**Supplemental Digital Content 1.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Univariable\*** | | **Multivariable†** | | **Multivariable model with clinical covariates‡** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 4.8 | <0.001 | 0.8 | 0.530 | -0.8 | 0.504 |
| Diagnosis post-expansion  (≥2014) | - | - | 2.6 | 0.022 | 2.8 | 0.004 |
| Treatment  (live in expansion state) | - | - | 2.3 | 0.001 | 2.4 | <0.001 |
| Sex:  Male | - | - | -5.6 | <0.001 | -2.7 | <0.001 |
| Race:  Black**§** | - | - | -2.4 | 0.001 | -0.9 | 0.182 |
| Race:  Other**§** | - | - | 3.2 | 0.001 | 1.1 | 0.202 |
| Insurance at diagnosis:  Insured**||** | - | - | 13.6 | <0.001 | 9.0 | <0.001 |
| Insurance at diagnosis:  Uninsured or unknown**||** | - | - | 0.1 | 0.907 | -0.1 | 0.893 |
| Urban Influence Code:  Metropolitan county (UIC: 1 or 2) | - | - | 5.2 | <0.001 | 4.5 | <0.001 |
| Social Deprivation Index:  ≥ Mean (56.38) | - | - | -4.6 | <0.001 | -3.6 | <0.001 |
| Stage at diagnosis:  Distant | - | - | - | - | -18.0 | <0.001 |
| Treatment:  Surgery | - | - | - | - | 4.0 | <0.001 |
| Disease site:  Head of the pancreas | - | - | - | - | -1.0 | 0.028 |

**\***The univariable model was adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**The multivariable model was adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, race (White, Black, other), insurance at diagnosis (insured, Medicaid, and uninsured or unknown), Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

**‡**The multivariable model with clinical covariates was adjusted for distant stage disease at diagnosis, treatment with surgery, and disease located in the head of the pancreas, in addition to factors/methods in the multivariable model.

**§**Race reference group is White.

**||**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 2.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015, Stratified by Race

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **White**  **(n = 27,059)** | | | | **Black**  **(n = 5,542)** | | | | **Other Race**  **(n = 2,746)** | | | |
| **Univariable\*** | | **Multivariable†** | | **Univariable \*** | | **Multivariable†** | | **Univariable \*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 4.4 | <0.001 | 2.6 | 0.109 | 4.8 | .023 | -2.0 | 0.506 | 1.9 | 0.374 | 5.9 | 0.483 |
| Diagnosis post-expansion  (≥2014) | - | - | 1.0 | 0.466 | - | - | 5.9 | 0.003 | - | - | -4.4 | 0.587 |
| Treatment  (live in expansion state) | - | - | 2.6 | 0.001 | - | - | 1.3 | 0.365 | - | - | -3.7 | 0.429 |
| Sex:  Male | - | - | -4.9 | <0.001 | - | - | -8.9 | <0.001 | - | - | -5.1 | 0.006 |
| Insurance at diagnosis:  Insured**‡** | - | - | 14.7 | <0.001 | - | - | 10.4 | <0.001 | - | - | 11.4 | <0.001 |
| Insurance at diagnosis:  Uninsured or unknown**‡** | - | - | 1.0 | 0.410 | - | - | 0.8 | 0.703 | - | - | -7.6 | 0.032 |
| Urban Influence Code:  Metropolitan county (UIC: 1 or 2) | - | - | 5.5 | <0.001 | - | - | 4.2 | 0.063 | - | - | 1.6 | 0.689 |
| Social Deprivation Index:  ≥ Mean (56.38) | - | - | -5.1 | <0.001 | - | - | -4.6 | 0.002 | - | - | -0.1 | 00.973 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, insurance at diagnosis (insured, Medicaid, and uninsured or unknown), Urban Influence Code, and Social Deprivation Index and used cluster-robust standard errors.

**‡**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 3.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015, Stratified by Sex

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Male**  **(n = 20,079)** | | | | **Female**  **(n = 15,286)** | | | |
| **Univariable \*** | | **Multivariable†** | | **Univariable \*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 4.5 | <0.001 | 0.6 | 0.733 | 4.8 | <0.001 | 1.2 | 0.564 |
| Diagnosis post-expansion  (≥2014) | - | - | 2.7 | 0.066 | - | - | 2.3 | 0.180 |
| Treatment  (live in expansion state) | - | - | 2.2 | 0.013 | - | - | 2.6 | 0.015 |
| Race:  Black**§** | - | - | -4.2 | <0.001 | - | - | -0.3 | 0.801 |
| Race:  Other**§** | - | - | 3.1 | 0.019 | - | - | 3.3 | 0.025 |
| Insurance at diagnosis:  Insured (non-Medicaid)**||** | - | - | 13.4 | <0.001 | - | - | 13.8 | <0.001 |
| Insurance at diagnosis:  Uninsured or unknown**||** | - | - | 0.9 | 0.468 | - | - | -1.1 | 0.466 |
| Urban Influence Code:  Metropolitan county (UIC: 1 or 2) | - | - | 4.7 | <0.001 | - | - | 5.7 | <0.001 |
| Social Deprivation Index:  ≥ Mean (56.38) | - | - | -5.0 | <0.001 | - | - | -4.0 | <0.001 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, race (White, Black, other), insurance at diagnosis (insured, Medicaid, and uninsured or unknown), Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

**§**Race reference group is White.

**||**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 4.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015, Stratified by Insurance Coverage at Diagnosis

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Insured\* (n = 26,553)** | | | | **Medicaid (n = 5,665)** | | | | **Uninsured and Unknown**  **(n = 3,129)** | | | |
| **Univariable †** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 5.3 | <0.001 | -0.1 | 0.938 | 2.3 | 0.114 | 7.4 | 0.014 | 2.0 | 0.475 | -2.2 | 0.609 |
| Diagnosis post-expansion  (≥2014) | - | - | 3.9 | 0.004 | - | - | -5.3 | 0.040 | - | - | 4.6 | 0.146 |
| Treatment  (live in expansion state) | - | - | 3.7 | <0.001 | - | - | -2.0 | 0.228 | - | - | -1.1 | 0.561 |
| Sex:  Male | - | - | -5.7 | <0.001 | - | - | -5.9 | <0.001 | - | - | -3.6 | 0.027 |
| Race:  Black**§** | - | - | -3.5 | <0.001 | - | - | -0.3 | 0.866 | - | - | -1.1 | 0.601 |
| Race:  Other**§** | - | - | 2.7 | 0.021 | - | - | 7.4 | 0.001 | - | - | -0.7 | 0.800 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 5.7 | <0.001 | - | - | 3.5 | 0.038 | - | - | 5.0 | 0.015 |
| Social Deprivation Index: ≥ Mean (56.38) | - | - | -4.6 | <0.001 | - | - | -4.6 | <0.001 | - | - | -3.7 | 0.024 |

\*The insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

**†**Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**‡**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, race (White, Black, other), Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

**§**Race reference group is White.

DD, Difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 5.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015, Stratified by Urban Influence Code

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Metropolitan UIC (n = 31,268)** | | | | **Non-Metropolitan UIC (n = 4,079)** | | | |
| **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 5.0 | <0.001 | 1.2 | 0.418 | 2.3 | 0.239 | -2.2 | 0.547 |
| Diagnosis post-expansion  (≥2014) | - | - | 2.6 | 0.032 | - | - | 2.5 | 0.384 |
| Treatment  (live in expansion state) | - | - | 2.5 | 0.001 | - | - | 1.9 | 0.319 |
| Sex:  Male | - | - | -5.7 | <0.001 | - | - | -4.3 | 0.004 |
| Race:  Black**§** | - | - | -2.5 | 0.001 | - | - | -1.3 | 0.592 |
| Race:  Other**§** | - | - | 2.9 | 0.004 | - | - | 6.8 | 0.088 |
| Insurance at diagnosis:  Insured (non-Medicaid)**||** | - | - | 13.9 | <0.001 | - | - | 11.7 | <0.001 |
| Insurance at diagnosis:  Uninsured or Unknown**||** | - | - | 0.3 | 0.778 | - | - | -1.2 | 0.614 |
| Social Deprivation Index: ≥ Mean (56.38) | - | - | -4.7 | <0.001 | - | - | -4.4 | 0.004 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, race (White, Black, other), insurance at diagnosis (insured, Medicaid, and uninsured or unknown), and Social Deprivation Index, and used cluster-robust standard errors.

**§**Race reference group is White.

**||**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 6.** Difference-in-Differences Model Predicting 1-Year Survival, 2007-2015, Stratified by Social Deprivation Index

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **High social deprivation**  **(n = 18,162)** | | | | **Low social deprivation**  **(n = 17,185)** | | | |
| **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 4.3 | <0.001 | -0.2 | 0.911 | 4.9 | <0.001 | 1.9 | 0.341 |
| Diagnosis post-expansion  (≥2014) | - | - | 2.8 | 0.058 | - | - | 2.3 | 0.201 |
| Treatment  (live in expansion state) | - | - | 2 .8 | 0.002 | - | - | 2.0 | 0.055 |
| Sex:  Male | - | - | -6.3 | <0.001 | - | - | -4.8 | <0.001 |
| Race:  Black**§** | - | - | -2.0 | 0.025 | - | - | -3.1 | 0.021 |
| Race:  Other**§** | - | - | 5.9 | <0.001 | - | - | 0.8 | 0.569 |
| Insurance at diagnosis:  Insured (non-Medicaid)**||** | - | - | 13.4 | <0.001 | - | - | 13.8 | <0.001 |
| Insurance at diagnosis:  Uninsured or unknown**||** | - | - | 0.8 | 0.517 | - | - | -0.7 | 0.669 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 4.5 | <0.001 | - | - | 5.8 | <0.001 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, race (White, Black, other), insurance at diagnosis (insured, Medicaid, and uninsured or unknown), and Urban Influence Code, and used cluster-robust standard errors.

**§**Race reference group is White.

**||**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).  
DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 7****.** Difference-in-Differences Model Predicting 1-Year Survival for Men, 2007-2015, Stratified by Race

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **White male (n=15,576)** | | | | **Black male (n=3,017)** | | | | **Other race male**  **(n=1,486)** | | | |
| **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 3.8 | <0.001 | 1.6 | 0.445 | 7.0 | 0.015 | 0.1 | 0.976 | 1.2 | 0.677 | 6.3 | 0.575 |
| Diagnosis post-expansion  (≥2014) | - | - | 1.7 | 0.339 | - | - | 5.4 | 0.038 | - | - | -5.4 | 0.619 |
| Treatment  (live in expansion state) | - | - | 2.2 | 0.031 | - | - | 2.1 | 0.274 | - | - | -4.9 | 0.469 |
| Insurance at diagnosis:  Insured (non-Medicaid)**‡** | - | - | 15.0 | <0.001 | - | - | 8.8 | <0.001 | - | - | 11.6 | <0.001 |
| Insurance at diagnosis:  Uninsured or unknown**‡** | - | - | 2.7 | 0.080 | - | - | -0.9 | 0.720 | - | - | -7.0 | 0.123 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 4.9 | <0.001 | - | - | 2.8 | 0.319 | - | - | 5.1 | 0.331 |
| Social Deprivation Index:  ≥ Mean (56.38) | - | - | -5.6 | <0.001 | - | - | -5.8 | 0.003 | - | - | 2.1 | 0.418 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥2014, insurance at diagnosis (insured, Medicaid, and uninsured or unknown), Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

**‡**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 8.** Difference-in-Differences Model Predicting 1-Year Survival for Women, 2007-2015, Stratified by Race

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **White female (n = 11,483)** | | | | **Black female (n = 2,525)** | | | | **Other race female**  **(n = 1,260)** | | | |
| **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | | **Univariable\*** | | **Multivariable†** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 5.0 | <0.001 | 3.8 | 0.124 | 2.1 | 0.512 | -4.4 | 0.327 | 2.2 | 0.495 | 5.1 | 0.694 |
| Diagnosis post-expansion  (≥ 2014) | - | - | 0.1 | 0.978 | - | - | 6.4 | 0.029 | - | - | -3.1 | 0.806 |
| Treatment  (live in expansion state) | - | - | 3.2 | 0.009 | - | - | 0.4 | 0.877 | - | - | -1.9 | 0.771 |
| Insurance at diagnosis:  Insured (non-Medicaid)**‡** | - | - | 14.4 | <0.001 | - | - | 12.4 | <0.001 | - | - | 11.4 | 0.002 |
| Insurance at diagnosis:  Uninsured or unknown**‡** | - | - | -1.6 | 0.404 | - | - | 3.1 | 0.371 | - | - | -7.8 | 0.162 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 6.3 | <0.001 | - | - | 6.1 | 0.096 | - | - | -3.1 | 0.619 |
| Social Deprivation Index:  ≥ Mean (56.38) | - | - | -4.4 | <0.001 | - | - | -3.2 | 0.150 | - | - | -2.5 | 0.365 |

**\***Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**†**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥2014, insurance at diagnosis (insured, Medicaid, and uninsured or unknown), Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

**‡**Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 9.** Difference-in-Differences Model Predicting 1-Year Survival for those of White Race, 2007-2015, Stratified by Insurance at Diagnosis

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **White insured\***  **(n = 20,952)** | | | | **White Medicaid (n = 3,866)** | | | | **White uninsured**  **(n = 2,241)** | | | | |
| **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 5.1 | <0.001 | 1.7 | 0.361 | 1.6 | 0.339 | 13.3 | <0.001 | 1.7 | 0.598 | | -2.8 | 0.593 |
| Diagnosis post-expansion  (≥2014) | - | - | 2.4 | 0.136 | - | - | -12.0 | <0.001 | - | - | | 4.8 | 0.237 |
| Treatment  (live in expansion state) | - | - | 3.6 | <0.001 | - | - | -0.9 | 0.671 | - | - | | -0.6 | 0.802 |
| Sex:  Male | - | - | -5.1 | <0.001 | - | - | -5.9 | <0.001 | - | - | | -1.5 | 0.434 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 6.2 | <0.001 | - | - | 3.4 | 0.075 | - | - | | 4.8 | 0.041 |
| Social Deprivation Index: ≥ Mean (56.38) | - | - | -5.3 | <0.001 | - | - | -4.3 | 0.003 | - | - | | -3.6 | 0.054 |

**\***The insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

**†**Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**‡**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, UIC, and Social Deprivation Index, and used cluster-robust standard errors.

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 10.** Difference-in-Differences Model Predicting 1-Year Survival for those of Black Race, 2007-2015, Stratified by Insurance at Diagnosis

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Black insured\***  **(n = 3,608)** | | | | **Black Medicaid**  **(n = 1,303)** | | | | **Black uninsured**  **(n = 631)** | | | |
| **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | |
| **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 5.9 | 0.027 | -4.0 | 0.299 | 5.9 | 0.530 | 2.4 | 0.661 | 1.4 | 0.868 | -1.4 | 0.884 |
| Diagnosis post-expansion  (≥2014) | - | - | 7.7 | 0.002 | - | - | 1.8 | 0.637 | - | - | 4.0 | 0.436 |
| Treatment  (live in expansion state) | - | - | 3.8 | 0.041 | - | - | -3.5 | 0.216 | - | - | -3.7 | 0.374 |
| Sex:  Male | - | - | -9.7 | <0.001 | - | - | -6.0 | 0.015 | - | - | -1.5 | 0.004 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | 4.1 | 0.190 | - | - | 4.4 | 0.292 | - | - | 5.5 | 0.257 |
| Social Deprivation Index: ≥ Mean (56.38) | - | - | -4.5 | 0.015 | - | - | -3.3 | 0.276 | - | - | -9.1 | 0.042 |

**\***The insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

**†**Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**‡**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 11.** Difference-in-Differences Model Predicting 1-Year Survival for those of Other Races, 2007-2015, Stratified by Insurance at Diagnosis

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Other race insured\***  **(n = 1,993)** | | | | **Other race Medicaid**  **(n = 496)** | | | | **Other race uninsured**  **(n = 257)** | | | |
| **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | | **Univariable†** | | **Multivariable‡** | |
| **DD, ppt** | **DD, ppt** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** | **p Value** | **DD, ppt** | **DD, ppt** | **p Value** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion andtreatment  (DD coefficient) | 1.0 | .702 | 1.9 | 0.848 | 3.1 | 0.509 | 35.7 | 0.174 | 3.3 | 0.666 | 3.7 | 0.864 |
| Diagnosis post-expansion  (≥2014) | - | - | -1.4 | 0.885 | - | - | -31.5 | 0.223 | - | - | 0.9 | 0.965 |
| Treatment  (live in expansion state) | - | - | 1.7 | 0.769 | - | - | -4.7 | 0.003 | - | - | -1.9 | 0.829 |
| Sex:  Male | - | - | -5.2 | 0.020 | - | - | -4.5 | 0.288 | - | - | -4.6 | 0.428 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | - | - | -1.1 | 0.839 | - | - | 4.1 | 0.595 | - | - | 4.5 | 0.663 |
| Social Deprivation Index: ≥ mean (56.38) | - | - | 2.2 | 0.319 | - | - | -10.7 | 0.014 | - | - | 4.1 | 0.486 |

**\***The insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

**†**Univariable models were adjusted for the DD coefficient (from a Medicaid expansion state and year of diagnosis ≥ 2014) and used cluster-robust standard errors.

**‡**Multivariable models were adjusted for the DD coefficient, from a Medicaid expansion state, year of diagnosis ≥ 2014, sex, Urban Influence Code, and Social Deprivation Index, and used cluster-robust standard errors.

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code

**Supplemental Digital Content 12.** Pre-Trend Checks: Treatment by Year Interaction Results, 2007-2013\*

|  |  |  |
| --- | --- | --- |
| **Variable** | **DD, ppt** | **p Value** |
| Treatment and diagnosis in 2008 | -0.2 | 0.946 |
| Treatment and diagnosis in 2009 | -4.2 | 0.092 |
| Treatment and diagnosis in 2010 | -6.3 | 0.012 |
| Treatment and diagnosis in 2011 | -3.4 | 0.164 |
| Treatment and diagnosis in 2012 | -3.4 | 0.163 |
| Treatment and diagnosis in 2013 | -4.0 | 0.103 |

\*Reference group: Interaction term of treatment (Medicaid expansion state) and diagnosis in 2007.

DD, difference-in-differences; ppt, percentage points.

**Supplemental Digital Content 13.** Sensitivity Analysis: Difference-In-Difference Model Predicting 1-Year Survival, 2007-2015 Excluding 2010 and 2015 (n = 27,209)\*

|  |  |  |
| --- | --- | --- |
| **Variable** | **DD, ppt** | **p Value** |
| Diagnosis post-expansion and treatment (DD coefficient) | 3.5 | 0.048 |
| Diagnosis post-expansion (≥ 2014) | 2.9 | 0.057 |
| Treatment (live in expansion state) | 2.8 | <0.001 |
| Sex: Male | -5.7 | <0.001 |
| Race: Black**†** | -3.0 | <0.001 |
| Race: Other**†** | 2.9 | 0.012 |
| Insurance at diagnosis: Insured (non-Medicaid)‡ | 13.3 | <0.001 |
| Insurance at diagnosis: Uninsured or unknown‡ | -0.6 | 0.593 |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) | 5.2 | <0.001 |
| Social Deprivation Index: ≥ Mean (56.38) | -4.6 | <0.001 |

\*Models were adjusted for disease site, sex, race, insurance at diagnosis, Urban Influence Code, and Social Deprivation Index.

**†**Race reference group is White.  
‡Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs /TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.

**Supplemental Digital Content 14.** Multivariable Model with Clinical Covariates Predicting 1-Year Survival, 2007-2015\*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Diagnosis post-expansion** | **Treatment** | **Sex** | **Race** | **Insurance at diagnosis** | **UIC** | **Social Deprivation Index** | **Stage at diagnosis** | **Treatment with operation** | **Disease site** |
| Diagnosis post-expansion and treatment (DD coefficient) |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | 5.0 | 3.7 | 4.7 | 4.2 | 4.6 | 4.7 | 4.6 | 4.0 | 3.1 | 4.9 |
| p Value | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Diagnosis post-expansion (≥ 2014) |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | -0.3 | - | - | - | - | - | - | - | - | - |
| p Value | 0.807 | - | - | - | - | - | - | - | - | - |
| Treatment (live in expansion state) |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | 3.3 | - | - | - | - | - | - | - | - |
| p Value | **-** | <0.001 | - | - | - | - | - | - | - | - |
| Sex: Male |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | -5.5 | - | - | - | - | - | - | - |
| p Value | **-** | - | <0.001 | - | - | - | - | - | - | - |
| Race: Black† |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | -5.4 | - | - | - | - | - | - |
| p Value | **-** | - | - | <0.001 | - | - | - | - | - | - |
| Race: Other† |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | 3.3 | - | - | - | - | - | - |
| p Value | **-** | - | - | 0.001 | - | - | - | - | - | - |
| Insurance at diagnosis: Insured (non-Medicaid)‡ |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | 14.4 | - | - | - | - | - |
| p Value | **-** | - | - | **-** | <0.001 | - | - | - | - | - |
| Insurance at diagnosis: Uninsured or unknown‡ |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | -0.1 | - | - | - | - | - |
| p Value | **-** | - | - | **-** | 0.928 | - | - | - | - | - |
| Urban Influence Code: Metropolitan county (UIC: 1 or 2) |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | **-** | 6.3 | - | - | - | - |
| p Value | **-** | - | - | **-** | **-** | <0.001 | - | - | - | - |
| Social Deprivation Index: ≥ Mean (56.38) |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | **-** | - | -6.2 | - | - | - |
| p Value | **-** | - | - | **-** | **-** | - | <0.001 | - | - | - |
| Stage at diagnosis: Distant |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | **-** | - | - | -35.7 | - | - |
| p Value | **-** | - | - | **-** | **-** | - | - | <0.001 | - | - |
| Treatment with operation |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | **-** | - | - | - | 51.4 | - |
| p Value | **-** | - | - | **-** | **-** | - | - | - | <0.001 | - |
| Disease site: Head of the pancreas |  |  |  |  |  |  |  |  |  |  |
| DD, ppt | **-** | - | - | **-** | **-** | - | - | - | - | 8.2 |
| p Value | **-** | - | - | **-** | **-** | - | - | - | - | <0.001 |

\*Models were adjusted for the DD coefficient and the variable indicated in the table, and all models used cluster-robust standard errors.

†Race reference group is White.

‡Insurance at diagnosis reference group is Medicaid; the insured category includes all non-Medicaid coverage (eg Medicare, private insurance coverage, Veterans Affairs/TRICARE).

DD, difference-in-differences; ppt, percentage points; UIC, Urban Influence Code.