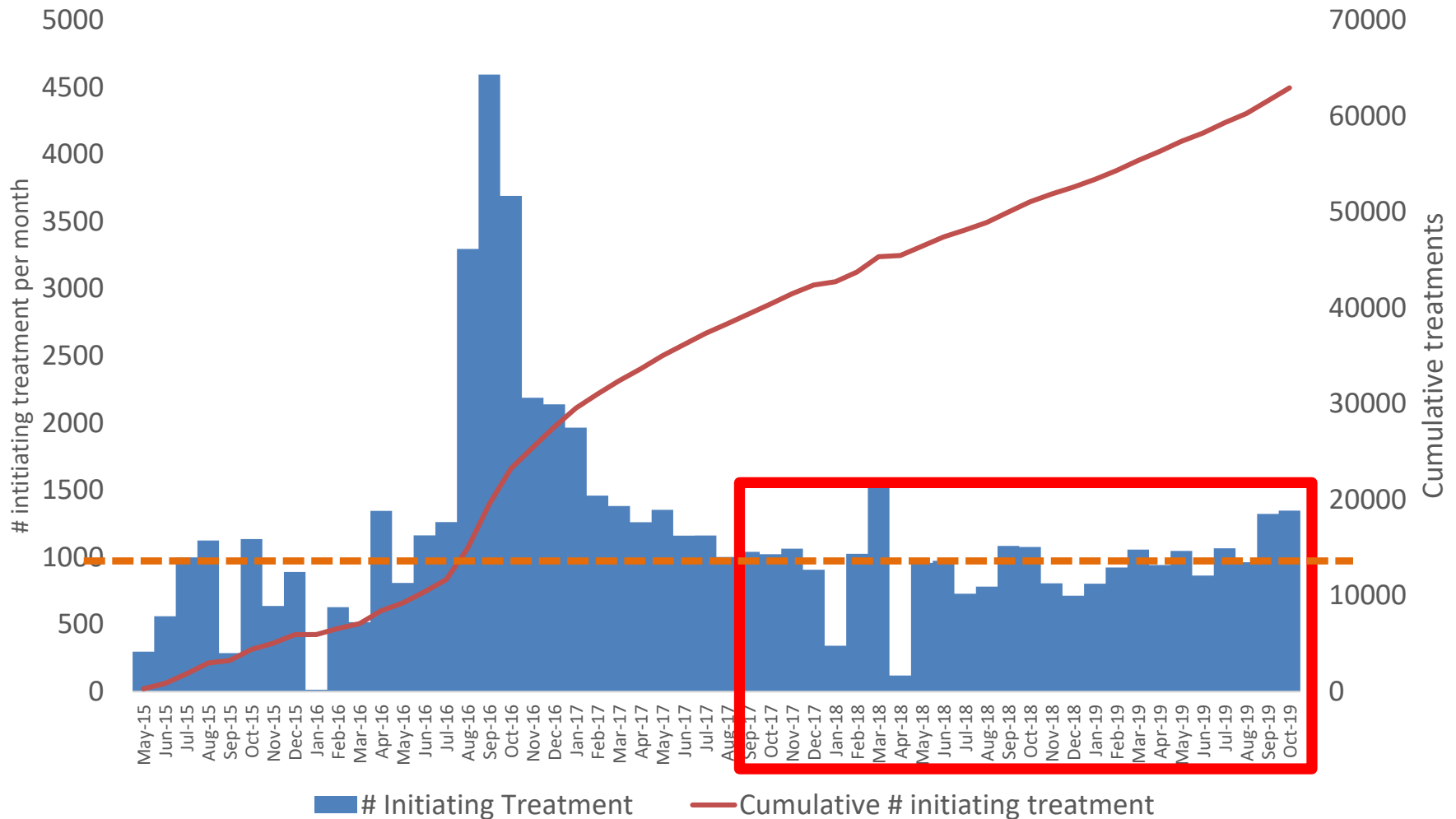
- Total of 62,927 treatments initiated.
- Average 1,165 treatments/month, with ~1000/month over last 2 years

Impact on prevalence by **October 2019**

Chronic Prevalence

Cumulative treatments

- No treatment
- Continue 1,000/month

- Decreased prevalence by 43% (35-51%)

- Treatment continues → **90% decrease in prevalence by 2026**

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- Impact of 62,927 treatments compared to NO treatment :
  - Prevented **4,771 (2503 –8511) new infections**
  - Prevented **365 (194-557) HCV-related deaths**

- Impact accumulates over next 12 years:
  - **Note**: just assume treatments to October 2019
  - Prevented infections increase **5-fold** to 23,877 (11,838-42,847)
  - Prevented deaths increase **10-fold** to 3,472 (2,167-4,808)
  - **Ongoing legacy!**

Cost-effectiveness

- Preliminary findings for **first phase of program**
  - Includes costs of **all screening**
  - Includes **patient costs** on diagnostics etc..
  - Model dynamic benefits on **disease and infections averted**
  - Include **averted costs of managing liver disease**
- Cost per patient getting on to treatment - $555*
- Cost-effectiveness of program:
  - $959 / QALY saved with NO DAA cost
  - $1244 /QALY saved if assume DAA cost of $144 per patient
  - **Cost-effective compared to willingness to pay thresholds!**

Where to from here?

- Program has had large impact

- It is cost-effective

- Program will reach elimination by 2026

- **Do we need to improve things?**

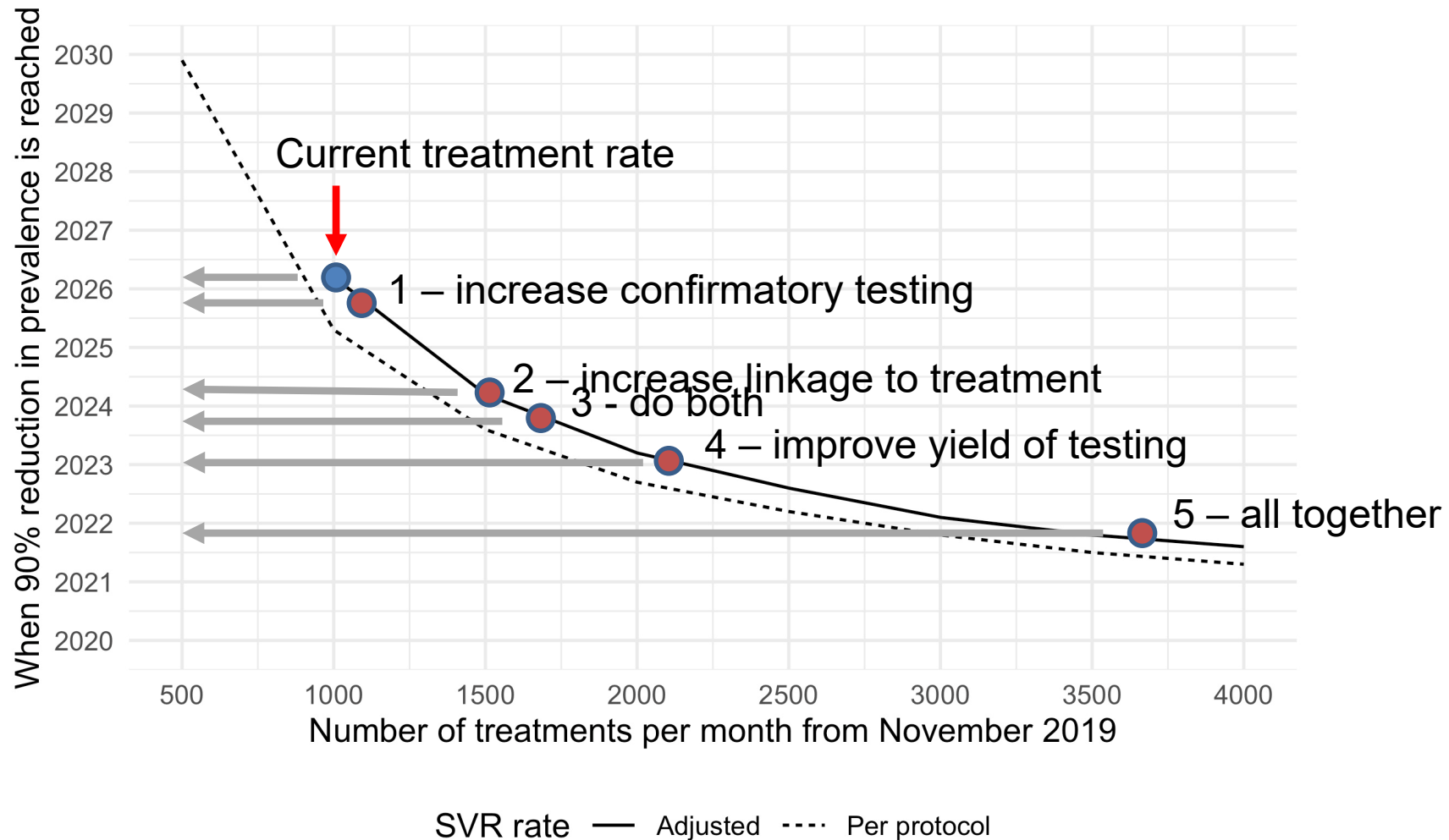# Cascade of care for 702,042 screened in 2018
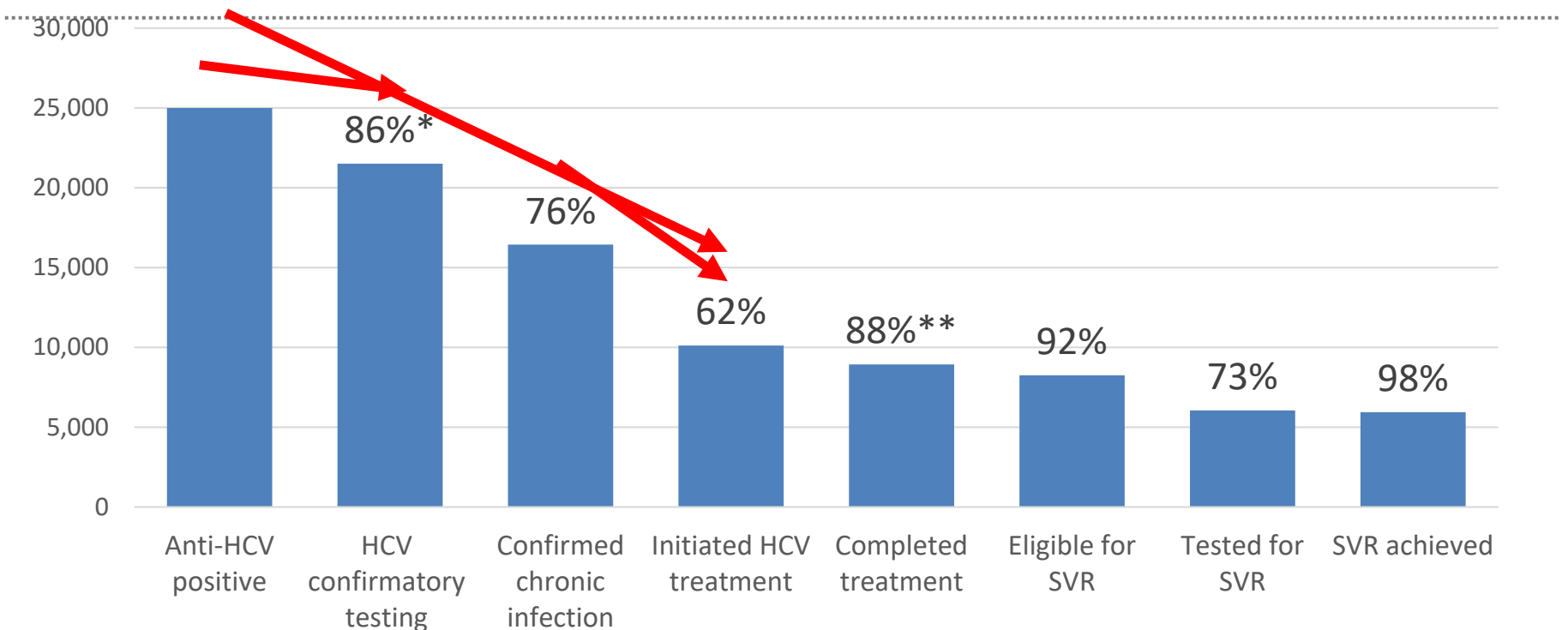
- Lost 14% of chronic infections in step 1 – confirmatory testing
- Lost further 33% of chronic infections in step 2 – linkage to treatment
- ➢ **Only 53% of chronic infections screened in 2018 started treatment**
- Also yield (3.6% Ab prevalence) was half national survey prevalence (7.7%)

How can treat rate be improved?

- Existing cascade of care leads to about 1000 treats/month

- Different things could be improved

  1. **If ↑** confirmatory testing from 86 to 95%, → 1,105 treats/month
  2. **If ↑** linkage to treat from 62 to 95% → 1,532 treats/month
  3. **Both improved increases treatment to 1,693 treats/month**

  4. **If also ↑** screening yield from 3.6 to 7.7% → 2,163 treats/month
  5. **All three together** would give 3,661 treats/month

Improvements would reach 90% reduction quicker?

Current treatment rate

1 – increase confirmatory testing

2 – increase linkage to treatment

3 - do both

4 – improve yield of testing

5 – all together

When 90% reduction in prevalence is reached

Number of treatments per month from November 2019

SVR rate — Adjusted ···· Per protocol

Summary

- Treatment programme is successful:
  - Prevalence and incidence reduced by 43%
  - Mortality and new infections prevented – **lasting legacy**
  - Cost-effective
  - Reach elimination target by 2026
- Achievable improvements in cascade of care could achieve elimination earlier:
  - Improve uptake of confirmatory testing → 2025
  - Improve uptake of treatment if diagnosed → 2023
  - Improve screening yield → 2022
  - Improve all of above → 2021

Acknowledgements

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