Supplementary file 2: Heatmaps

Beyond capacity limits: Can social cohesion offset the impact of service constraints on youth mental health?

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Cumulative years spent in moderate-to-very-high psychological distress

People aged 15-24 years. From Jan 2025 to Jan 2035. Percentage change vs baseline

| 1 - | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | * | -0.1 | -0.2 | -0.3 | -0.4 | -0.5 | -0.6 | -0.7 | -0.8 | -0.9 | -1.0 | +196 |
|--------|--------------------|---------------|------|--------------------|--------------------|------|------|--------------|---------------------|--------------------|---------------|-----------------|-----------------|---------------|---------------|---------------|------|------|------|------|------|-------------|
| 0.9 - | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 | -0.1 | -0.1 | -0.2 | -0.3 | -0.4 | - 0. 5 | - 0. 6 | - 0. 7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | 0% |
| 0.8 - | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 | -0.1 | -0.2 | - <mark>0.</mark> 3 | - <mark>0.4</mark> | - 0. 5 | -0.6 | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.5 | -6% |
| 0.7 - | 0.2 | 0.1 | 0.0 | -0.1 | - <mark>0.2</mark> | -0.3 | -0.3 | -0.4 | -0.5 | - <mark>0.6</mark> | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | \star Basel |
| 0.6 - | 0.0 | -0.1 | -0.2 | - <mark>0.3</mark> | -0.4 | -0.5 | -0.6 | -0.7 | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | |
| 0.5 - | - <mark>0.2</mark> | -0.3 | -0.4 | -0.5 | -0.6 | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | |
| 0.4 - | -0.5 | - 0. 6 | -0.7 | -0.8 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | |
| 0.3 - | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | |
| 0.2 - | -0.9 | -1.0 | -1.1 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | |
| 0.2 - | -1.2 | -1.2 | -1.3 | -1.4 | -1.5 | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.2 | |
| | -1.4 | -1.5 | -1.6 | -1.7 | -1.7 | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.4 | |
| -0.1 - | -1.6 | -1.7 | -1.8 | -1.9 | -2.0 | -2.0 | -2.1 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | |
| -0.2 - | -1.8 | -1.9 | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | -3.8 | -3.9 | |
| -0.3 - | -2.0 | -2.1 | -2.2 | -2.3 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.1 | |
| -0.4 - | -2.3 | -2.4 | -2.4 | -2.5 | -2.6 | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.1 | -4.2 | -4.3 | |
| -0.5 - | -2.5 | -2.6 | -2.6 | -2.7 | -2.8 | -2.9 | -3.1 | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.1 | -4.2 | -4.3 | -4.4 | -4.5 | |
| -0.6 - | -2.7 | -2.8 | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.1 | -4.2 | -4.4 | -4.5 | -4.6 | -4.7 | -4.8 | |
| -0.7 - | -2.9 | -3.0 | -3.1 | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.1 | -4.3 | -4.4 | -4.5 | -4.6 | -4.7 | -4.8 | -4.9 | -5.0 | |
| -0.8 - | | -3.2 | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.2 | -4.3 | -4.4 | -4.5 | -4.6 | -4.7 | -4.8 | -4.9 | -5.0 | -5.1 | -5.2 | |
| -0.9 - | -3.3 | -3.4 | -3.5 | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.2 | -4.3 | -4.4 | -4.5 | -4.6 | -4.7 | -4.8 | -4.9 | -5.0 | -5.1 | -5.2 | -5.3 | -5.4 | |
| -1 - | | -3.6 | -3.7 | -3.8 | -3.9 | -4.0 | -4.2 | -4.3 | -4.4 | -4.5 | -4.6 | -4.7 | -4.8 | -4.9 | -5.0 | -5.1 | -5.3 | -5.4 | -5.5 | -5.6 | -5.7 | |
| | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 Multi | 0.8 plier on | 0.9 baseline | 1 service | 1.1 s capaci | 1.2 ty growt | 1.3 h rate | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2 | |

Fig. *S2a* Simulation results. Combined impact of changes to growth rate of specialised services, headspace and GP services capacity (x-axis) versus social cohesion (y-axis) on cumulative years spent in moderate-to-very-high psychological distress over the 10-year period, January 2025 to January 2035. The figure presented in each square represents the increase/decrease against the baseline. Red shading corresponds with a deterioration (increasing distress) and blue shading an improvement (decreasing distress) with the intensity of shading reflecting the scale of deterioration or improvement. The baseline services capacity growth rate and social cohesion is marked by the red star.

Cumulative years spent in mental disorder

People aged 15-24 years. From Jan 2025 to Jan 2035. Percentage change vs baseline

| 1 - | 4.8 | 4.3 | 3.8 | 3.4 | 2.9 | 2.4 | 1.9 | 1.4 | 1.0 | 0.5 | * | - <mark>0.5</mark> | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.4 | -3.9 | -4.4 | -4.9 | |
|--------|------|--------------------|-------|--------------|--------------------|-------|-------|---------------------|--------------------|-------|---------------------|--------------------|--------------|-------|-------|-------|-------|-------|----------------|----------------|-------|------------|
| 0.9 - | 4.1 | 3.6 | 3.1 | 2.6 | 2.1 | 1.7 | 1.2 | 0.7 | 0.2 | -0.3 | - <mark>0.</mark> 8 | -1.3 | -1.7 | -2.2 | -2.7 | -3.2 | -3.7 | -4.2 | -4.7 | -5.2 | -5.7 | |
| 0.8 - | 3.3 | 2.8 | 2.4 | 1.9 | 1.4 | 0.9 | 0.4 | 0.0 | - <mark>0.5</mark> | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.5 | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | |
| 0.7 - | 2.6 | 2.1 | 1.6 | 1.1 | 0.7 | 0.2 | -0.3 | - <mark>0.</mark> 8 | -1.3 | -1.8 | -2.3 | -2.8 | -3.3 | -3.8 | -4.3 | -4.8 | -5.3 | -5.8 | -6.3 | -6.8 | -7.3 | * E |
| 0.6 - | 1.9 | 1.4 | 0.9 | 0.4 | -0.1 | -0.6 | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.5 | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | -7.0 | -7.5 | -8.0 | |
| 0.5 - | 1.2 | 0.7 | 0.2 | - 0.3 | - <mark>0.8</mark> | -1.3 | -1.8 | -2.3 | -2.7 | -3.2 | -3.7 | -4.2 | -4.7 | -5.3 | -5.8 | -6.3 | -6.8 | -7.3 | -7.8 | -8.3 | -8.8 | |
| 0.4 - | 0.4 | 0.0 | -0.5 | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.5 | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | -7.0 | -7.5 | -8.0 | -8.5 | -9.0 | -9.5 | |
| 0.3 - | -0.3 | - <mark>0.8</mark> | -1.2 | -1.7 | -2.2 | -2.7 | -3.2 | -3.7 | -4.2 | -4.7 | -5.2 | -5.7 | -6.2 | -6.7 | -7.2 | -7.7 | -8.2 | -8.8 | -9.3 | -9.8 | -10.3 | |
| | -1.0 | -1.5 | -2.0 | -2.4 | -2.9 | -3.4 | -3.9 | -4.4 | -4.9 | -5.4 | -5.9 | -6.4 | -6.9 | -7.5 | -8.0 | -8.5 | -9.0 | -9.5 | -10.0 | -10.5 | -11.0 | |
| | -1.7 | -2.2 | -2.6 | -3.1 | -3.6 | -4.1 | -4.6 | -5.1 | -5.6 | -6.1 | -6.6 | -7.2 | -7.7 | -8.2 | -8.7 | -9.2 | -9.7 | -10.2 | -10.7 | -11.2 | -11.7 | |
| | -2.4 | -2.9 | -3.3 | -3.8 | -4.3 | -4.8 | -5.3 | -5.8 | -6.3 | -6.9 | -7.4 | -7.9 | -8.4 | -8.9 | -9.4 | -9.9 | -10.4 | -10.9 | -11.5 | -12.0 | -12.5 | |
| | -3.0 | -3.5 | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | -7.0 | -7.6 | -8.1 | -8.6 -9.3 | -9.1 -9.8 | -9.6 | -10.1 | -10.6 | -11.1 | -11.7 | -12.2 | -12.7 -13.4 | -13.2 | |
| -0.2 = | | -4.2 | -4.1 | -5.9 | -5.7 | -6.9 | -0.7 | -7.9 | -8.4 | -8.9 | -0.0 | -9.5 | -9.0 | -10.3 | -10.8 | -11.3 | -11.9 | -12.4 | -12.9 -13.6 | 20200264 | | |
| -0.3 - | | -5.6 | -6.1 | -6.6 | -7.1 | -7.6 | -8.1 | -8.6 | -9.1 | -9.6 | -10.2 | -10.7 | -11.2 | -11.7 | -12.2 | -12.7 | -13.3 | -13.1 | -13.3 | -14.8 | -14.3 | |
| -0.5 - | | -6.2 | -6.7 | -7.2 | -7.7 | -8.3 | -8.8 | -9.3 | -9.8 | -10.3 | -10.8 | -11.4 | -11.9 | -12.4 | -12.9 | -13.4 | -14.0 | -14.5 | -15.0 | -15.5 | -16.0 | |
| -0.6 - | -6.4 | -6.9 | -7.4 | -7.9 | -8.4 | -8.9 | -9.4 | -10.0 | -10.5 | -11.0 | -11.5 | -12.0 | -12.6 | -13.1 | -13.6 | -14.1 | -14.6 | -15.2 | -15.7 | -16.2 | -16.6 | |
| -0.7 - | -7.0 | -7.5 | -8.0 | -8.6 | -9.1 | -9.6 | -10.1 | -10.6 | -11.1 | -11.7 | -12.2 | -12.7 | -13.2 | -13.8 | -14.3 | -14.8 | -15.3 | -15.8 | -16.3 | -16.8 | -17.3 | |
| -0.8 - | -7.7 | -8.2 | -8.7 | -9.2 | -9.7 | -10.3 | -10.8 | -11.3 | -11.8 | -12.3 | -12.9 | -13.4 | -13.9 | -14.4 | -15.0 | -15.5 | -16.0 | -16.5 | -17.0 | -17.5 | -17.9 | |
| -0.9 - | -8.3 | -8.8 | -9.3 | -9.9 | -10.4 | -10.9 | -11.4 | -12.0 | -12.5 | -13.0 | -13.5 | -14.0 | -14.6 | -15.1 | -15.6 | -16.1 | -16.7 | -17.2 | -17.7 | -18.1 | -18.5 | |
| -1 - | -9.0 | -9.5 | -10.0 | -10.5 | -11.0 | -11.6 | -12.1 | -12.6 | -13.1 | -13.7 | -14.2 | -14.7 | -15.2 | -15.8 | -16.3 | -16.8 | -17.3 | -17.8 | -18.3 | -18.7 | -19.2 | |
| | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 1 0.8 | 0.9 | 1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2 | |

Fig. *S2b* Simulation results. Combined impact of changes to growth rate of specialised services, headspace and GP services capacity (x-axis) versus social cohesion (y-axis) on cumulative years spent in mental disorder over the 10-year period, January 2025 to January 2035. The figure presented in each square represents the increase/decrease against the baseline. Red shading corresponds with a deterioration (increasing disorder) and blue shading an improvement (decreasing disorder) with the intensity of shading reflecting the scale of deterioration or improvement. The baseline services capacity growth rate and social cohesion is marked by the red star.