

UNAIDS HIV Transmission Elimination Goals

Alice C McGreevy¹, Ricardo X Yajamín-Villamarín¹, Laurel G Bates¹, Dr Deborah A Flanagan², **Dr James Jarrett²**, Louise E Logan².

¹Aquarius Population Health, London, UK, ²Gilead Sciences, London, UK

BACKGROUND

- **Scotland and Ireland have committed to eliminating HIV transmission by 2030**, in line with the UN Sustainable Development Goal (SDG) 3.3 target.
- **Both countries have also expanded prevention efforts:** in Scotland, PrEP access and self-testing services have increased alongside pilot opt-out testing programs in emergency departments¹. Ireland offers free testing in clinics and community venues and distributes self-test kits².
- Despite this progress, **the timeline to reach transmission elimination remains unclear.**
- This modelling study **aims to understand if each country is on track to reach the 2030 elimination goal**, and if not, explore **the increase in prevention effort needed** to get back on track.

METHODS

We adapted a previously published **Markov state transition open cohort HIV transmission model**³.

The model has a **50-year time horizon** and **3-month cycles**. We used **2023 as the baseline year**.

Population and setting Prevention interventions

➤ **Adults aged 16+** living in Scotland and Ireland. Individuals were categorized into one of **four population groups** (Table 1).

➤ We include **six indicators of prevention interventions** (Table 2), using 2023 data.

Outcomes

➤ **New HIV transmissions** (acquired in Scotland and Ireland) each year and **whether the transmission elimination target threshold is met** (<1 transmission per 10,000 population⁴) (Table 1).

Table 1: Threshold number of annual transmissions to meet elimination target for Scotland & Ireland

Population group	Scotland	Ireland
Gay, Bisexual and other Men who have Sex with Men (GBMSM)	< 8	< 12
Heterosexual men	< 174	< 158
Women	< 185	< 166
People who inject drugs	< 1	< 2
Total	< 369	< 338

MAIN FINDINGS

- Scotland and Ireland have already achieved the UNAIDS HIV transmission elimination targets for their total population, as well as among heterosexual men, women, and people who inject drugs.
- For GBMSM, Scotland and Ireland are not expected to meet the 2030 target under current intervention levels.
- However, we predict that with “moderate” increases in intervention levels among GBMSM, Scotland will achieve the target by 2030, and Ireland will by 2035.

Future Actions

- Increased prevention efforts in Scotland and Ireland have led to decreased HIV transmissions. Further expansion is needed in GBMSM in both countries to reach the target.
- Additionally, while few new transmissions are occurring within both countries, annual diagnoses remain higher due to acquisitions outside the country.
- Continued investment in a combination of prevention interventions is needed to achieve the goals and provide support for affected individuals, which should be considered as part of the countries’ action plans.
- Ireland does not currently have an action plan, though the government has committed to doing so in the strategic plan. We encourage the development of an action plan with clear targets and timelines to ensure continued progress towards the elimination goal.

METHODS (CONTINUED)

Increased intervention levels

- Where the 2030 target was not met, we **increased the level of each intervention by a “moderate” amount**. This scenario reflects what would be considered a **substantial, yet realistic, increase from the current scenario**.
- For example, for GBMSM in Scotland, ‘annual probability of HIV testing’ was increased from 11% to 17%, ‘probability of starting treatment in 6 months’ was increased from 95.5% to 98%, ‘annual probability of HIV-negative population with PrEP need starting PrEP’ from 7% to 14%.
- Changes for the future scenario were **implemented linearly between 2023 and 2027**.

Table 2: Current modelled prevention intervention levels in Scotland & Ireland

	GBMSM	Heterosexual men	Women	People who inject drugs
	Scotland/Ireland	Scotland/Ireland	Scotland/Ireland	Scotland/Ireland
Annual probability of HIV-negative population with PrEP need starting PrEP*	7.1% / 8.2%	0.1% / 0.5%	0.2% / 0.2%	0% / 0%
Annual probability of HIV testing	11.2% / 32.1%	1.7% / 5.8%	4.9% / 9.5%	12.0% / 7.0%
Percentage diagnosed within 3 months of transmission	26.0% / 12.7%	6.0% / 4.3%	6.0% / 4.3%	25.0% / 21.4%
Percentage starting treatment within 3 months of diagnosis**	82.7% / 82.7%	77.4% / 77.4%	76.2% / 76.2%	61.9% / 61.9%
Percentage starting treatment within 6 months of diagnosis**	95.5% / 95.5%	92.0% / 92.0%	93.5% / 93.5%	90.0% / 90.0%
Percentage of people on treatment who are virologically suppressed (representing treatment as prevention)	98.0% / 98.7%	97.0% / 97.6%	98.0% / 97.5%	93.0% / 92.0%

Note: Values for the indicators were informed using published data from PHS (Scotland)⁵ and HSE (Ireland)⁶ and interviews with HIV experts. *Annual probability of the HIV-negative population with PrEP need starting PrEP is a function of the number of people currently accessing PrEP and the proportion that discontinues PrEP each year. For example, 8.2% for GBMSM in Ireland is based on 5,100 currently accessing PrEP and assuming 27% discontinue PrEP annually. Data on PrEP need was not available for Scotland and Ireland and was informed by PrEP need analyses from England⁷. **Data on the timeliness of ART initiation was not available for Scotland and Ireland. Assumed the same percentages as England⁸.

RESULTS

Figure 1: Annual new transmissions in Scotland and Ireland, 2024 to 2030

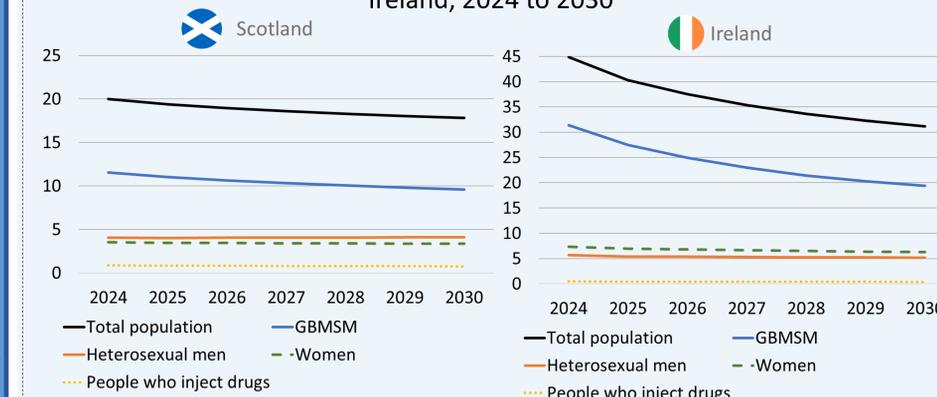
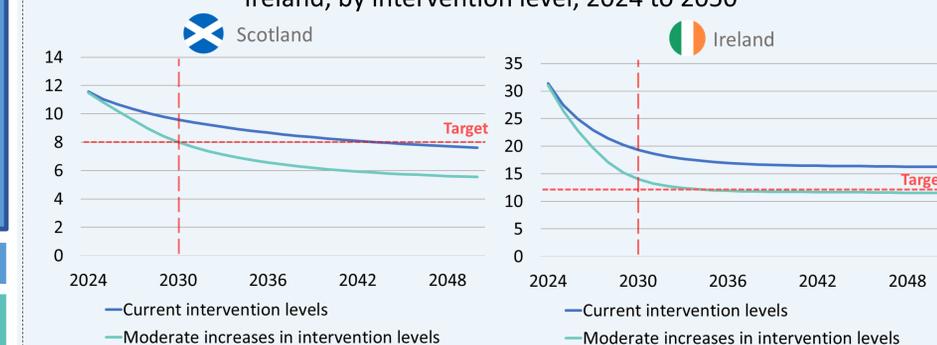


Figure 2: Annual new transmissions for GBMSM in Scotland and Ireland, by intervention level, 2024 to 2050



Model projections (Figure 1) indicate that **both Scotland and Ireland have achieved the UNAIDS HIV elimination targets for their total populations**, with a continued decline expected.

When broken down by population group, the results show that both countries are also **meeting the targets for heterosexual men, women, and people who inject drugs**.

For GBMSM, both Scotland and Ireland are not currently reaching the 2030 target. With “moderate” increases in intervention levels among GBMSM, Scotland could achieve the UNAIDS HIV transmission elimination targets by 2030, and Ireland by 2035 (Figure 2).

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CONTACT

To find out more about this work please speak to Dr. James Jarrett (james.jarrett@gilead.com), who is attending CROI, or email alice.mcgreevy@aquariushph.com.

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