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Abstract

1 Introduction

Concerns about the number of uninsured children in the United States led congress in the 1997 Balanced Budget Act to create the State Children's Health Insurance Program(SCHIP) . The program was aimed at uninsured children whose parents earn to much to qualify for Medicaid, but are unable to obtain private insurance for their children. The creation of the program offered public coverage to families that previously have not received government help. This new group has much higher rates of employment than parents of those covered by Medicaid, and a higher prevalence of two parent households.

This paper addresses the issue of the impact that providing public health insurance to uninsured children has on improving children's health.

Having health insurance versus no insurance is not a guarantee of good health or even that a child's health will improve. Even after giving children health insurance they will need to find a doctor that will except public insurance. Once they have a doctor it still is not clear that insurance coverage will improve children's health. Most children are healthy and need little medical care. For serious illnesses uninsured children will still receive medical care. Parent's can take sick children to free clinics, emergency rooms, or pay for care out-of-pocket.

The use of health insurance raises the question of whether the extra visits that those individuals with health insurance make are really useful for improving health. The presence of health insurance lowers the cost of each unit of care and may lead to over use of care that provides little health benefit.

2 Literature Review

Previous work on the effects of public insurance on health outcomes includes a paper by Currie and Gruber (1996). They looked at how two different Medicaid expansion covering low-income pregnant women affected the rates of low birth weight and infant mortality rates. They find that the more narrowly targeted expansion had an effect on reducing infant mortality by about 8.5%. They estimate that this reduction in infant mortality came at a cost of $840,000 per life

saved. One innovation they developed was to create an instrumental variable to correct the problem that the number of women eligible for the expansion depended on not just state eligibility limits, but state demographic and and economic conditions. They simulate eligibility in each state using a national sample of 3000 women. This simulated fraction eligible was used as an instrument for the number of women eligible in each state. This IV only depends on the legislative environment that created the guidelines.

Currie and Thomas (1995) look at the effects that having public or private insurance has on health care utilization. They find that there are racial differences in how whites respond to having insurance versus how blacks respond. They find that white children covered by either form of insurance are more likely to visit a doctor when sick. White children covered by Medicaid are more likely to receive preventive care than white children with private insurance or no insurance. The authors find that for blacks Medicaid coverage has less effect on increasing preventive care and no increase in health care utilization. They also find that private insurance coverage for blacks has no increased effect of health care utilization over no coverage.

Currie and Gruber (May 1996) looks at how the Medicaid expansions effected child health looking at measures such as probability of not having a hospital visit in the last year , the probability of hospitalizations, and mortality. They find that the expansion of eligibility cut in half the probability of not seeing the doctor in the last year, while doubling the probability of a hospital visit. The expansion also decreased mortality by 5.1%, with an average cost of $1.6. million per life saved. They have a small section on site of treatment, but it is very small and mostly, just talk; they did run a few regressions.

Most papers look not at health outcomes, but health inputs like hospitalization. The one health outcome paper for SCHIP was Joyce and Racine (2003). They look at the effect that the mandatory coverage of vaccinations had on the likelihood of children being up to date on vaccinations, and if coverage changed the number receiving all shots from a single private provider. Using the National Immunization Survey (NIS), they find that SCHIP only increased the use of the new varicella vaccine, and that instead of seeing more vaccines done by a single private provider, the percentage actually decreased.

3 The States Children's Health Insurance Program

The legislation establishing SCHIP gave states the responsibility to create and run their own program with the federal government sharing part of the cost. SCHIP allows states more flexibility than Medicaid in establishing eligibility criteria, determining benefits, and designing the program. The states liked the fact that SCHIP is not an entitlement program, so caps on enrollment can be implemented. The reimbursement by the Federal government to states for SCHIP is also more generous than Medicaid.

The states had three options when developing the program: 1) establish a separate SCHIP program for children ineligible for Medicaid; 2) expand existing Medicaid programs to include these children; or 3) a combination of the two. States choosing to expand their Medicaid program are limited in cost-sharing; while those creating separate CHIP programs are able to use cost-sharing in the form of deductibles, premiums, enrollment fees, co-payments, and coinsurances, but have the tradeoff of higher start-up costs. Fourteen states expanded Medicaid, 15 created a separate SCHIP program and 21 states used a combination of the two programs. Other states have since made adjustments to their programs. The majority of changes to the programs being the creation of SCHIP programs for those who originally had only a Medicaid expansion, and the phasing out of Medicaid expansions and leaving only the SCHIP program.

The SCHIP program has several unique aspects that make it different from Medicaid. The higher rate of working families with higher income in the expansion causing an increased probability of having private insurance has created concern about the crowd-out of private insurance by public insurance. This concern has created features of SCHIP to prevent the crowding out. State have established wait period between the dropping of private insurance and becoming eligible for SCHIP coverage. This waiting period varies from 2 to 6 months.

The ability of states to charge premiums and co-payments has resulted in a large variation in sizes of cost sharing, with some imposing no cost-sharing and others requiring modest sums every month for premiums. The federal legislation placed a cap on payments by families to 5% of their annual income.

States also created out reach programs to increase awareness of the program and increase enrollment. The program was advertised, fliers sent home with children participating in the federal hot lunch program and other ways were devised to try and enroll as many eligible children as possible. Enrollment applications were also simplified and asset tests dropped to try and increase participation in the program. Some states even created programs that covered parents who enrolled their children in SCHIP. To avoid the stigma associated with the Medicaid program states created new names for their insurance programs.

4 Data

4.1 SIPP

There are several possible sources of data of children health outcomes and participation in SCHIP. Many of the surveyed articles used the Current Population Survey (CPS). It is conducted every year and ask a limited number of health related questions. It is the survey that most previous papers looking at the effects of public health insurance has used. The Survey of Income and Program Participation (SIPP) has several different surveys that I could use. The two that could be used are the 1996 panel survey that covers 1996-1999 (4 years)and the 2001 panel survey that covers 2000-2002 (3 years) The advantage of the SIPP over the CPS is that it is a panel following the same households over time and

not just cross sectional. It also has better questions about child's health.

The SIPP was specifically designed to ask questions about labor force participation, program participation, and better income measures including tax information. The survey has core questions that are asked in every interview and are asked about for every month so in each interview these question are answered for each of the last four months. These questions include questions on labor force participation, program participation, and income. A few of the core questions are asked only about the month of the interview.

The other set of questions are topical modules. These collect in-depth questions on certain topics including assets and liabilities, school enrollment, marital history, fertility, migration, disability, health insurance, health, use of health care and work history.

The 1996 panel had 12 waves. Waves 3, 6, 9, and 12 ask questions about children's medical expenses and health care utilization. Waves 5 and 12 ask questions about the children's functional limitations and disabilities I believe this includes a child's version of activities of daily living (ADLs). The one disadvantage of the 1996 panel is that is was started before SCHIP was created so it has no questions directly asking about enrollment in SCHIP. It does ask about Medicaid and this could pick-up some of it. It also has an "other insurance" category that could pick-up those in SCHIP. The nice thing is that it covers both before and after. The 1996 panel had an initial sample size of 40,188 households.

Some of the health questions include visits to dentist, hospital stays of children in the last twelve months, prescription medication use by children, provider contacted about child, report current health status. They have others as well, but I don't know if they are only for the adults or for children as well. Over all there appears to be a lot of good data about health care usage, but weak on actual health questions.

There was another panel started in 2001. This panel covered three years from 2001 to the end of 2003, so it only has 9 waves instead of the twelve that the 1996 panel has. The 2001 panel has specific questions asking about enrollment in SCHIP (they use CHIP). They ask about enrollment by the state specific name of the program. They ask about months of coverage, so I would have a month by month record of enrollment.

4.2 State Program Data

Data for the state programs is collected from the state's program websites and the the Center for Medicare and Medicaid website. These sites provide information on the kind of program the state runs (whether it is Medicaid expansion, a separate CHIP program, or a combination program), kinds of cost sharing, amounts of cost-sharing, any changes made to the initial program design, and other program facts.

5 econometric model

The availability of several panels of the SIPP allows me to analyze what is going on prior to program introduction, during the introduction of the program and several years after the program was been introduced.

The 1996 panel will allow me to see what is happening for the targeted population during the introduction of SCHIP. This data set does not include information of whether a child was enrolled in SCHIP. To get around this problem I will have to use a difference-in-difference approach. The approach required that I have a treatment and control group. The treatment group is the targeted group for the SCHIP program. I can look at the income ranges in each state that become eligible. I have two possibilities for the control group. I can look at those whose income is just lower (the Medicaid population) or those who's income is just higher. Neither group is the ideal control group. The SCHIP population has a higher rate on enrollment in private insurance, and more two parent homes, and more parents working. The group of children from households with income to high to make them eligible might make a better match. (need to show descriptive statistics of all three groups.

I will measure the difference in the health outcome for each group before and after the expansion. This will allow me to see how health has changed in aggregate for the groups over the time period. I will then compare the two groups. If the SCHIP program has had an impact I should see that the the group eligible for SCHIP has had a larger improvement in health than the control group.

The 2001 SIPP panel has information on whether a child is enrolled in SCHIP or not. This additional information will allow me to use variation in cross-state program eligibility and design to try and measure the impact that SCHIP has on health. The advantage to this approach is the estimation allows treatment and control groups to be taken from the eligible population, with the treatment group being those whose who enroll in SCHIP and the control group being those who did not enroll in the program.

5.1 Eligibility

In order to care out my estimation I need to identify who is eligible for SCHIP. I will estimate eligibility based on family size and income. There are three ways to measure income: looking at the most recent pay stub, last months income, or last years income, (tax return). I have access to information on all three criteria. If an individual is eligible by one of these ways I will count them as eligible.

I might need to also consider health insurance status. Having private insurance makes a person ineligible, but it can be dropped.

5.2 regression

This part is still in progress as I am still trying to sort through all the data. I have listed some of the possible important health variable (dependent variables) I want to study to see if SCHIP has caused any changes in them.

I have also listed some of the important independent variables that might effect the health outcomes.

As with most research we often do not have all the information that we want. I have listed some omitted variables that I think I should have and I do not have. Not having these variables causes problems in getting accurate estimates of the effects of SCHIP on the health measures and is the main source of work for the paper.

dependent variables: dental visits, doctor's visits (or probability of having a doctor's visit in the last year, location of doctor's visits(if available), child's ADL, emergency room visits

independent variables: gender, age, family structure (both, mom, dad), state dummy's, state program characteristics, income, parent's labor force attachment, race, number of siblings(birth order), child health, child in hot lunch program or other government health program, if ever had private insurance, ever covered by medicaid, number of months on public/private insurance, number of months uninsured, mom's education, dad's education, parent's health, parent's ADLs,

omitted variables: stigma, perceived enrollment barriers, a lack of knowledge of the program or eligibility, need, and ease of enrollment, nutrition, home preventive medicine, physical activity

possible instrumental variables: Gruber's measure of program generosity.

6 Endogeneity, problems and solutions

I can calculate who is eligible for SCHIP, but then I don't observe why people that are eligible decide to enroll in SCHIP. Those that decide to enroll in SCHIP may have unobservable characteristics that make them different from those that decide to not enroll. These unobservable characteristics have the potential to effect the health outcomes effected by SCHIP. If because of these differences SCHIP would have a different effect on those who didn't enroll, I can't use them as a good comparison group. This selection bias does not allow me to accurately measure SCHIP's effect on health.

Moffitt got around this problem by first estimating whether the eligible individuals would enroll in the program and then I could estimate the impact of SCHIP on health. This still may not solve the problem of unobservable factors effecting the decision.

Stuber and Kronebusch (2004) discuss determinants of participation in TANF and Medicaid. These same factors will effect enrollment in SCHIP. These factors include stigma, perceived enrollment barriers, a lack of knowledge of the

program or eligibility, need, and ease of enrollment.

Children may not be enrolled if there are other services that act as substitutes for CHIP. Emergency room care could be considered a substitute, but it has its drawbacks. Long waits in the emergency room and no follow-up care may not be very appealing. Going without care also has a risk of high medical bills that exceed cost-sharing.

States design their own programs. State design and generosity can be shaped by the states desire for more or less care for the poor, by states level of poverty, and state economic conditions. The ability of states to set their own levels of care and change them overtime can lead to endogeneity. Gruber uses an instrument for this selection (Currie and Gruber 1996). He draws a random sample from the individuals in the sample and sees what proportion of this sample is eligible in each state. He uses this percentage as an instrument for the percent of the population that is eligible for SCHIP.

7 Results and application

Once I have calculated what effects SCHIP has on improving help I would like to know how cost effective the SCHIP program is compared to other ways of saving or improving health. I can collect data on the total expenditures on the program and try and see cost per life saved or cost of prevention of hospitals stays and compare it to previous studies of the cost effectiveness of previous Medicaid expansions.

I should also look at Gruber and Currie's results for medicaid expansions and see how mine compare to their results as far as demographic effects.

8 References

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