

Unmet Healthcare Needs and Changes in Health Status in Children: Findings from IHIS-MEPS linked analysis

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Driven to DiscoverSM

Objective

To better understand the relationship between unmet health care needs, changes in self-reported health status and expenditures over time in children.

Background

- Self-reported health status is a powerful predictor of mortality, disability and hospitalization (Wolinsky et al., 2004; Gold et al., 1996) and is a valid indicator of well being among children (Alaimo et al., 20010).
- Unmet need (foregone or delayed health care) is often used as outcome to describe problems with access to care (Newacheck et al., 2000). Unmet need can exacerbate health problems, leading to worsened severity and the need for more intensive medical care. Studies typically focus on unmet needs due to cost and these may be most amenable to policy changes.
- However, unmet need is often used as an outcome in cross-sectional analyses and it is unclear how this measure might indicate substantive impact on well-being over time
- Prior research has demonstrated adverse effects of foregone care due to cost among adults (Chen, Rizzo and Rodriguez, 2011), including declines in SRH and quality of life in the year following unmet need.
- Few studies have examined changes in self-reported health status in children who experience unmet needs for health care.

Research Questions

Using panel data allows to better control for factors that may affect the changes we observe we examine:

- Are persons there differences at baseline between children with and without unmet need for medical care?
- Are persons there differences in changes in SRH between children with and without unmet need for medical care?
- Are there differences in total health care expenditures for children with and without unmet need for medical care?

Data

Data come from six panels (2004 to 2010) of the **Medical Expenditure Panel Survey** and the **Integrated Health Interview Series**. The IHIS was created from NHIS data to facilitate time series analysis of U.S. health status, health behaviors, and health care access and use. The NHIS is an annual nationally representative survey of the U.S. population and a principal source of information on the health status, use of medical services and insurance coverage. The MEPS uses the NHIS sampling frame and follows a subsample of persons for 2 years, collecting five rounds of information. Sample sizes range from 18,287 (panel 13) to 2,440 persons (panel 12). We obtained the publicly available linking key file from AHRQ and linked the data as show in **Table 1**.

| Variable | Source | Label |
|--|-----------------|------------------|
| HHX | MEPS Link File | NHIS household # |
| FMX | MEPS Link File | NHIS family # |
| FPX | MEPS Link File | NHIS person # |
| Survey Year | MEPS Link File | NHIS survey year |
| NHISPID | IHIS | NHIS person ID |
| DUPERSID | MEPS Public Use | MEPS person ID |
| PANEL # | MEPS Public Use | |
| Linking key: YEAR + HHX + FMX + FPX = NHISPID | | |

IHIS measures: Insurance status, self-rated health, **unmet need due to cost**, family size, and poverty status. **Self-rated health (SRH)** reported by parents, on a scale from 1 to 5.

MEPS measures: **Unmet need due to cost** was defined as forgone or delayed care due to inability to afford it. **Self-rated health** was defined in the same manner as in the IHIS.

Total expenditures: the sum of direct payments for care provided during the year, including out-of-pocket payments and payments by third-party payers (e.g., private insurance, Medicare, Medicaid, and other sources), **Control variables:** race, insurance status, poverty, urbanicity and region

Table 2 describes our repeated measures of interest.

| Time | Source | Measure |
|--------|---------|---------------------------------|
| Year 1 | IHIS | SRH_1, Unmet need |
| Year 2 | MEPS R1 | SRH_2 |
| Year 2 | MEPS R2 | SRH_3, Unmet need, Expenditures |
| Year 3 | MEPS R3 | SRH_4, Expenditures |
| Year 3 | MEPS R4 | SRH_5, Expenditures |
| Year 3 | MEPS R5 | SRH_6, Expenditures |

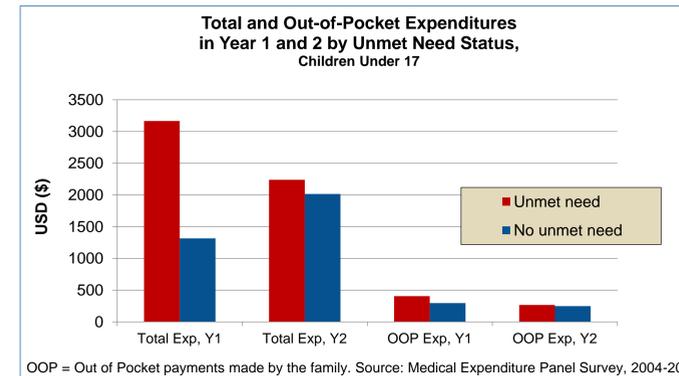
Analyses

- Descriptive statistics for the sample are compared for children with and without any unmet need at baseline; t-tests are used to test for differences.
- Children were then categorized into those without any unmet needs, those with unmet needs at 1 time point, and two time points. Data here are reported for those with any unmet needs.
- Multivariate regression was used to test for changes in SRH and expenditures by unmet status during round 2, controlling for baseline SRH and unmet need (xtreg).
- Statistics are adjusted to account for the complex survey design, and longitudinal survey weights were used.

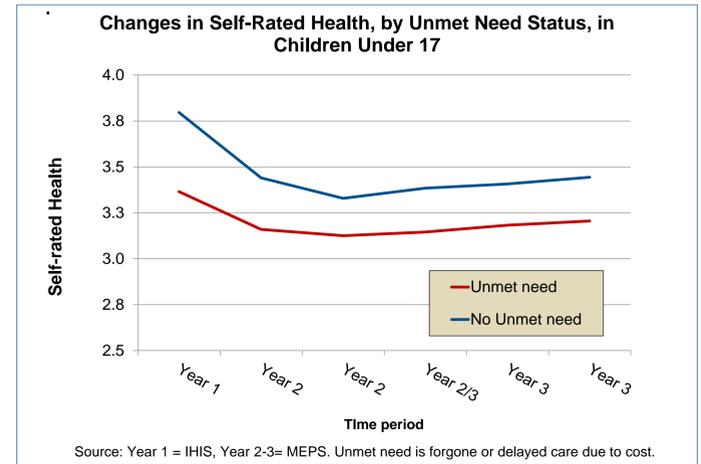
Results

| | No Unmet need (N = 20496) | Unmet Need (N = 1364) | |
|--------------------|---------------------------|-----------------------|-----|
| Age (mean) | 7.91 | 9.016 | *** |
| Female (%) | 49.1% | 48.8% | NS |
| Race | | | |
| White | 60.0% | 55.0% | NS |
| Hispanic | 21.0% | 30.0% | * |
| Black | 14.0% | 13.0% | NS |
| Other | 4.0% | 2.0% | NS |
| Family Size (mean) | 4.65 | 451.3% | ** |
| Poverty status | | | |
| < 100% | 19.0% | 28.0% | ** |
| 100 to <125 | 6.0% | 6.0% | NS |
| 125 to <200% | 16.0% | 24.0% | ** |
| 200 to <400% | 33.0% | 33.0% | NS |
| >=400% | 27.0% | 10.0% | *** |
| SRH Year 1 (mean) | 4.3 | 4.0 | *** |
| SRH Year 3 (mean) | 4.2 | 4.1 | *** |
| Uninsured | 7.19% | 19.01% | *** |

*** p<.001 **p<.01 *p<.05 SRH=health status as reported by parents



Results



Conclusion

- We find no statistical difference in changes in SRH over time for children with and without unmet needs, controlling for baseline unmet need and health status, although at each time point, SRH health is lower at each time point for those with unmet needs.
- Despite having forgone care, expenditures are higher among those with unmet needs, suggesting inadequate financing for care in these families.
- While unmet need is important cross-sectional indicator of access, longitudinal data may provide a better means to understand when unmet needs are persistent problem.
- Further analyses are needed to understand for whom forgone care has health consequences.
- Unmet need as used here, is subject to recall error and potential underreporting by parents, as they may not want to appear negligent in care (Newacheck, 2000).

Acknowledgements

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