

Climate Action as Preventative Healthcare

Explore how climate action shapes health across the UK, revealing where co-benefits emerge, through which pathways, and which communities gain first or fall behind.

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Climate action as uneven health policy
- The Divide**
Health gains from climate action are uneven
- What Drives it**
Different pathways matter in different places
- The Equity Gap**
High need does not guarantee high benefit
- Time Matters**
Health gains arrive sooner in some nations
- The Choice**
Lives are saved, but priorities must be local

46,426

communities analyzed

26

years of data (2025-2050)

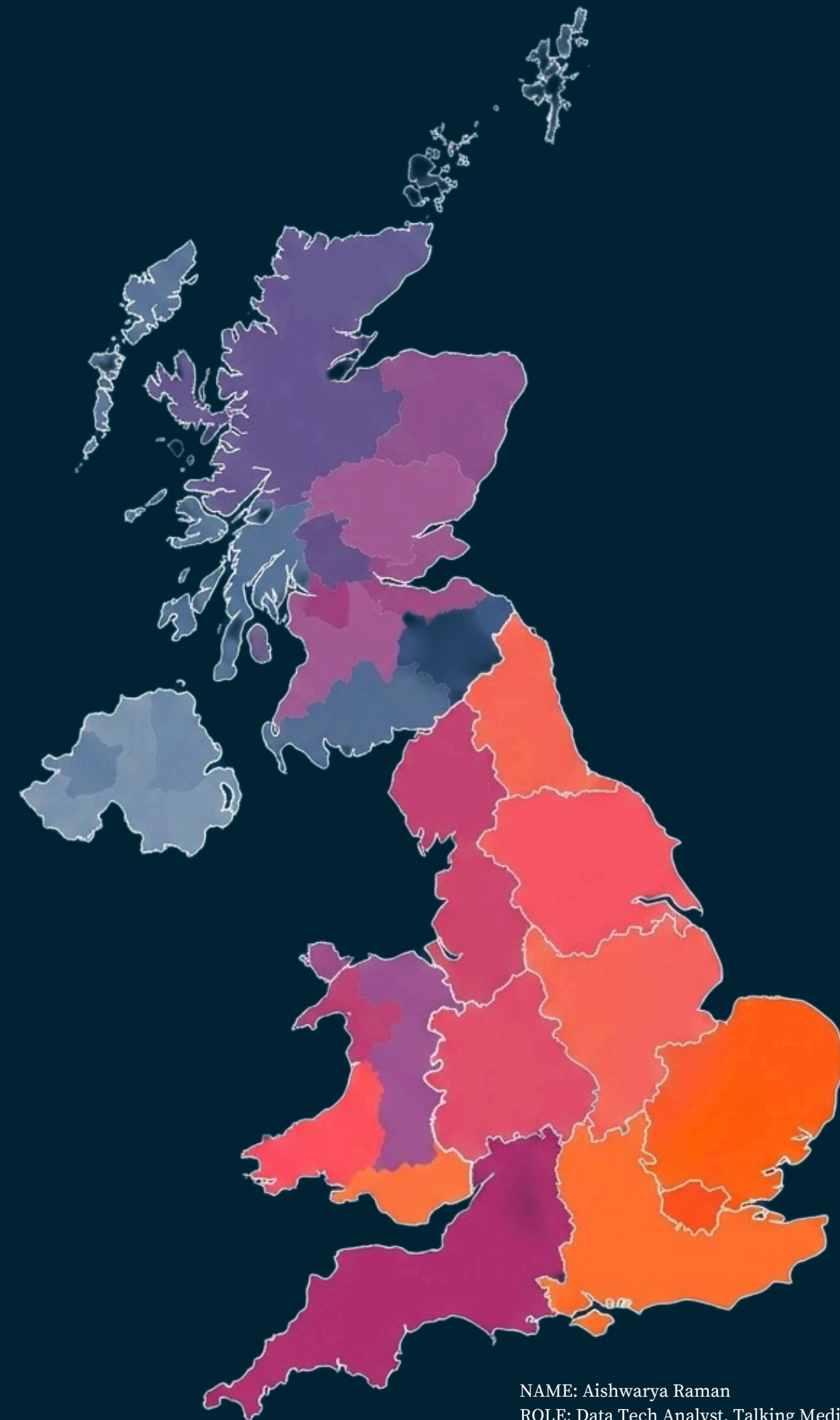
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Climate Pathways

3

Health Outcomes

Climate action is often discussed in environmental terms, but its health effects are immediate and measurable. Across the UK, policies aimed at reaching net zero reduce illness, improve quality of life, and prevent premature deaths. However, these benefits are not evenly distributed. Where you live plays a decisive role in how much health improvement you experience. Understanding this variation is essential for designing climate policy that protects people, not just emissions targets.



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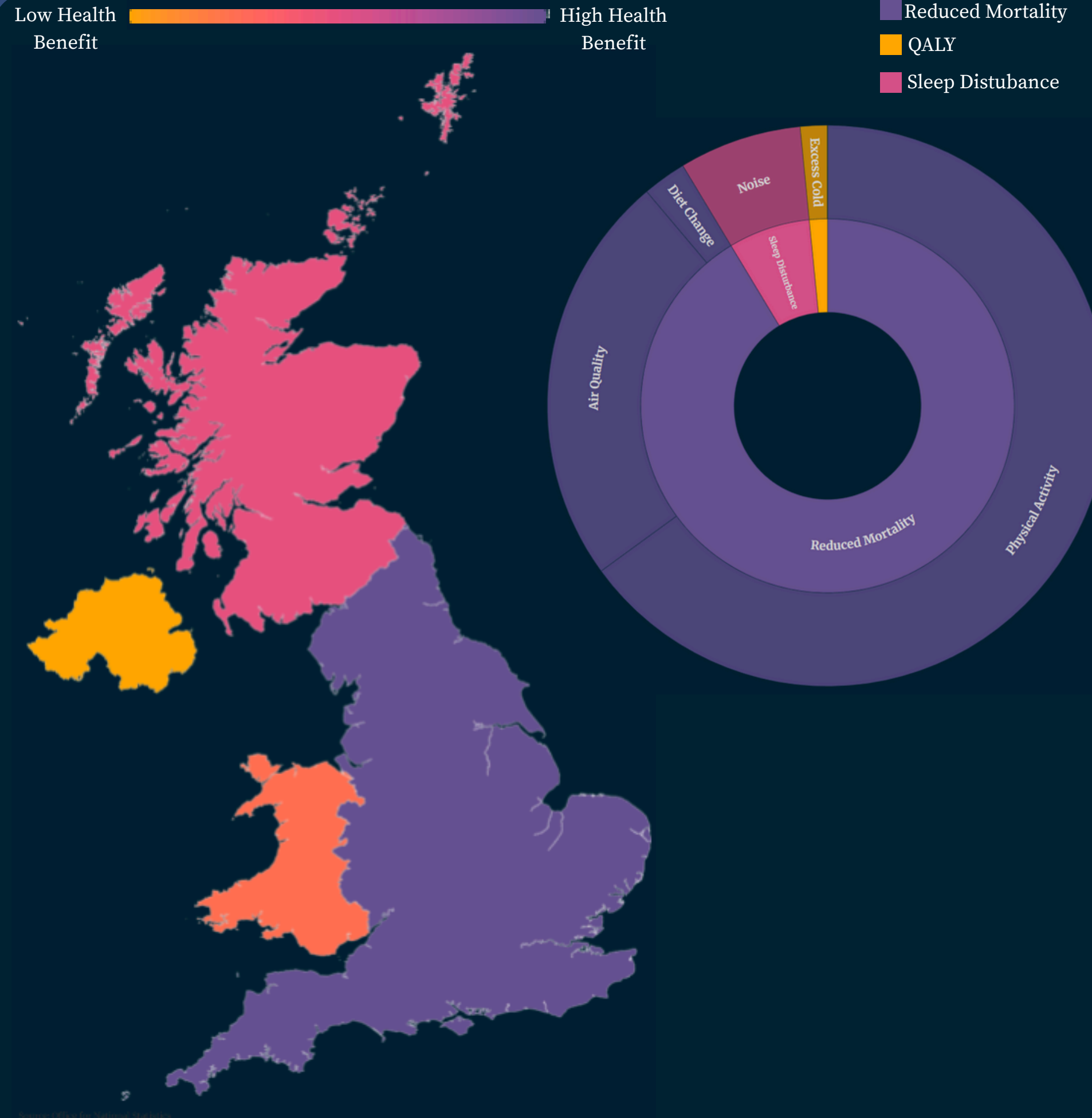
65 % of UK health benefits come from physical activity

85 % of cumulative climate-health benefits accrue to England by 2050

<1 % of communities capture the highest health gains

Benefits arrive earlier in England, compounding faster over time

- Climate action is already delivering measurable health benefits, mainly through preventing premature deaths, not marginal wellbeing gains.
- These benefits are highly concentrated, with a small number of communities capturing the majority of health improvement.
- Physical activity dominates nationally, but the pathways that drive health gains vary by place.
- Benefits arrive earlier and faster in some regions than others, allowing advantage to compound over time.
- Without deliberate targeting, climate policy mirrors existing health inequality rather than correcting it.



Source: 2023a, see National Statistics

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Top 10 Communities

62.1 Average CHBI

Led by: W01002002 (73.9 CHBI)

Bottom 10 Communities

0.21 Average CHBI

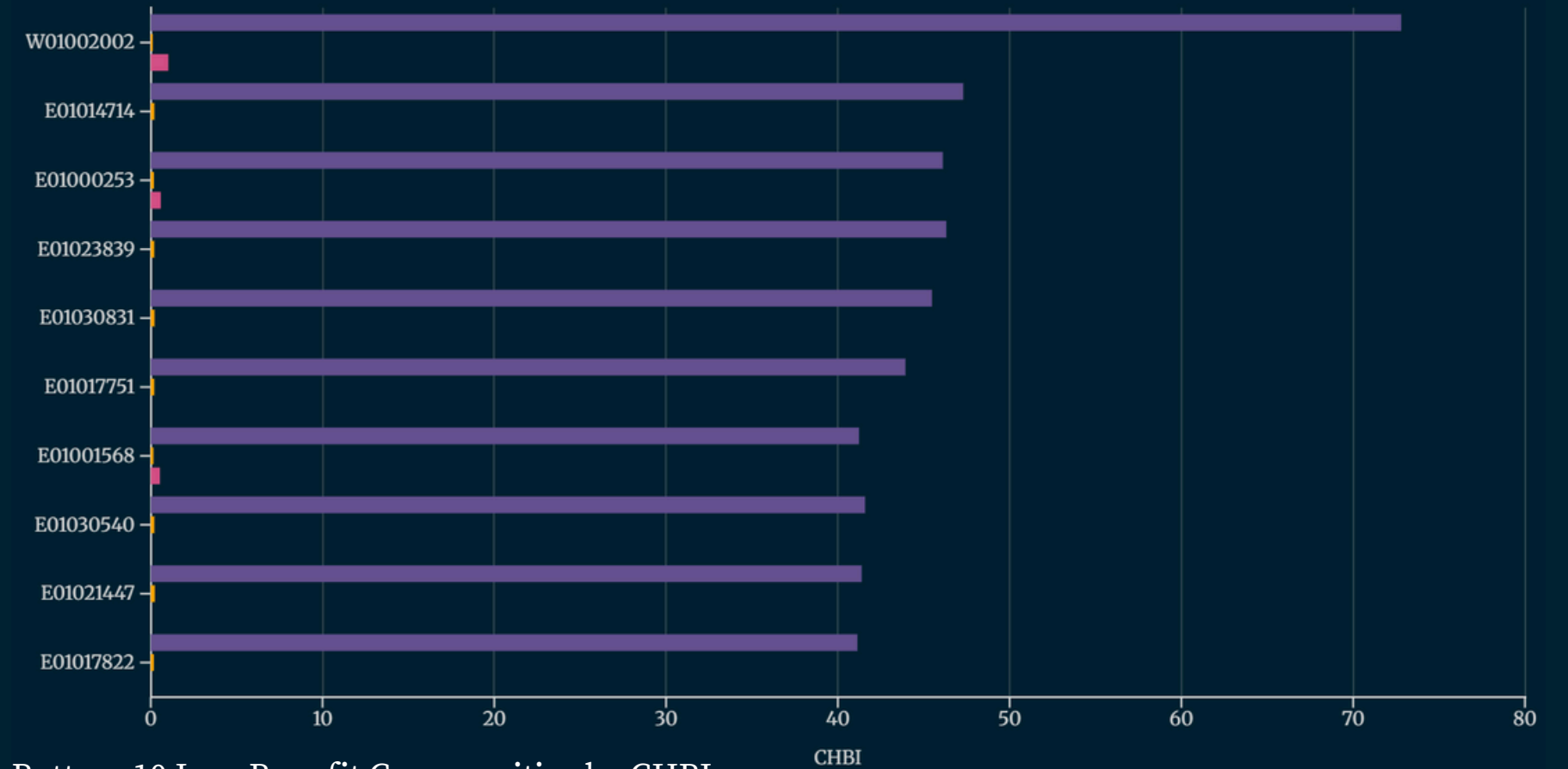
Three areas in Scotland: 0.00 CHBI

*CHBI (Climate Health Benefit Index): Composite metric summing health gains across reduced mortality, QALY (Quality-Adjusted Life Years), and sleep disturbance reduction. (Scale: 0-100, where higher = greater health improvement from climate action 2025-2050.)

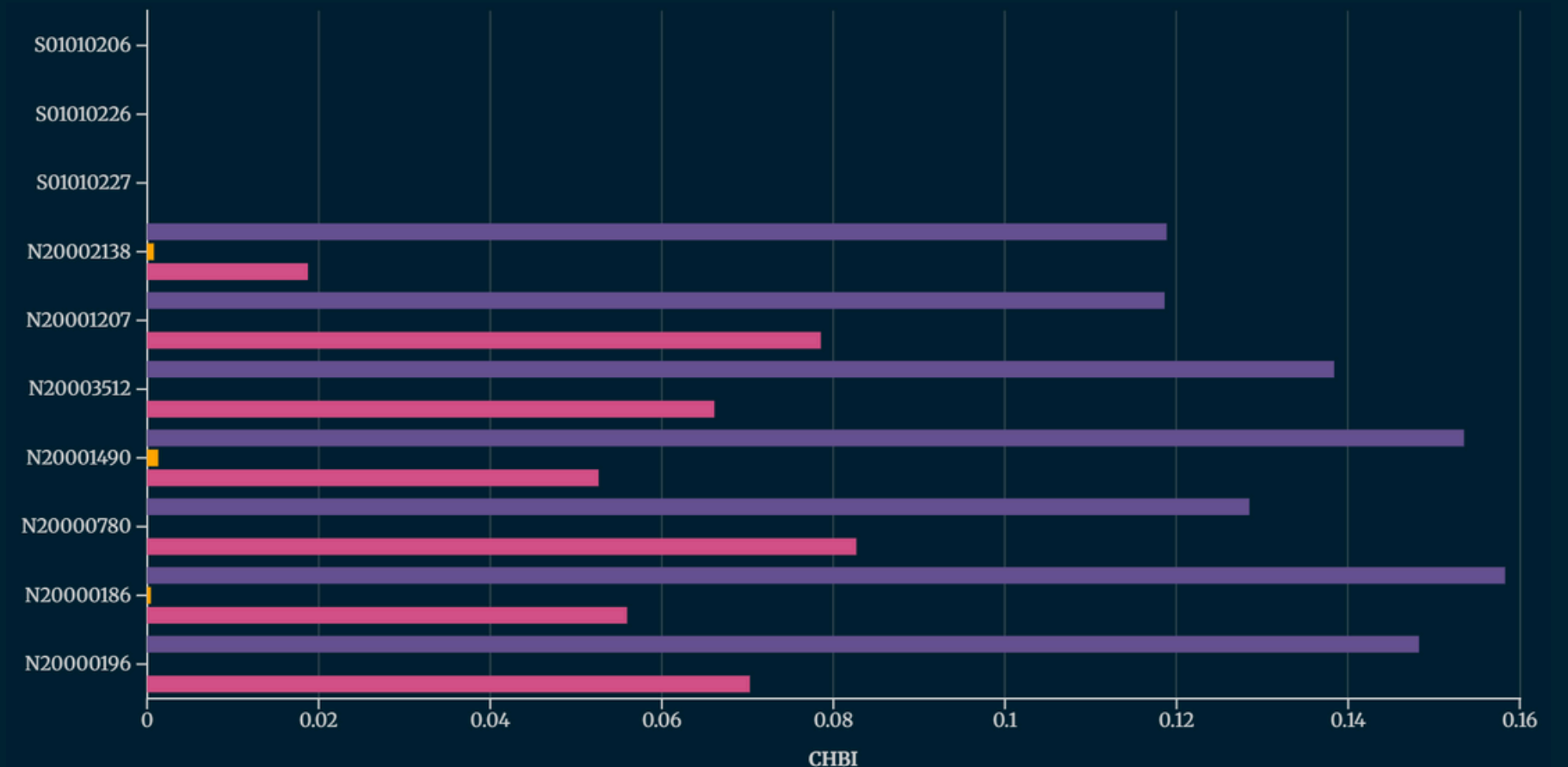
Climate action reduces health burden nationally, but the scale of benefit varies dramatically between communities. A small number of areas capture substantial health gains, while others see little or no improvement. Some communities receive no measurable benefit at all, despite being part of national climate strategies. This imbalance reflects where interventions are deployed and which health pathways they activate. Without deliberate redistribution, climate policy risks amplifying existing health inequalities rather than reducing them.

Top 10 High Benefit Communities by CHBI

■ Reduced Mortality ■ QALY ■ Sleep Disturbance



Bottom 10 Low Benefit Communities by CHBI



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UK Wide:
65.5% Physical Activity: Active life| reduce chronic disease

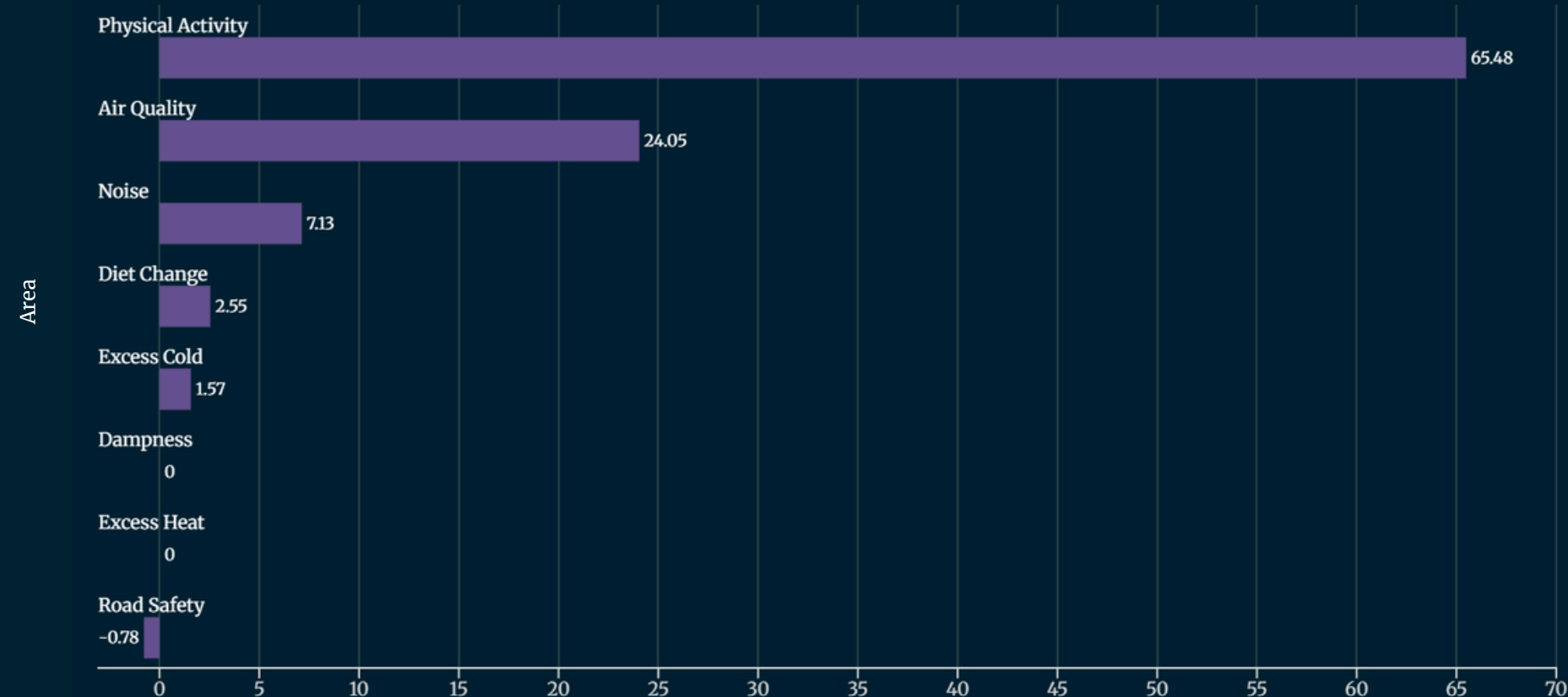
24 % Air Quality: Reduced respiratory illness

7.1 % Noise Reduction: Improved Sleep Quality

Regional Differences
Wales prioritizes Physical Activity
71% vs UK 65.5%
Scotland needs noise reduction
15.5% vs UK 7.1%

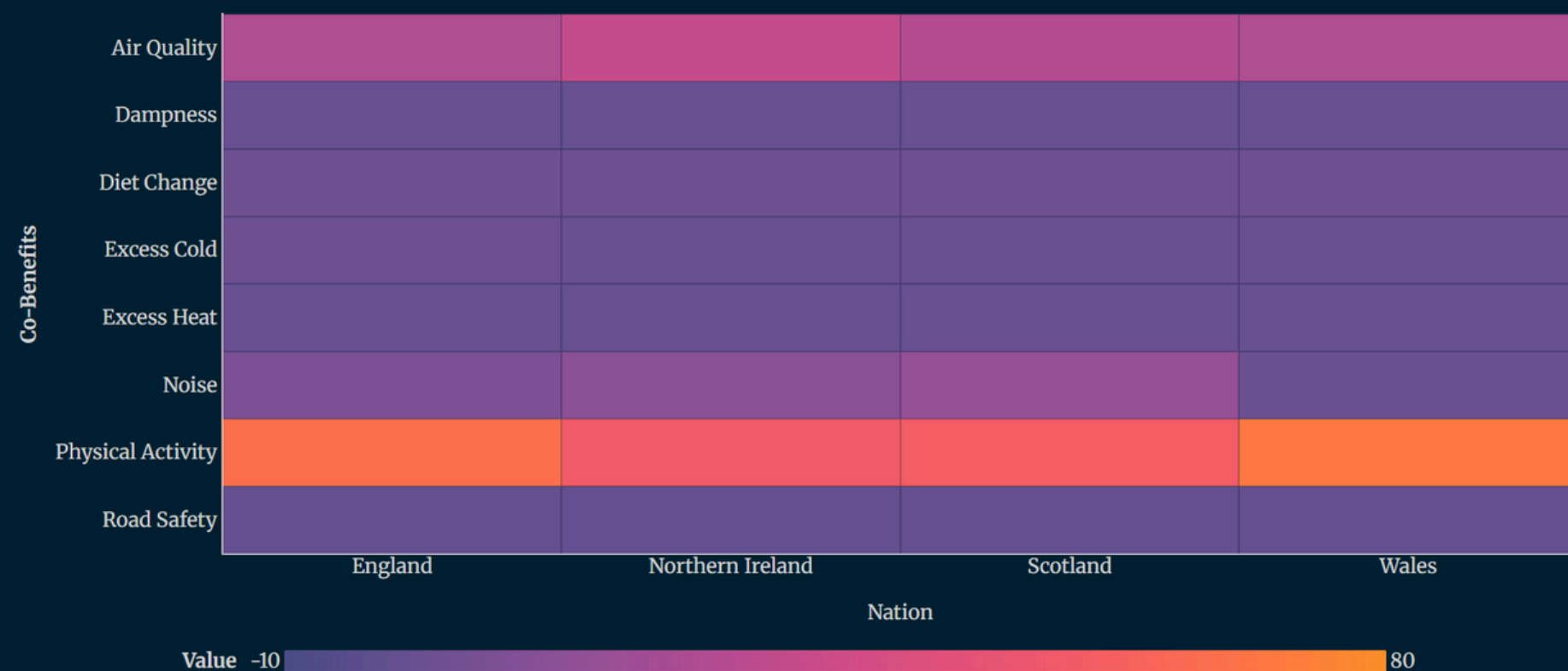
Not all climate actions improve health in the same way. Across the UK, physical activity is the dominant driver of health benefits, largely through walking and cycling. However, this national picture masks strong regional differences. Scotland's gains depend more on air quality and noise reduction, while Wales benefits most from active transport. Policies designed around national averages risk missing the pathways that matter most locally.

UK Health Benefit contribution by Pathway



*Negative road safety reflects modelling trade-offs, not long-term real-world risk.

Health Benefit pathway Contribution by Nation



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42,426 Communities analyzed

86% communities score CHBI < 10

~4.6% Median CHBI (out of 100)

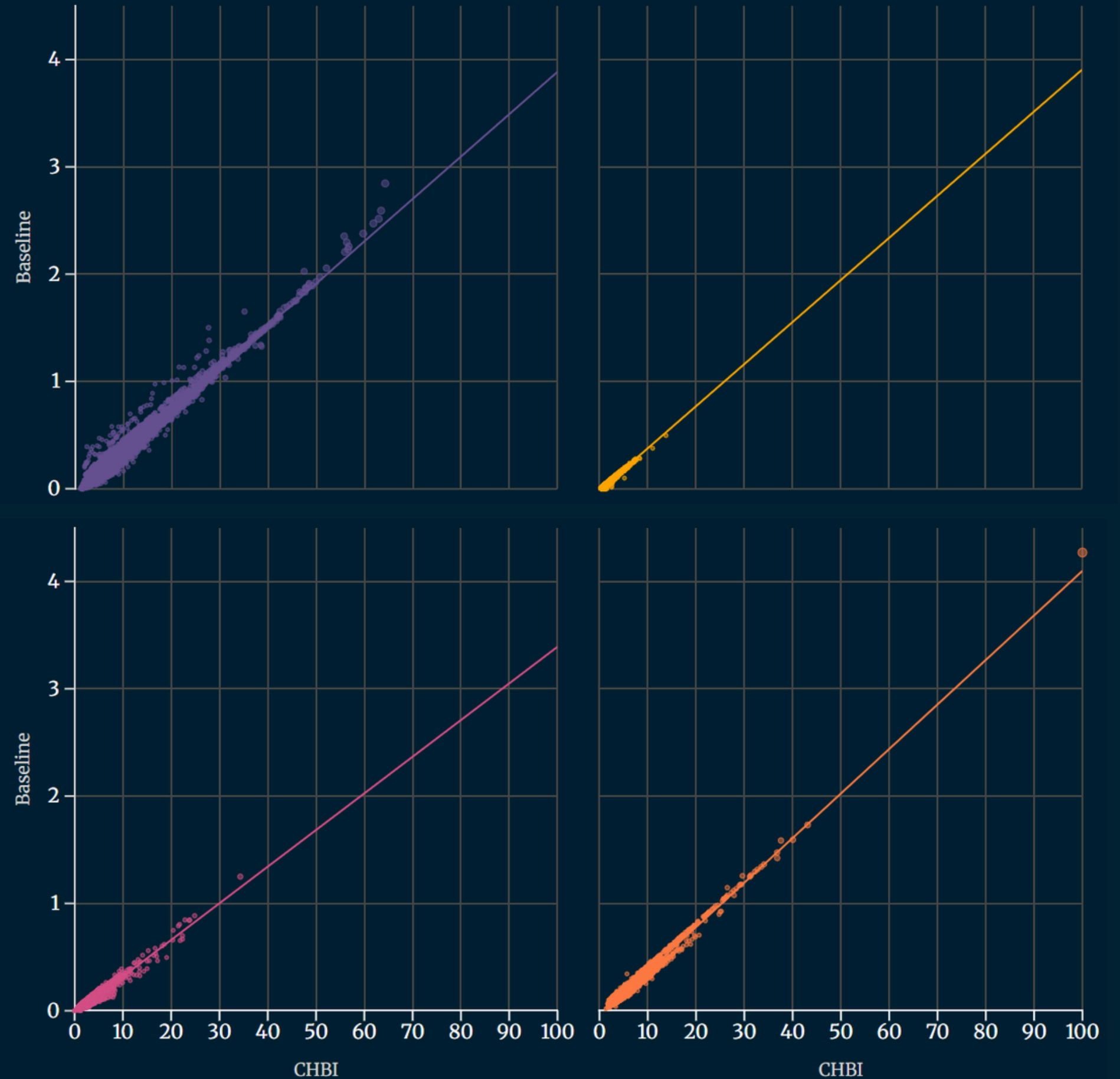
<1% communities account for the highest climate-health benefits

>90% communities are from England capturing CHBI > 40

Climate-health benefits are unevenly distributed across the UK. Although higher baseline health burden generally aligns with higher CHBI, the dominant pattern is concentration rather than equity. Over 85% of communities sit in the low-need, low-benefit zone, reflected in a median CHBI of just 4.6. Meaningful health gains are confined to a small number of dense urban areas, largely in England, while Scotland and Northern Ireland remain mostly outside high-benefit zones.

Baseline health burden vs CHBI

■ England
 ■ Scotland
 ■ Wales
 ■ Northern Ireland



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By 2050:

England: **169,638** cumulative
(85.3% of UK total)

Scotland: **15,131** cumulative
(7.6% of UK total)

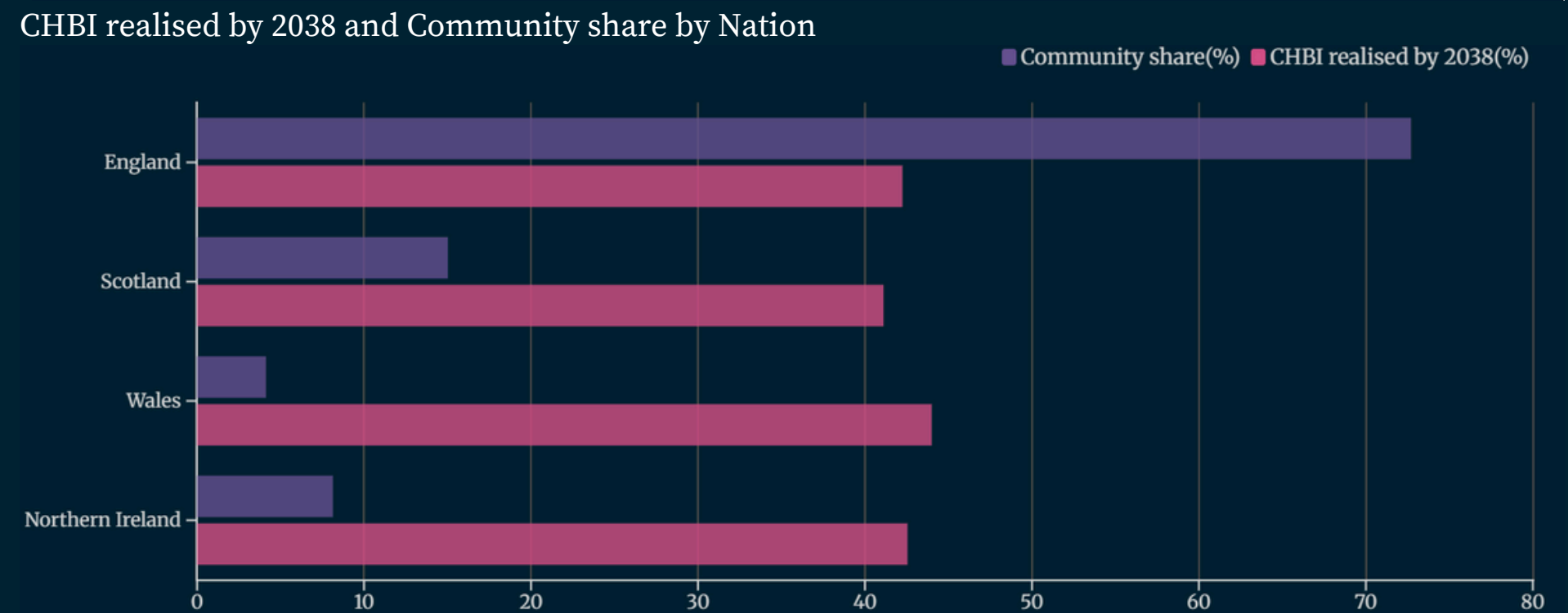
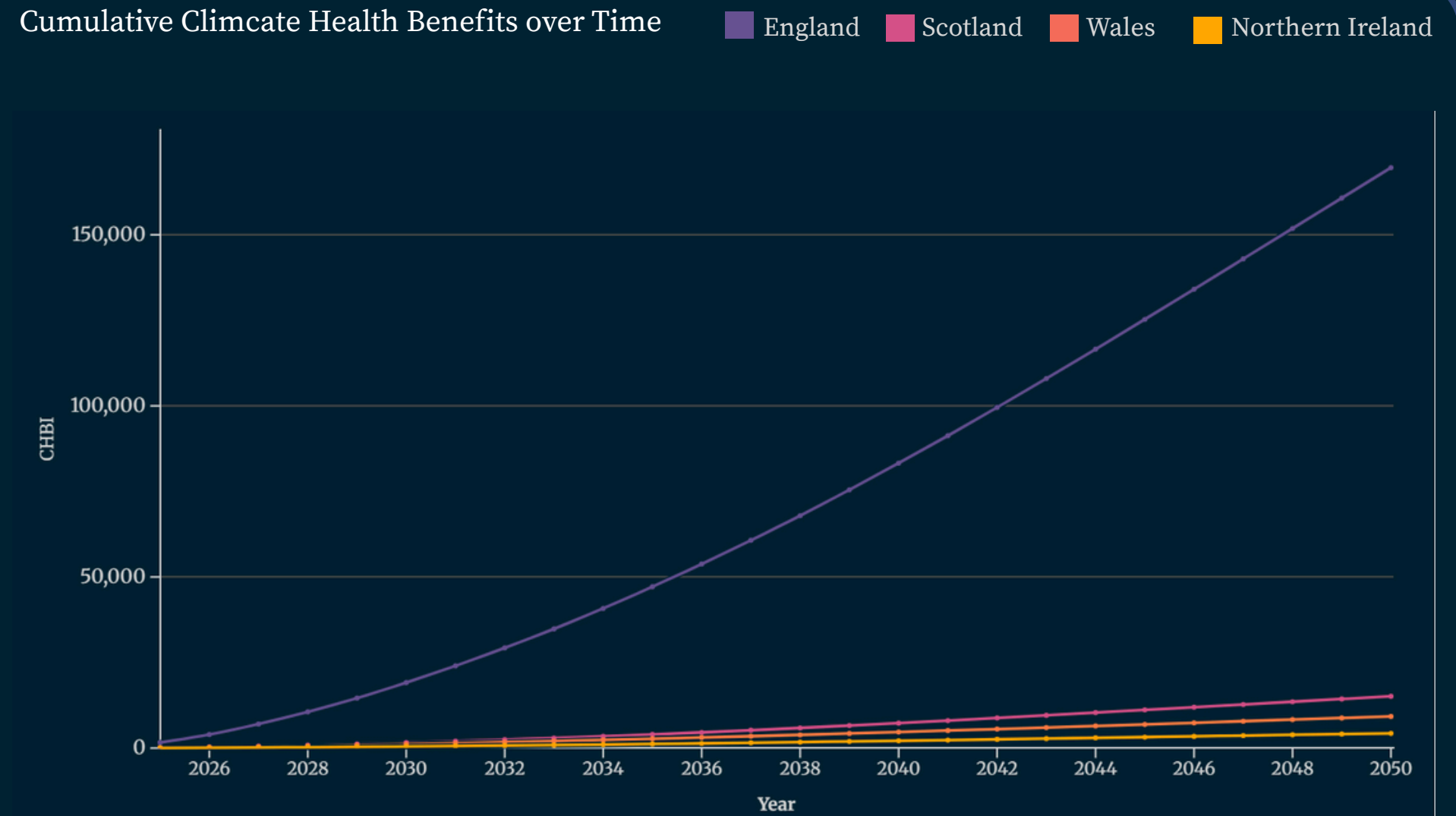
Wales: **9,254** cumulative
(4.7% of UK total)

N. Ireland: **4,315** cumulative
(2.2% of UK total)

Timing Disparity

- England reaches 50% of its total by 2033
- Scotland reaches 50% by 2037 (4-year lag)

Health benefits from climate action accumulate unevenly across the UK. The timeline shows that all nations realise a similar share of their total benefits by 2038, but England begins accumulating gains earlier and at a steeper pace. The comparison of 2038 progress with community coverage reveals why, interventions in England reach far more communities. This broader reach means early improvements affect a much larger population, allowing benefits to compound and dominate cumulative totals by 2050. Scotland and Wales follow similar timing paths but across far fewer communities, limiting overall impact. When benefits arrive matters, but where they arrive matters just as much.



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Health Outcome Breakdown

91.3% Reduced Mortality (Prevented deaths from respiratory, cold/heat illness, cardiovascular, etc.)

7.1% Sleep Disturbance (Quality of life from noise reduction)

1.6% QALY Gains (Improved quality-adjusted life years)

Priority Areas

Top 15 areas average **42.9** CHBI

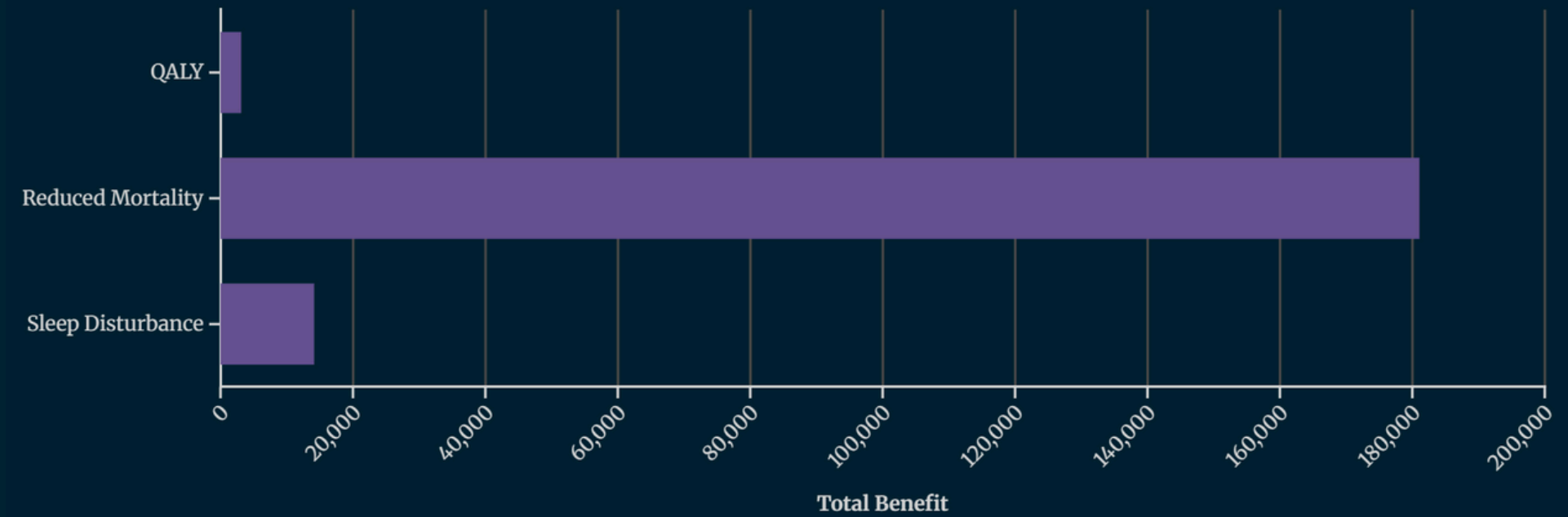
Focus interventions on:

- Air quality (England)
- Physical activity (Wales)
- Noise reduction (Scotland)

Climate action functions primarily as a mortality-prevention strategy. Most health gains come from avoided deaths rather than incremental quality-of-life improvements. High-benefit communities achieve these gains through different pathways, reflecting local conditions. Wales' top areas benefit most from physical activity, while England's gains are split between activity and air quality. Policy choices determine which pathways are prioritised, and ultimately, who lives longer and where.

Distribution of Climate-Related Health Benefits by Outcome

Damage Pathways



Top 15 Communities by Potential Health Gains

