**Table S1:** Time trends in CUD treatment use, specialty treatment use, and perceived treatment need *among those who met DSM-5-proxy CUD criteria* in the past year including age as a fixed effect, National Survey on Drug Use and Health 2002-2019 (N= 43,307)

|  |  |  |  |
| --- | --- | --- | --- |
|  | CUD Treatment Use  aRR (95% CI) | CUD Specialty Treatment Use  aRR (95% CI) | Perceived CUD Treatment Need  aRR (95% CI) |
| Age fixed effect  12-17  18-25  26 | Ref  **0.53 (0.48, 0.59)**  **0.66 (0.56, 0.78)** | Ref  **0.67 (0.57, 0.78)**  0.87 (0.69, 1.09) | Ref  0.85 (0.71, 1.03)  **1.63 (1.25, 2.11)** |
| Continuous Year | **0.97 (0.95, 0.99)** | 0.98 (0.95, 1.01) | **0.95 (0.92, 0.98)** |
| Intercept at 2015 | 0.80 (0.63, 1.02) | 0.93 (0.66, 1.32) | 0.93 (0.56, 1.54) |
| Slope after 2015 | 1.00 (0.92, 1.09) | 0.92 (0.80, 1.06) | 0.93 (0.79, 1.10) |
| Yearly change  before 2015 | **0.97 (0.95, 0.99)** | 0.98 (0.95, 1.01) | **0.95 (0.92, 0.98)** |
| Yearly change  after 2015a | 0.98 (0.90, 1.06) | 0.91 (0.79, 1.03) | 0.89 (0.76, 1.04) |

Notes: CUD= cannabis use disorder; aRR= adjusted risk ratio; CI= confidence interval; Bold values indicate p<0.05.

aValues derived from linear combinations of continuous year + slope after 2015.

CUD inclusion criteria= meeting criteria for DSM-5-proxy CUD.

**Table S2:** Time trends in CUD treatment use, specialty treatment use, and perceived treatment need *among those who met DSM-5-proxy CUD criteria* in the past year including age interactions, National Survey on Drug Use and Health 2002-2019 (N= 43,307)

|  |  |  |  |
| --- | --- | --- | --- |
|  | CUD Treatment Use  aRR (95% CI) | CUD Specialty Treatment Use  aRR (95% CI) | Perceived CUD Treatment Need  aRR (95% CI) |
| **Intercept changes** |  |  |  |
| Age  12-17  18-25  26 | Ref  **0.63 (0.50, 0.79)**  0.71 (0.47, 1.07) | Ref  0.76 (0.54, 1.08)  0.98 (0.55, 1.77) | Ref  0.98 (0.66, 1.45)  1.65 (1.00, 2.72) |
| Intercept at 2015 | 0.88 (0.60, 1.28) | 0.60 (0.31, 1.16) | 1.13 (0.47, 2.72) |
| Age\*Intercept at 2015 Interaction  12-17  18-25  26 | Ref  1.22 (0.70, 2.12)  0.64 (0.35, 1.18) | Ref  2.08 (0.79, 5.45)  1.39 (0.56, 3.46) | Ref  0.84 (0.29, 2.39)  0.78 (0.23, 2.62) |
| Age-specifica change in intercept at 2015 vs. 2002  12-17  18-25  26 | 0.88 (0.60, 1.28)  1.07 (0.76, 1.51)  **0.57 (0.34, 0.94)** | 0.60 (0.31, 1.16)  1.25 (0.72, 2.15)  0.84 (0.45, 1.56) | 1.13 (0.47, 2.72)  0.95 (0.49, 1.82)  0.88 (0.39, 1.98) |
| **Slope changes** |  |  |  |
| Continuous Year | 0.98 (0.96, 1.00) | 1.00 (0.96, 1.04) | 0.96 (0.91, 1.00) |
| Age\*Continuous Year Interaction  12-17  18-25  26 | Ref  0.98 (0.95, 1.01)  1.00 (0.95, 1.05) | Ref  0.98 (0.93, 1.02)  0.98 (0.91, 1.05) | Ref  0.98 (0.93, 1.03)  1.00 (0.94, 1.08) |
| Slope after 2015 | 1.00 (0.87, 1.15) | 0.99 (0.75, 1.31) | 0.89 (0.63, 1.25) |
| Age\*Slope after 2015 Interaction  12-17  18-25  26 | Ref  0.94 (0.77, 1.13)  1.08 (0.88, 1.32) | Ref  0.86 (0.59, 1.25)  0.98 (0.68, 1.41) | Ref  1.20 (0.79, 1.82)  0.98 (0.64, 1.50) |
| Age-specificb change over time **before 2015**  12-17  18-25  26 | 0.98 (0.96, 1.00)  **0.96 (0.94, 0.98)**  0.98 (0.93, 1.02) | 1.00 (0.96, 1.04)  0.97 (0.94, 1.00)  0.98 (0.92, 1.04) | 0.96 (0.91, 1.00)  **0.94 (0.90, 0.97)**  0.96 (0.91, 1.01) |
| Age-specificc change over time **after 2015**  12-17  18-25  26 | 0.98 (0.86, 1.13)  0.90 (0.80, 1.00)  1.06 (0.90, 1.24) | 0.99 (0.75, 1.31)  0.83 (0.67, 1.03)  0.95 (0.78, 1.17) | 0.85 (0.60, 1.19)  0.99 (0.81, 1.23)  0.83 (0.64, 1.08) |

Notes: CUD= cannabis use disorder; aRR= adjusted risk ratio; CI= confidence interval; Bold values indicate p<0.05.

aAge-specific values derived from linear combinations 2015 intercept + age\*2015 intercept

bAge-specific values derived from linear combinations continuous year + age\*year interaction

cAge-specific values derived from linear combinations continuous year + age\*year interaction + slope after 2015 + age\*slope after 2015

CUD inclusion criteria=meeting criteria for DSM-5-proxy CUD.

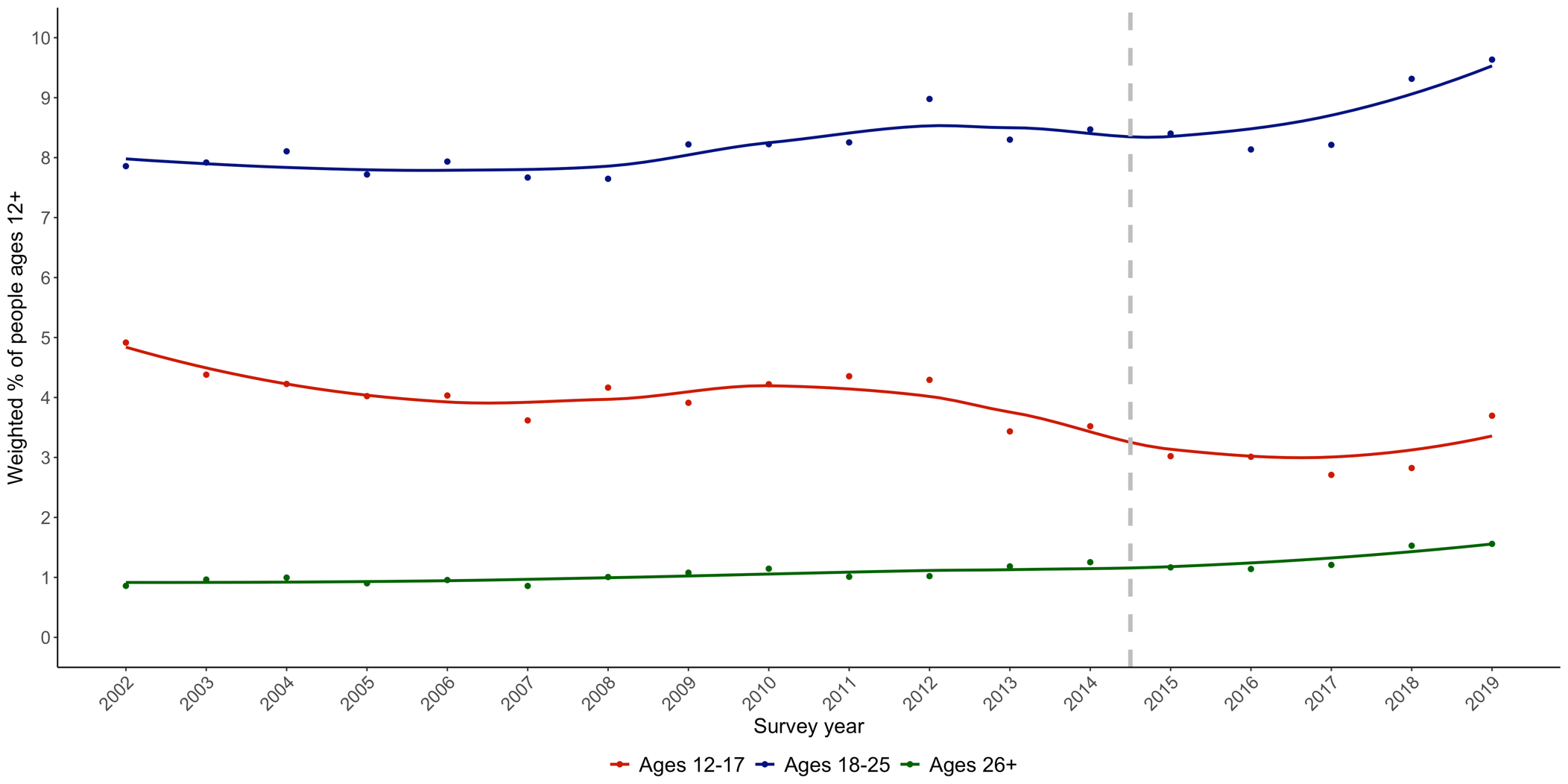
**Table S3:** Time trends in CUD treatment use, specialty treatment use, and perceived treatment need *among those who met DSM-5-proxy CUD criteria* in the past year by age group, National Survey on Drug Use and Health 2002-2019 (N= 43,307)

|  |  |  |  |
| --- | --- | --- | --- |
|  | CUD Treatment Use  aRR (95% CI) | CUD Specialty Treatment Use  aRR (95% CI) | Perceived CUD Treatment Need  aRR (95% CI) |
| CUD severity  Mild  Moderate  Severe | Ref  **2.18 (1.88, 2.54)**  **4.16 (3.68, 4.72)** | Ref  **2.00 (1.63, 2.46)**  **4.53 (3.77, 5.44)** | Ref  **4.06 (3.05, 5.40)**  **7.94 (6.15, 10.25)** |
| Age fixed effect  12-17  18-25  26 | Ref  **0.69 (0.58, 0.83)**  0.87 (0.64, 1.19) | Ref  0.76 (0.57, 1.02)  1.05 (0.67, 1.64) | Ref  1.05 (0.75, 1.47)  **2.13 (1.39, 3.29)** |
| Continuous year | **0.98 (0.97, 1.00)** | 0.98 (0.96, 1.01) | **0.96 (0.93, 1.00)** |
| Age\*Continuous year interaction  12-17  18-25  26 | Ref  **0.98 (0.96, 1.00)**  0.98 (0.95, 1.01) | Ref  0.99 (0.96, 1.02)  0.99 (0.95, 1.03) | Ref  0.99 (0.95, 1.03)  0.98 (0.94, 1.02) |
| Age-specific yearly changea  Ages 12-17  Ages 18-25  Ages 26 | **0.98 (0.97, 1.00)**  **0.66 (0.56, 0.79)**  0.84 (0.63, 1.12) | 0.98 (0.96, 1.01)  **0.74 (0.56, 0.98)**  1.02 (0.67, 1.55) | **0.96 (0.93, 1.00)**  1.00 (0.72, 1.38)  **2.02 (1.33, 3.05)** |

Notes: CUD= cannabis use disorder; aRR= adjusted risk ratio; CI= confidence interval; Bold values indicate p<0.05.

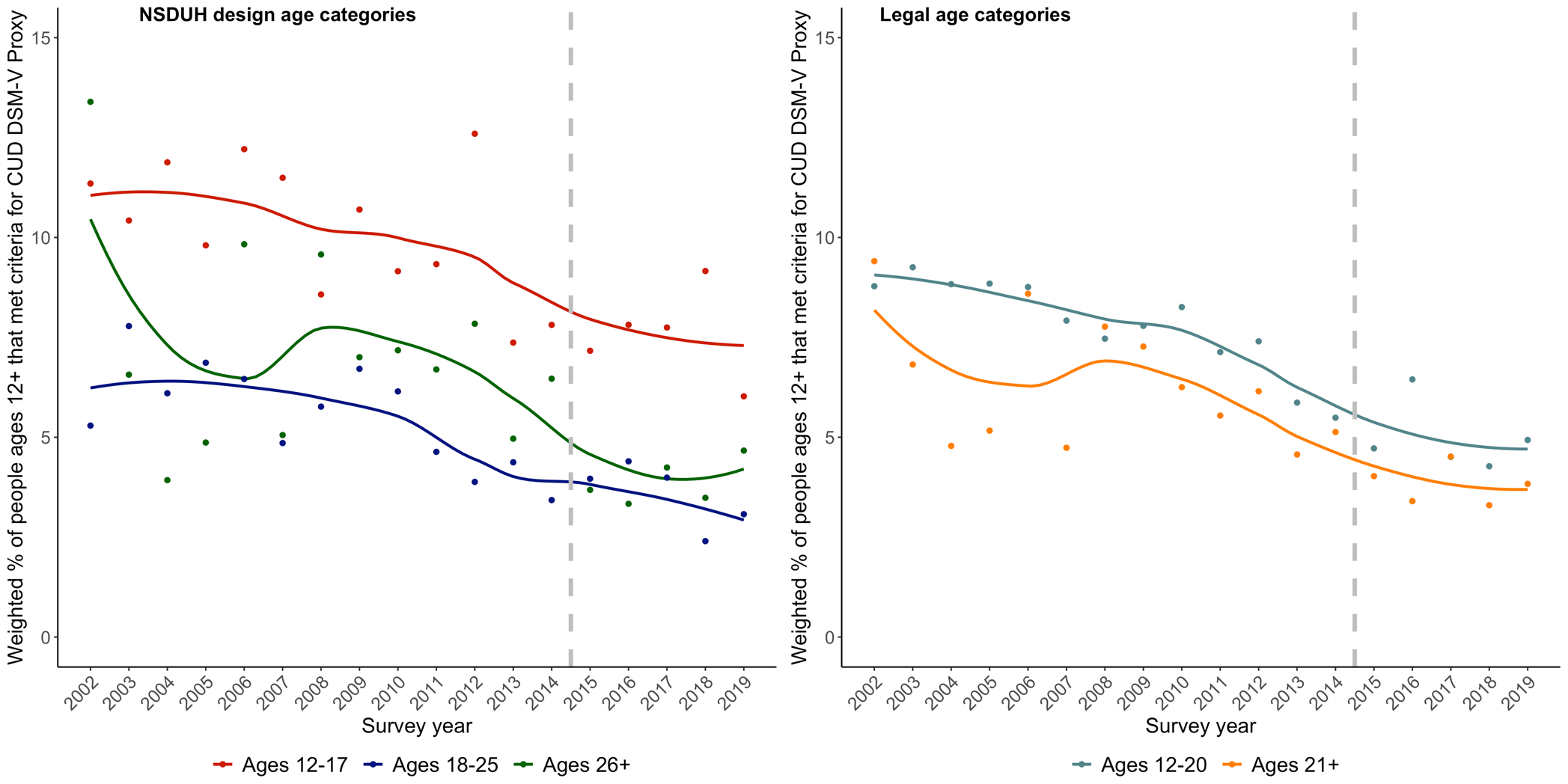
aValues derived from linear combinations of continuous year + age groups. CUD inclusion criteria= meeting criteria for DSM-5-proxy CUD

Figure S1: Prevalence of DSM-5-proxy CUD in the past year, NSDUH 2002-2019 (N=1,005,421)



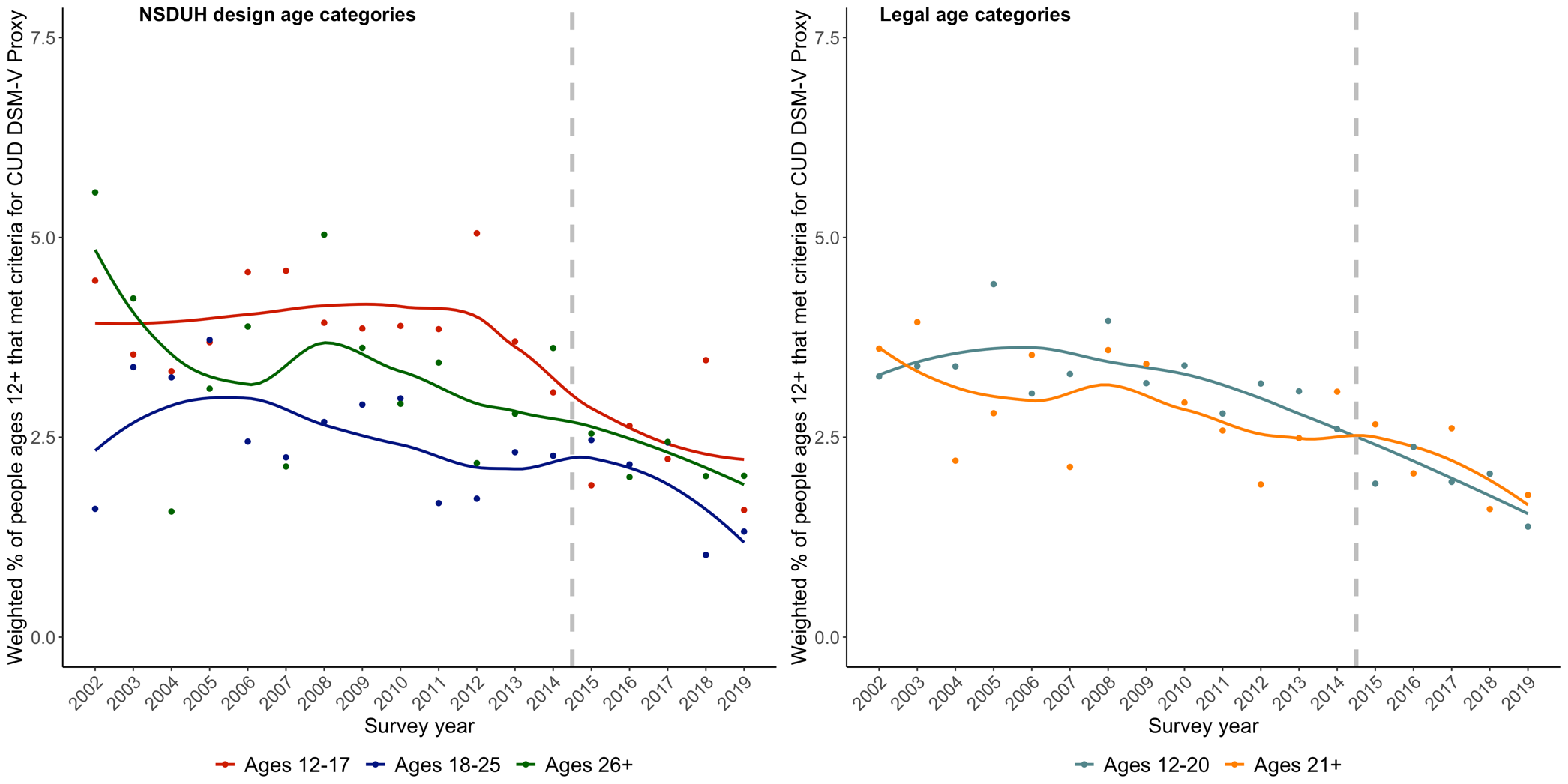
Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign.

Figure S2: CUD treatment use in the past year among those with past-year DSM-5-proxy CUD, NSDUH 2002-2019 (N= 43,307)



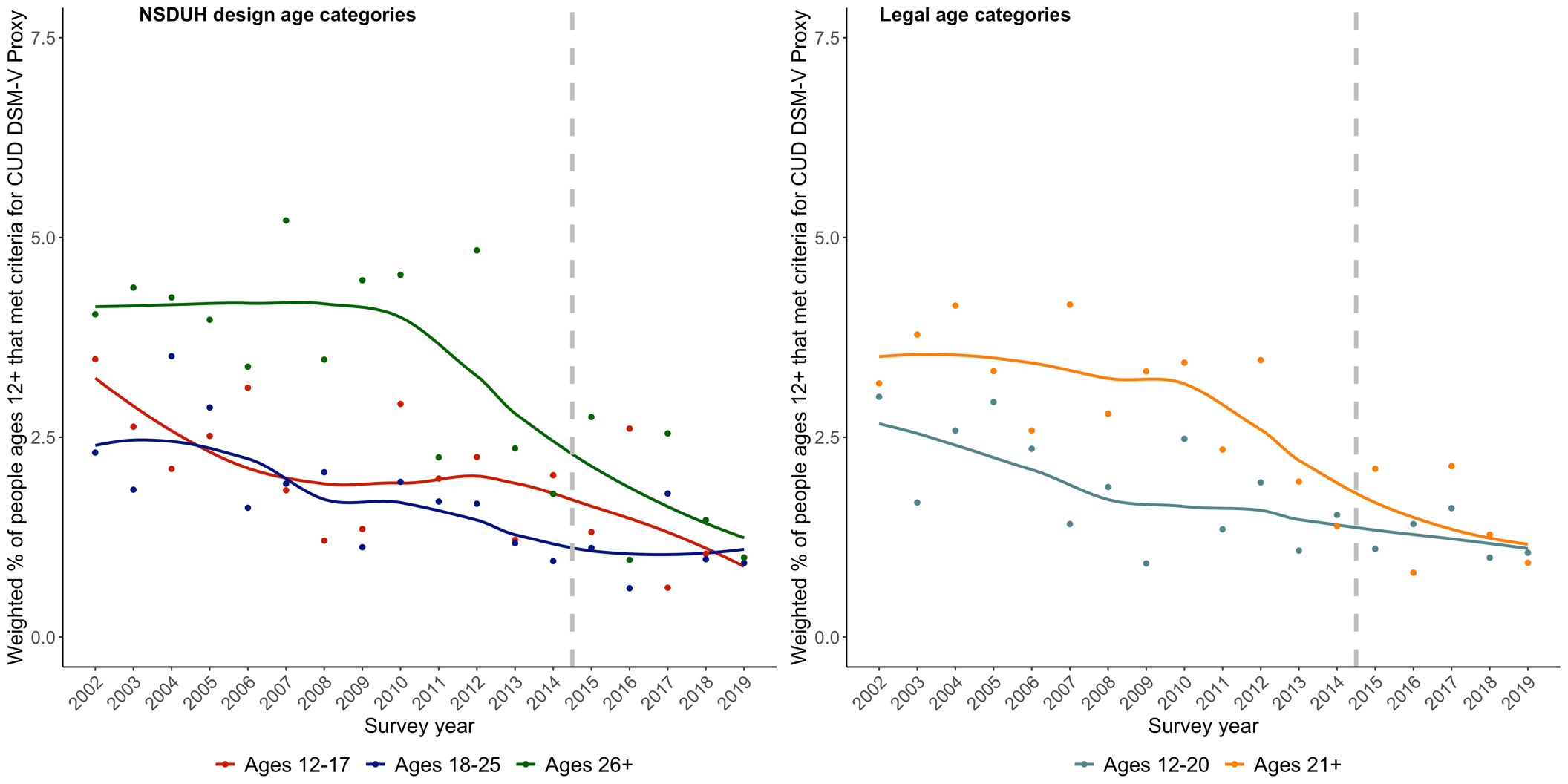
Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign.

Figure S3: CUD specialty treatment use in the past year among those with past-year DSM-5-proxy CUD, NSDUH 2002-2019 (N= 43,307)



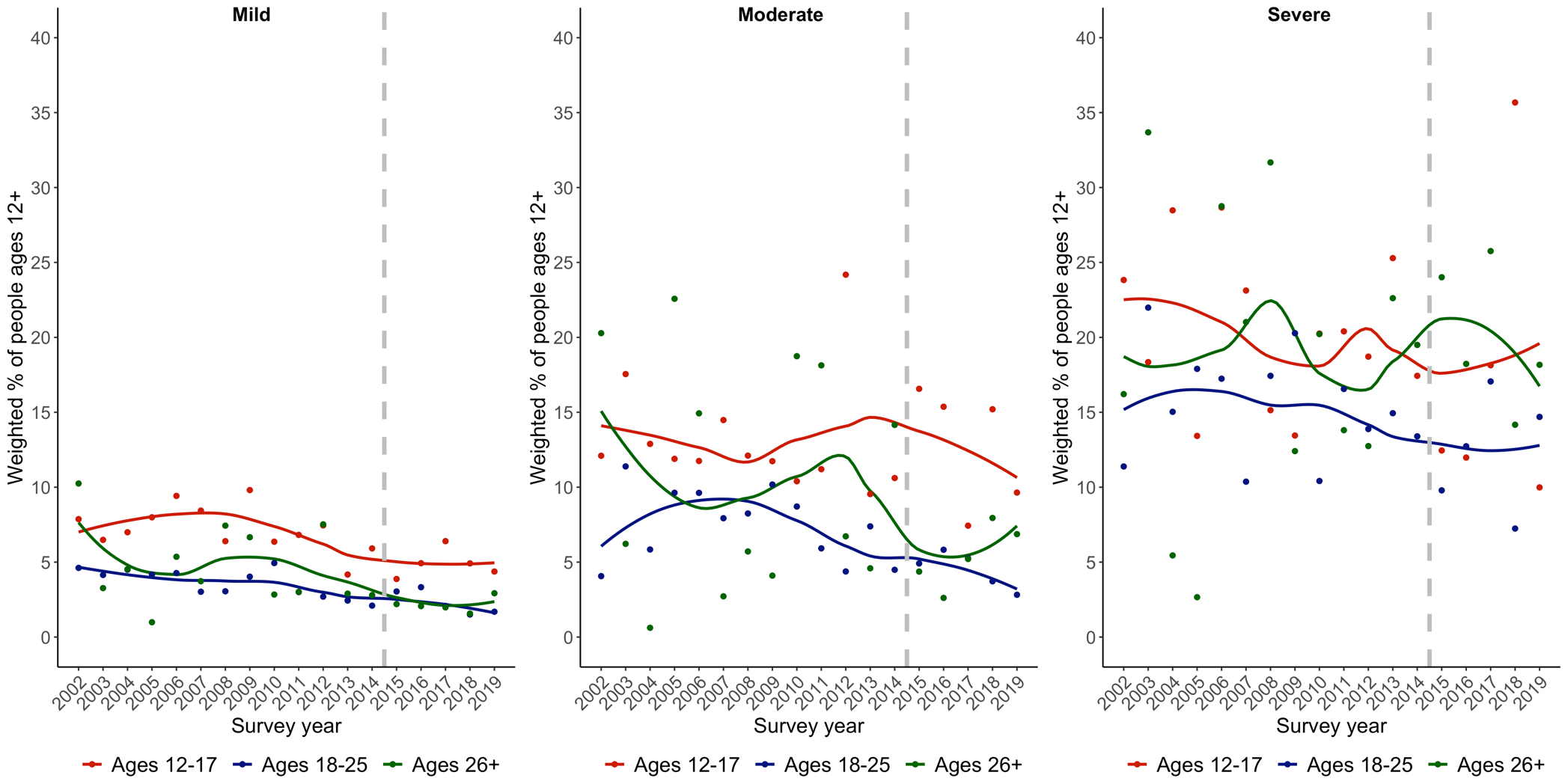
Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign.

Figure S4: Perceived CUD treatment need in the past year among those with past-year DSM-5-proxy CUD, NSDUH 2002-2019 (N= 43,307)



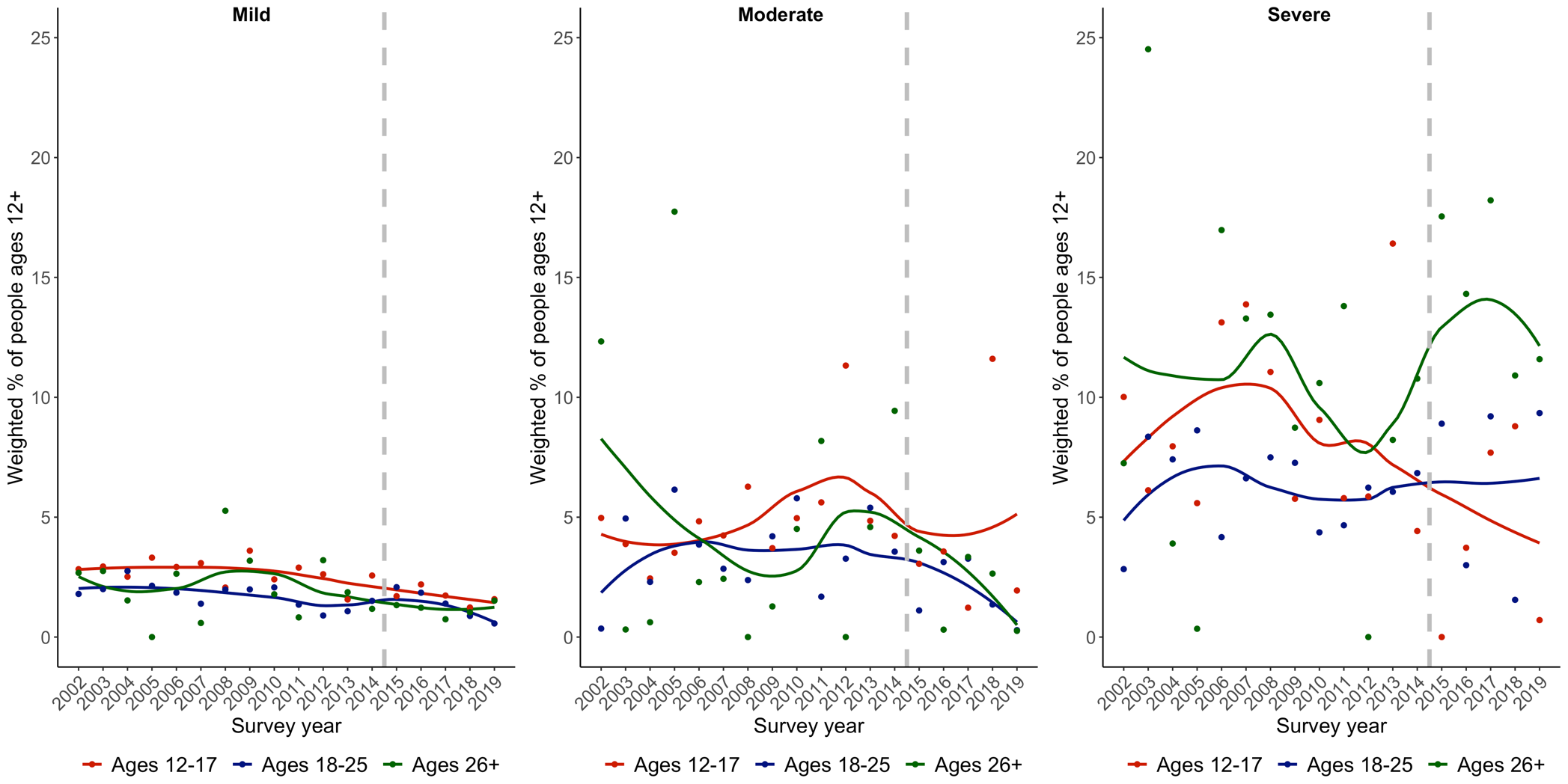
Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign.

Figure S5: Trends in CUD treatment use by severity of past-year DSM-5-proxy CUD and age group, NSDUH 2002-2019 (N= 43,307)



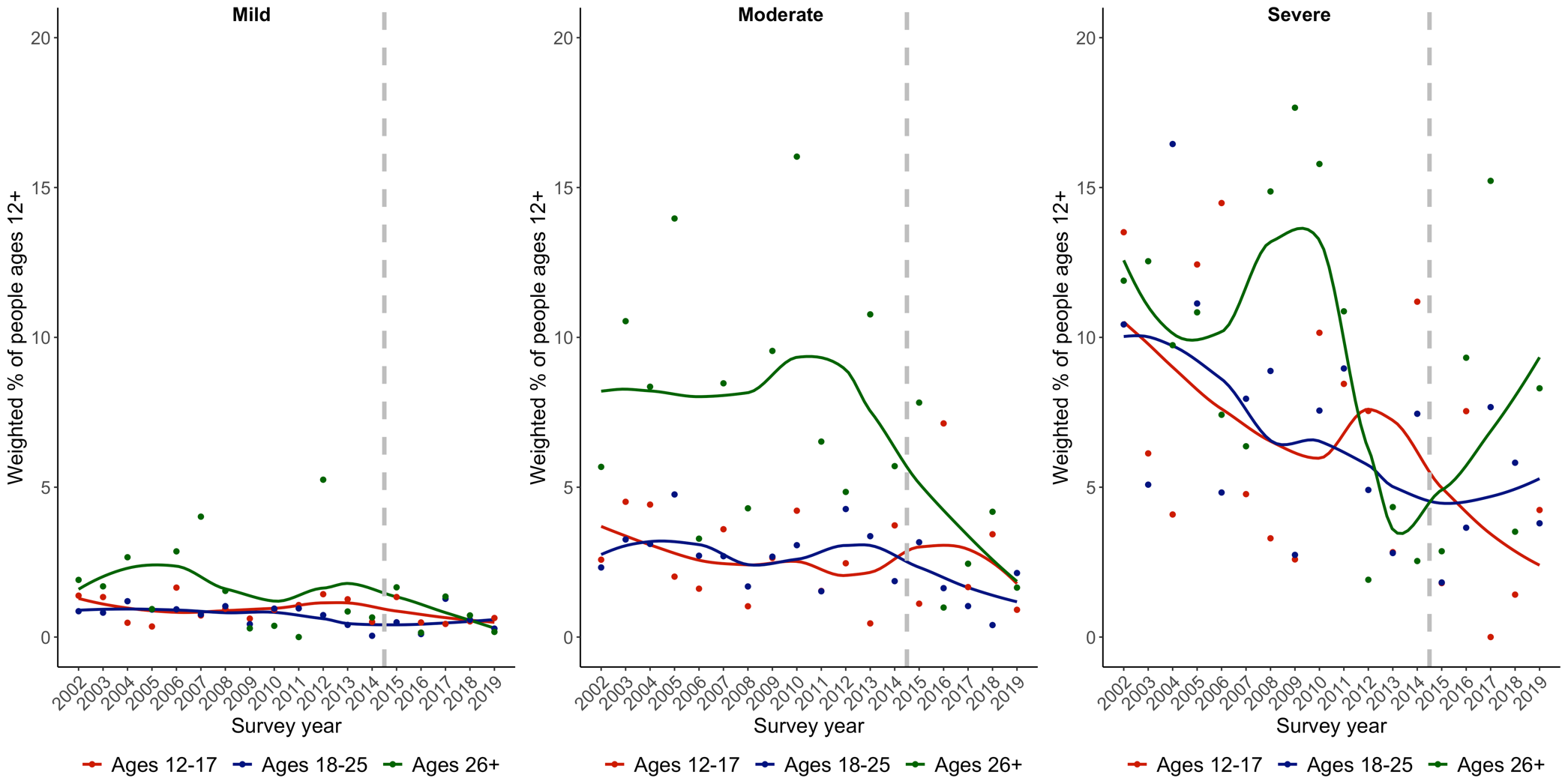
Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign. Mild DSM-5-proxy CUD was characterized as 2-3 symptoms (n=30,433), moderate as 4-5 symptoms (n=8,769), and severe as 6 or more symptoms (n=4,105).

Figure S6: Trends in CUD specialty treatment use by severity of past-year DSM-5-proxy CUD and age group, NSDUH 2002-2019 (N= 43,307)



Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign. Mild DSM-5-proxy CUD was characterized as 2-3 symptoms (n=30,433), moderate as 4-5 symptoms (n=8,769), and severe as 6 or more symptoms (n=4,105).

Figure S7: Trends in perceived CUD treatment need by severity of past-year DSM-5-proxy CUD and age group, NSDUH 2002-2019 (N= 43,307)



Notes: CUD= Cannabis Use Disorder. Vertical line at 2015 represents NSDUH survey redesign. Mild DSM-5-proxy CUD was characterized as 2-3 symptoms (n=30,433), moderate as 4-5 symptoms (n=8,769), and severe as 6 or more symptoms (n=4,105).