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Report to the Honorable
John F. Kerry, U.S. Senate

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HEALTH INSURANCE

Coverage Leads to Increased Health Care Access for Children

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GAO

United States
General Accounting Office
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Health, Education, and
Human Services Division

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The Honorable John F. Kerry
United States Senate

Dear Senator Kerry:

The number of children who lack health insurance has increased since the late 1980s, so that, in 1996, nearly 10.6 million children were uninsured. Many experts believe that the lack of health insurance discourages families from seeking preventive and other needed care for their children. However, some question the extent to which children need coverage and whether an expansion of coverage would appreciably affect children's access to health care. In response to concerns about the millions of uninsured children, the Congress has allotted, through the Balanced Budget Act (P.L. 105-33), almost $40 billion over the next 10 years to help states expand insurance coverage to more children, through either Medicaid or other health plans.[1] Now states are considering how much of their funding they will contribute to match this federal investment in children's health care and how they can best implement an expansion of coverage.

In light of these events, you asked us to determine what effect health insurance has on children's access to health care, whether expanding publicly funded insurance improves their access, and what barriers besides lack of insurance might deter children from getting health care. As we agreed with your office, we analyzed evaluations published during the past 10 years on the relationship between health insurance and health care access.

The evaluations and our analysis of them have several limitations. Access is the ability to obtain preventive or acute care and cannot be measured directly. Therefore, most studies measure access in one of several ways—by how families adhere to a recommended schedule for preventive care, whether they can identify a source of care, their use of health care, or their self-reported access problems. Looking at use cannot by itself distinguish appropriate from inappropriate use. Therefore, some researchers have analyzed specific types of use by recommended

[1]The Congressional Budget Office (CBO) estimates that other changes in the law, such as the new programs attracting currently eligible children to enroll in Medicaid and allowing states the option of considering children presumptively eligible for Medicaid, will result in additional federal Medicaid spending on children of $6.5 billion in the same decade.

schedules, such as children's making at least one visit to a physician every year.

In addition, while insurance may influence children's access to care, a number of other factors, such as their family income or their ethnicity, also influence their health care use. We focused on studies that attempted to control for such factors. Because we reviewed articles published over the past 10 years, generally based on analyses of large national surveys, most of the studies analyzed data collected in the late 1980s. However, the similarity of findings from analyses of surveys done at different times suggests that findings from earlier surveys still apply. Finally, we did not validate the results from any of the studies that we cite. We did our work between June and October 1997 in accordance with generally accepted government auditing standards.

Results in Brief

Health insurance increased children's access to health care services in almost all the studies we analyzed.[2] Most of the evaluations showed that insured children were more likely to have preventive and primary care than uninsured children. Insured children were also more likely to have a relationship with a primary care physician and to receive required preventive services, like well-child checkups, than uninsured children. Differences in access between insured and uninsured children held true even for children who had chronic conditions and special health care needs. When ill, insured children were more likely to receive a physician's care for their health problems, such as asthma or acute earache.

In contrast, lack of insurance can inhibit parents from trying to get health care for their children and can lead providers to offer less-intensive services when families seek care. Several studies found evidence that low-income and uninsured children were more likely to be hospitalized for conditions that could have been managed with appropriate outpatient care. Two studies found that uninsured children sometimes received less-intensive hospital care than insured children. While health insurance benefits differed and some excluded coverage for some basic health care needs, increasing the number of insured children increased the likelihood that more children would receive care.

Although health insurance can considerably increase access, it does not guarantee entry into the health care system. Low family income and

[2]Health insurance includes both private and publicly funded health insurance. Much of the research reported here compared uninsured children to those who had health insurance (public and private combined). Where researchers made other comparisons, we have noted this in the text.

education levels, limited availability of neighborhood primary health care facilities, lack of transportation, and language differences are among the barriers to obtaining and appropriately using health care services. Both children who have no health insurance and those who have Medicaid coverage are more likely than privately insured children to face such barriers. To ensure access to high-quality care, public health and clinical experts recommend that children have a stable source of health insurance benefits that cover their health care needs, a relationship with a primary care provider that helps them obtain more complex care as needed, primary care facilities that are conveniently situated, and outreach and education for their families.

Background

In 1996, only 66 percent of U.S. children younger than 18—47 million—were covered by private health insurance.[3] Most private insurance for children is acquired through a parent's employer. However, in 1993, almost one-fourth of the workforce worked for an employer that did not cover dependents.[4] In addition, even if employers offer coverage, the amount that employees have to pay toward it for their families may make health insurance unaffordable. Since the late 1980s, workers' costs for family coverage have risen sharply.[5] Increases in insurance costs may affect children disproportionately, since the 71 million children younger than 18 represent 27 percent of the U.S. population but 42 percent of the poor. Even if children have insurance, their coverage—and their relationship with their providers—may be disrupted if their parents lose their jobs or change jobs frequently.

Public health insurance for children is generally provided through the Medicaid program. Currently about 15.5 million (22 percent) of children younger than 18 are covered through Medicaid. The majority of low-income children (65 percent) in Medicaid have a working parent and, of those that do, about half have a parent working full time. To remain in Medicaid, families generally have their eligibility redetermined at least every 6 months. If family income or other circumstances change, children

[3]Children's Health Insurance, 1995 (GAO/HEHS-97-68R, Feb. 19, 1997.)

[4]This includes both employees who work for employers that offer no coverage at all and those who offer employee-only coverage. A Census survey asked employees if their employers had a health insurance plan, so that among those who answered yes, there are probably employees who either were not eligible to enroll in their employer's plan or chose not to participate. See Employee Benefit Research Institute, Employment-Based Health Benefits: Analysis of the April 1993 Current Population Survey, Special Report SR-24 and Issue Brief 152 (Washington, D.C.: 1994).

[5]Employment-Based Health Insurance: Costs Increase and Family Coverage Decreases (GAO/HEHS-97-35, Feb. 24, 1997.)

may go in and out of the Medicaid program during a year, disrupting their coverage. This can delay needed care, which can have long-term health consequences.

Children are uninsured when they have neither public nor private coverage. In 1996, 10.6 million children (14.8 percent) were uninsured, living generally in lower-income working families. Compared with privately insured children, a higher proportion of their parents worked for small employers—the group least likely to offer health insurance. In 1993, only a quarter of employees in firms with fewer than 10 employees and about half in firms with 10 to 24 employees reported that their employer offered a health insurance plan for workers and their dependents, compared with 89 percent in firms with 1,000 or more employees.

Health Insurance Increases Children's Access to Preventive, Primary, Acute, and Hospital Care

Health insurance does not always cover the preventive care, such as immunizations, that children need to develop optimally. Nevertheless, most of the studies we analyzed used many different measures of access and found that insured children were more likely to have access to both preventive and acute or chronic health care. Children who were insured were more likely to be connected to the health care system through a physician. Having a primary care connection made it easier for children to get regular preventive care, acute care when ill, and more complex care as needed. Uninsured and lower-income children were more likely to be hospitalized for conditions that could have been treated through primary care.

Health Insurance Increases Children's Access to Preventive and Primary Care

Most of the studies we reviewed showed that children who had health insurance had better access to preventive and primary health care than uninsured children. (See table 1.) They were more likely to have a primary care provider, which increased their access to both routine and more complex care. Children who had private health insurance were also more likely than children who had no insurance to get medical care from one source, and that source was more likely to be in a physician's office. In addition, they were more likely to have seen a doctor recently and to have been up to date with their well-child care.

Table 1: Primary Care Access for Uninsured Children: Statistically Significant Measures Identified in Recent Studies

Compared with insured children, uninsured children were less likely	Study
In access to and continuity of care	
To have continuity between well or routine and sick care	Halfon and others, 1997[a] Holl and others, 1995
To have a usual source of care	Newacheck, Hughes, and Stoddard, 1996[b] Smith and others, 1996[c] Holl and others, 1995 Lieu, Newacheck, and McManus, 1993[d,e]
To see a specific physician	Newacheck, Hughes, and Stoddard, 1996[b]
To have a source of after-hours emergency care	Newacheck, Hughes, and Stoddard, 1996[b]
To travel less than 30 minutes to receive care	Newacheck, Hughes, and Stoddard, 1996[b]
To wait less than 1 hour to see a provider	Newacheck, Hughes, and Stoddard, 1996[b]
To see a physician for selected symptoms	Newacheck, Hughes, and Stoddard, 1996[b]
To have the usual source of care in a physician's office (and not in a clinic or health center)	Holl and others, 1995
To receive care from a single site	Kogan and others, 1995[f]
In receipt of care	
To have made a visit to a physician in the past year, avoiding physician care for financial reasons[g]	Halfon and others, 1997[a]
To have had a visit to a physician in the past year	Holl and others, 1995 Lieu, Newacheck, and McManus, 1993[d] Newacheck and others, 1992
To have had a routine checkup in the past year	Ettner, 1996
To have had dental care in the past year	Smith and others, 1996[g]
To ever have had routine care	Holl and others, 1995
To be up to date with well-child care	Holl and others, 1995 Lieu, Newacheck, and McManus, 1993[d,h]
To have a nonemergency ambulatory care visit	Spillman, 1992[i]

(Table notes on next page)

Notes: Full study citations are in the bibliography. All differences reported in this table between uninsured and insured children were statistically significant at the 0.05 level. Some were significant at the .01 or .001 level.

[a]Limited to Los Angeles inner-city Latino children aged 12 to 36 months in 1992. Regression compared privately insured children with uninsured children, children with continuous Medicaid enrollment, and children with intermittent Medicaid enrollment.

[b]Compared uninsured poor and minority children with children from white, nonpoor, and insured families.

[c]Limited to children aged 1 to 12 years in McFarland County, California. Regression compared privately insured with uninsured children and publicly insured children separately.

[d]Study on adolescents.

[e]Differences significant for white and Hispanic adolescents but not significant for black adolescents at the 0.05 level, although the differences were significant at the 0.10 level.

[f]Study on children aged 3 years, comparing children with gaps in insurance covered with the continuously insured.

[g]Study subpopulation limited to children aged 5 to 12 years in McFarland County, California. Regression compared privately insured with uninsured children and publicly insured children separately.

[h]Minority uninsured adolescents were significantly less likely to be up to date with well-child care than minority insured adolescents, but the differences were not statistically significant for white adolescents.

[i]Compared children continuously insured with private insurance for both hospital and outpatient services with children continuously uninsured over the course of a year.

A child's having a usual source of care increases the likelihood he or she will receive preventive or acute health care. One research study based on nationally representative data found that 20 percent of all uninsured children lacked a usual source of care, compared with 7 percent of insured, white, nonpoor children.[6] Using regression analysis to isolate the effect of insurance from race, income, and ethnicity, this study found that uninsured children were twice as likely to lack a usual source of care as insured children.[7] Uninsured children were also more likely to lack after-hours care and to spend more time traveling and more time waiting to receive care. Similarly, another study found that 33 percent of uninsured children did not go to a physician's office for their routine care, compared with 14 percent of insured children (insured privately or through Medicaid). Controlling for factors other than insurance, the study

[6]Having a usual source of care can mean using the emergency room or a public clinic where children do not consistently see the same provider.

[7]P. W. Newacheck, D. C. Hughes, and J. J. Stoddard, "Children's Access to Primary Care: Differences by Race, Income, and Insurance Status," Pediatrics, Vol. 97, No. 1 (1996), pp. 26-32.

found that uninsured children were more than twice as likely as insured children to get care in places other than a physician's office.[8]

Generally, lower-income children (whether uninsured or receiving public insurance) are less likely to go to a physician's office for their care. The National Center for Health Statistics (NCHS) found that 94 percent of U.S. children—more than 65 million—had a usual source of care in 1993. Of these, 94 percent of privately insured children, 62 percent of publicly insured children, and 74 percent of uninsured children used a doctor's office as their usual source of care. Conversely, 5 percent of privately insured children, 30 percent of publicly insured children, and 20 percent of uninsured children used a clinic as their regular source of care.[9]

Most experts believe that preschool children need regular visits to physicians to stay current in their immunizations and to be screened for health problems, but researchers found access problems for preschool children. About one-quarter of U.S. 3-year-olds born in 1988 had a gap in their health insurance coverage of at least 1 month, and almost 15 percent had a gap of 7 months or more or had never been covered. Preschool children who had gaps in coverage were more likely to have gone to multiple sites for care than children who had continuous insurance coverage, suggesting that the care they received was more likely to be sporadic and fragmented. Just over 40 percent of preschool children went to two or more sites of care (not counting emergency care). However, controlling for other factors affecting access, preschool children who had a gap in coverage of more than 6 months were 74 percent more likely to have gone to more than one site for care.[10] Disruption of insurance coverage seems to be the salient factor because children who had no insurance were no more likely than insured children to have gone to multiple sites of care.

Experts have stated that adolescents can benefit from the guidance of a trusted health provider to help them through a period when their bodies are changing and they may be tempted to take risks, such as having

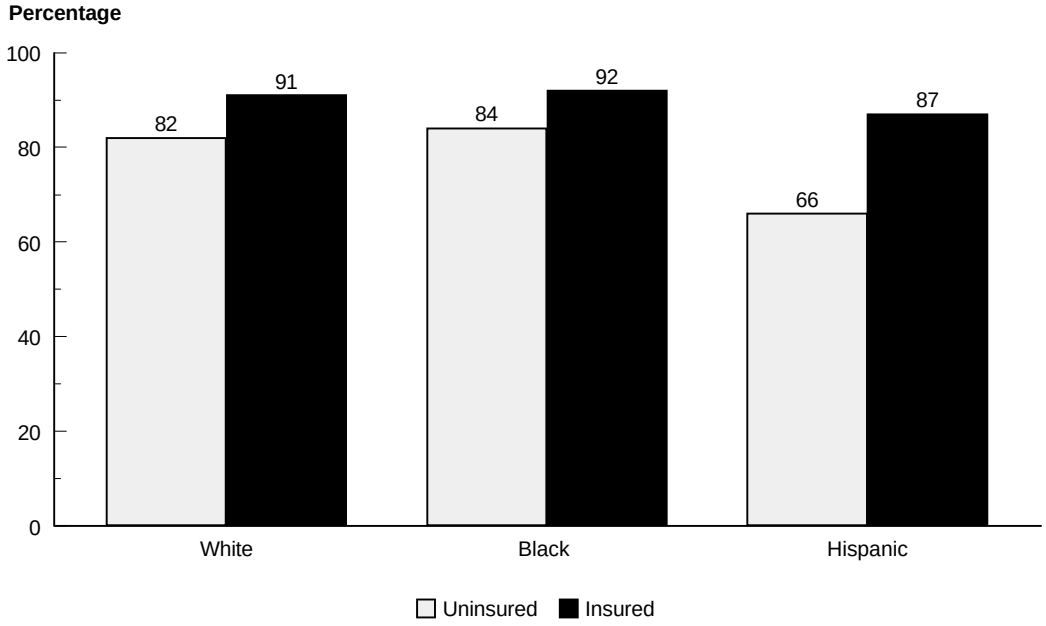
[8]J. L. Holl and others, "Profile of Uninsured Children in the United States," Archives of Pediatric and Adolescent Medicine, Vol. 149 (Apr. 1995), pp. 398-406.

[9]"Clinic" includes a company or school health clinic or center; community, migrant, or rural clinic or center; county, city, or public county hospital outpatient clinic; and private or other hospital outpatient clinic. These are percentage estimates that are not adjusted for multiple factors that influence choice of care site. See Gloria Simpson and others, "Access to Health Care Part 1: Children," Vital and Health Statistics, Series 10, No. 196 (Hyattsville, Md.: U.S. Department of Health and Human Services, 1997).

[10]Michael D. Kogan and others, "The Effect of Gaps in Health Insurance on Continuity of a Regular Source of Care Among Preschool-aged Children in the United States," Journal of the American Medical Association, Vol. 274, No. 18 (1995), pp. 1429-35.

unprotected sex or using drugs, alcohol, or tobacco products. Yet uninsured adolescents also have access problems. Researchers found that adolescents who were not insured were less likely to have a usual source of care and regular provider.[11] (See fig. 1.)

Figure 1: Percentage of Adolescents Who Had a Usual Source of Care by Insurance Status and Race or Ethnicity, 1988



Source: T. A. Lieu, P. W. Newacheck, and M. A. McManus, "Race, Ethnicity, and Access to Ambulatory Care among U.S. Adolescents," American Journal of Public Health, Vol. 83, No. 7 (1993), pp. 960-65.

Better Access to Primary Care Leads to Better Linkage to Complex Care and More Adequate Preventive Care

Better access to primary care is important, because primary care is a gateway to better preventive care and needed specialized services. A number of studies found that uninsured children had fewer health care and dental visits and fewer preventive visits. Compared with the parents of low-income children who had public insurance like Medicaid, parents of uninsured children of all income levels were more likely to defer bringing them into care for financial reasons.

Having a primary care provider has been shown to improve care by facilitating the timely receipt of complex care. One study showed that

[11]T. A. Lieu, P. W. Newacheck, and M. A. McManus, "Race, Ethnicity, and Access to Ambulatory Care Among U.S. Adolescents," American Journal of Public Health, Vol. 83, No. 7 (1993), pp. 960-65.

children in Medicaid or who had no insurance were much less likely to have contacted a primary care physician before they came to the hospital with appendicitis. Children whose families did not contact a primary care physician before hospital admission were operated on less quickly if they were admitted on weekends and were more likely to have a perforated appendix. Contact with a primary care provider, not insurance status, was the key to differing rates of this complication, but having private insurance did increase the likelihood that a child would have a relationship with a primary care physician.[12]

Six studies that controlled for other factors affecting access found that uninsured children were less likely to receive routine checkups, dental care, or any kind of doctor's visit. Some of them compared routine visits made with the number of visits recommended by the American Academy of Pediatrics (AAP) (see table 2) and found that uninsured children were less likely to meet such standards.

[12]V. T. Chande and J. M. Kinnane, "Role of the Primary Care Provider in Expediting Care of Children With Acute Appendicitis," Archives of Pediatric and Adolescent Medicine, Vol. 150, No. 7 (1996), pp. 703-6. Having a usual source of care may have been more important for some kinds of care than others. It increased routine checkups and well care for women in one study but did not significantly increase well child care for children—see Susan Louise Ettner, "The Timing of Preventive Services for Women and Children: The Effect of Having a Usual Source of Care," American Journal of Public Health, Vol. 86, No. 12 (1996), pp. 1748-54.

Table 2: AAP's Recommended Schedule of Preventive Well-Child Visits, 1995

Age	Type of care
In hospital after birth	Basic well-child visit (newborn assessment),[a] immunization
Within first week of life	Basic well-child visit[a]
By 1 month	Basic well-child visit[a] and heredity and metabolic screening tests (if not done before)
2 months	Basic well-child visit,[a] immunization
4 months	Basic well-child visit,[a] immunization
6 months	Basic well-child visit,[a] immunization
9 months	Basic well-child visit,[a] hematocrit or hemoglobin (if not done before), lead screening
12 months	Basic well-child visit[a]
15 months	Basic well-child visit,[a] immunization
18 months	Basic well-child visit[a]
Yearly visits between 2 and 6 years	Basic well-child visit,[a] immunization (at 4, 5, or 6), initial dental referral (by 3), lead screening (2), urinalysis (5)
8 years	Basic well-child visit[a]
10 years	Basic well-child visit[a]
Yearly visits between 11 and 21 years	Basic well-child visit,[a] immunization (as needed, 11 through 16), hematocrit or hemoglobin (as needed), urinalysis (as needed)

[a]Basic well-child visits include health history, weight and height measurement, developmental and behavioral assessment, physical exam, and anticipatory guidance that includes counseling and discussion of topics for the developing child, with specific discussion of injury prevention. Through 24 months of age, all visits should include measurement of head circumference. Starting at age 3, all visits should also include a blood pressure check.

Source: American Academy of Pediatrics, Committee on Practice and Ambulatory Medicine, "Recommendations for Preventive Pediatric Health Care," Pediatrics, Vol. 96 (1995), pp. 373-74.

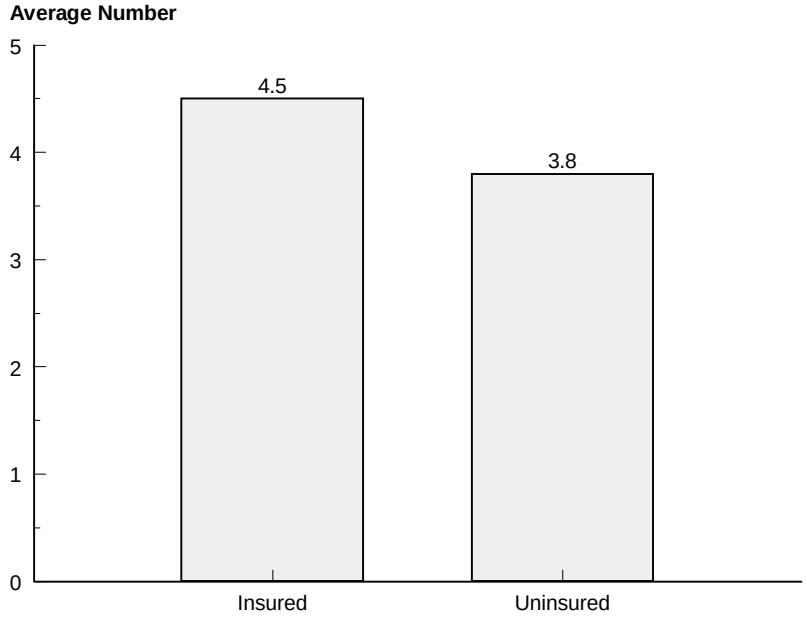
For example, one study found that 30 percent of uninsured children were not up to date with well-child care visits, as AAP recommends, compared with 22 percent of insured children. Compared with insured children, and controlling for other factors that affect access, uninsured children were 50-percent more likely not to have made any visits to a physician in the past year and almost twice as likely never to have had routine care.[13] In a local California study, lack of insurance was the strongest predictor that children older than 5 had not seen a dentist in the past year, compared with privately insured children.[14]

[13]Holl and others, "Profile of Uninsured Children in the United States."

[14]M. W. Smith and others, "How Economic Demand Influences Access to Medical Care for Rural Hispanic Children," Medical Care, Vol. 34, No. 11 (1996), pp. 1135-48.

Uninsured children were less likely to have received care when it was not an emergency. An analysis of the 1980 National Medical Care Utilization and Expenditure Survey, after adjusting for other factors affecting access, found that uninsured children had a 69-percent likelihood that they would use nonemergency ambulatory care during the year, compared with 81 percent for privately insured children. The uninsured children who had used health services had made fewer nonemergency ambulatory visits, compared with privately insured children.[15] (See fig. 2.) Similarly, an analysis of a more recent survey also showed that being uninsured was a significant predictor of not using a physician's services.[16]

Figure 2: Average Number of Annual Nonemergency Ambulatory Care Visits Among Insured and Uninsured Children Who Used Services, 1980



Source: Brenda C. Spillman, "The Impact of Being Uninsured on Utilization of Basic Health Care Services," Inquiry, Vol. 29 (winter 1992), pp. 457-66.

[15]Brenda C. Spillman, "The Impact of Being Uninsured on Utilization of Basic Health Care Services," Inquiry, Vol. 29 (winter 1992), pp. 457-66.

[16]P. W. Newacheck, "Characteristics of Children with High and Low Usage of Physician Services," Medical Care, Vol. 30, No. 1 (1992), pp. 30-42.

Uninsured Children Receive Less Care When Injured or Ill

Several studies found that uninsured children were not getting care for conditions that could be serious. Children who had no insurance had lower rates of treatment for injuries, including serious injuries such as broken bones or cuts requiring stitches, compared with children who had private insurance, and were less likely to get care when sick. Sometimes they received care later, after they had become sicker.

Childhood injuries were fairly common, but insurance status affected a child's chances of being medically treated for an injury. In 1988, children younger than 18 had total injury rates of 16.3 per 100. Serious injuries that resulted in restricted activity, bed days, surgery, hospitalization, or substantial pain represented about half of total injuries. A study that compared injury treatment for insured children (private insurance and Medicaid combined) and uninsured children found that the uninsured were less likely to be brought in for the treatment of injuries. The study's researchers estimated that for children who had no coverage in 1988, the year of the study, between 20 and 30 percent of total injuries may not have been examined and treated by a health professional. At least 40 percent of serious injuries to uninsured children younger than 11 might not have been examined and treated.

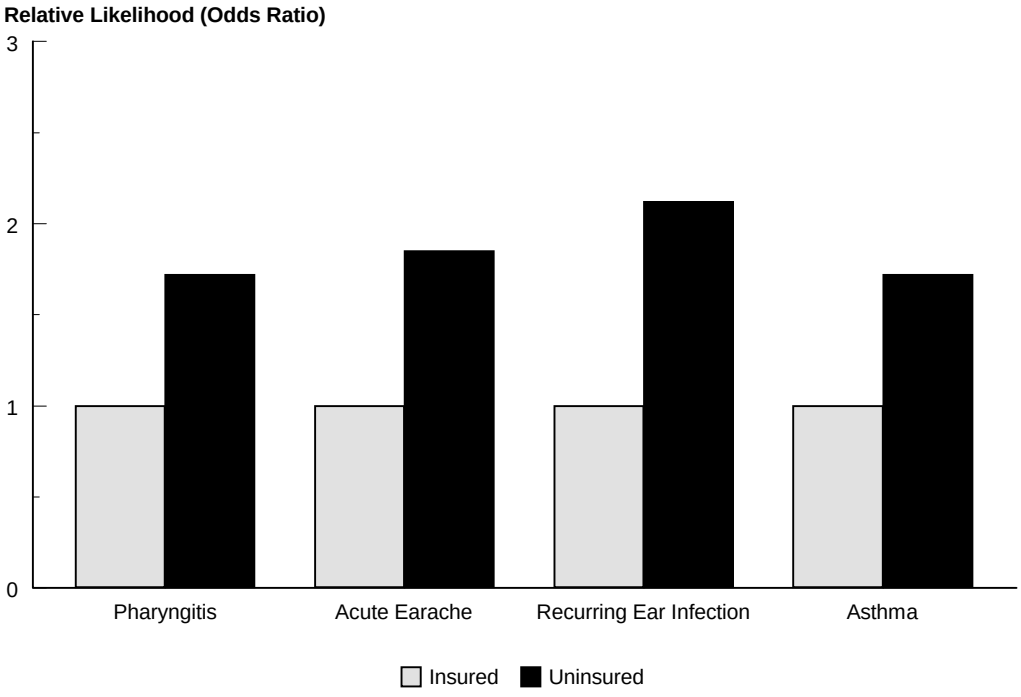
These researchers also found that Medicaid-insured children had treatment rates similar to privately insured children, suggesting that public insurance helped ensure that children would receive treatment for injuries.[17] Their finding that families that had Medicaid coverage for their children would seek health care for them, while families of uninsured children would not, is consistent with the findings from the Rand Health Insurance Experiment that families of poor children in cost-sharing plans were less likely to seek care for diagnoses related to trauma or accidents than families of poor children with free care.

Uninsured children were less likely to receive treatment for some of the common illnesses of childhood. Uninsured children were about twice as likely to have received no care from a physician for pharyngitis, acute

[17]Mary D. Overpeck and Jonathan B. Kotch, "The Effect of U. S. Children's Access to Care on Medical Attention for Injuries," American Journal of Public Health, Vol. 85, No. 3 (1995), pp. 402-4. Serious injuries were defined as those for which the child (1) had to stay in bed for more than half a day; (2) had any limitations or was prevented from usual childhood activities; (3) spent 1 or more nights in the hospital; (4) had surgery, including setting bones or sewing stitches; (5) had pain often or all the time; or (6) was bothered more than a little.

earache, recurrent ear infections, and asthma.[18] (See fig. 3.) These are common conditions—with an incidence rate of 8 to 10 per 100 children—for which medical care is considered necessary.[19] They can also have serious consequences for some children if they are left untreated. For example, pharyngitis, if caused by untreated group A streptococci, can lead to rheumatic fever. Untreated middle-ear infections can lead to long-term hearing loss and sometimes to related speech and language difficulties. Severe asthma can cause respiratory failure and death.

Figure 3: The Likelihood That Uninsured and Insured Children Received Medical Care When Ill, 1987



Source: Jeffrey J. Stoddard, Robert F. St. Peter, and Paul W. Newacheck, "Health Insurance Status and Ambulatory Care for Children," New England Journal of Medicine, Vol. 330, No. 20 (1994), pp. 1421-25.

[18]Overpeck and Kotch's definitions for these conditions were pharyngitis, or sore throat with high fever or tonsillitis for at least 2 days during the past 30 days; acute earache, or ear infection or earache for at least 2 of the past 30 days; recurrent ear infections, or more than 2 ear infections within the past 12 months; and asthma, or asthma or wheezing within the past 12 months.

[19]Jeffrey J. Stoddard, Robert F. St. Peter, and Paul W. Newacheck, "Health Insurance Status and Ambulatory Care for Children," New England Journal of Medicine, Vol. 330, No. 20 (1994), pp. 1421-25.

Looking at more rare conditions, one study examined severity of illness when privately insured and underinsured children were diagnosed with inflammatory bowel diseases.[20] Inflammatory bowel diseases (Crohn's disease and ulcerative colitis) can result in absence from school, progressive malnutrition, weight loss, anemia, depression, and fatigue. Early diagnosis can catch these diseases before they have progressed so that they can be treated with less-aggressive therapies. The study's authors, comparing a limited number of cases of underinsured children who had these rare illnesses with insured children who had the same illnesses, found that children who were underinsured had 2-1/2 times the weight loss of insured children and had waited 8 months longer before diagnosis. The children's laboratory results also indicated that they were sicker before diagnosis and were more likely to be anemic. The authors suggested that delay in diagnosis could have occurred for several reasons, such as seeing different physicians at the same clinic or emergency room or not being able to get timely appointments with subspecialists.[21]

Uninsured Children Are Hospitalized More Frequently for Lack of Primary Care

A lack of appropriate ambulatory care can cause children to be inappropriately hospitalized when they could have been treated as outpatients. Several researchers have studied hospital admissions among adults and children for conditions that can be managed with good ambulatory care. In general, they found that U.S. communities with poor access to ambulatory care—that is, low-income communities with many residents uninsured or enrolled in Medicaid—had higher rates of this kind of hospitalization. In contrast, hospital admissions in Spain for conditions sensitive to ambulatory care did not vary for children living in lower- and higher-income neighborhoods.

Lower-income U.S. neighborhoods had higher avoidable hospitalization rates compared with higher-income neighborhoods for both children and adults. Income differences in avoidable hospitalizations dropped for persons 65 years old or older, probably because of their Medicare coverage. Compared with privately insured patients in the same age category, uninsured patients had higher rates of avoidable hospitalization.

[20]The authors combined uninsured children and children in Medicaid to come up with their category "underinsured." They considered children in Medicaid as having insufficient insurance because of the difficulty Medicaid children had in getting primary and specialty care at that time (1983-93) in that locality.

[21]W. Spivak, R. Sockolow, and A. Rigas, "The Relationship Between Insurance Class and Severity of Presentation of Inflammatory Bowel Disease in Children," American Journal of Gastroenterology, Vol. 90, No. 6 (1995), pp. 982-87.

Medicaid patients had even higher rates.[22] Most of the potentially avoidable hospitalizations for children younger than 15 were for pneumonia or asthma. Communities where people perceived that they had poorer access to medical care had higher rates of hospitalization for chronic diseases. Self-rated access to care was lower in communities that had greater proportions of uninsured residents, Medicaid beneficiaries, and persons without a usual source of care.[23]

Analysis of crossnational data also suggests that broader access to primary care reduces the number of hospitalizations for conditions sensitive to ambulatory care. Several researchers compared such admissions for children in Spain and several U.S. cities. Although rates of hospital admission were higher in general for children in Spain, rates of hospitalization for conditions sensitive to ambulatory care were lower. In addition, lower-income communities in Spain, unlike the United States, did not have higher rates of children's hospital admissions sensitive to ambulatory care. The authors attributed this difference to Spanish children's access to universal health care, each child being covered by a responsible primary care provider.[24]

Uninsured Children Receive Unequal Care When Hospitalized

Two studies indicated that when children were hospitalized, providers did not give the same type of care to uninsured and privately insured children. Providers may have been unwilling to provide the same intensity of care if the payment source was uncertain or likely to be less than actual charges.[25]

One group of researchers found that sick uninsured newborns in California had shorter hospital stays and received less-intensive care while in the hospital than privately insured sick newborns, even though the uninsured newborns and those in Medicaid were sicker. Newborns in Medicaid had lengths of stay and levels of service between those of uninsured and privately insured newborns. Adjusted mean length of stay was 15.2 days for privately insured newborns, 14.2 for Medicaid-covered newborns, and 12.7 for uninsured newborns. Total mean charges were $15,899 for privately insured newborns, $13,858 for Medicaid-covered newborns, and $11,414 for uninsured newborns. Charges per day were also

[22]G. Pappas and others, "Potentially Avoidable Hospitalizations: Inequities in Rates Between U.S. Socioeconomic Groups," American Journal of Public Health, Vol. 87, No. 5 (1997), pp. 811-22.

[23]Andrew B. Bindman and others, "Preventable Hospitalizations and Access to Health Care," Journal of the American Medical Association, Vol. 274, No. 4 (1995), pp. 305-11.

[24]Carmen Casanova and Barbara Starfield, "Hospitalizations of Children and Access to Primary Care: A Cross-National Comparison," International Journal of Health Services, Vol. 25, No. 2 (1995), pp. 283-94.

[25]Of course, privately insured children may have been getting more care than they needed.

significantly different depending on insurance status. In all, length of stay, total charges, and charges per day were 16-percent, 28-percent, and 10-percent less for uninsured than privately insured newborns.[26]

Another group of researchers found that uninsured children and adults were generally sicker when admitted to the hospital, received less care given their condition on admission, and had higher mortality than privately insured children and adults. For children between ages 1 and 17, uninsured black males and white females rated significantly higher on a risk-adjusted mortality index, indicating that they were sicker on admission. The differences for uninsured black females and white males were not significant. Another measure of children's being sicker on admission is admission on weekends, which was more likely for all uninsured children except black males. For the entire sample of all ages, uninsured people had shorter lengths of stay for conditions for which physicians had more discretion over the length of stay, and they had a lower probability of getting selected procedures that were either costly or more likely to be done at the physician's discretion. The researchers cautioned that their adjustment for health risk might be imperfect. Nevertheless, they concluded that insurance coverage affects resource use for a broad spectrum of clinical problems, particularly elective and discretionary services.[27]

Uninsured Children Who Have Chronic Conditions or Special Health Needs Receive Less Care Than Insured Children

Many children have a chronic condition—one study estimated that 31 percent of children younger than 18 in 1988 had one or more chronic conditions.[28] NCHS estimated that about 15 percent of children who had chronic conditions had special health care conditions that were disabling because they missed school, stayed in bed, limited their activities, or experienced pain or discomfort often.[29] Many children who have chronic conditions are uninsured. In 1988, 21.1 percent of poor children and 9.7 percent of nonpoor children who had chronic conditions were

[26]P. Braveman and others, "Differences in Hospital Resource Allocation Among Sick Newborns According to Insurance Coverage," Journal of the American Medical Association, Vol. 266, No. 23 (1991), pp. 3300-8.

[27]Jack Hadley, Earl Steinberg, and Judith Feder, "Comparison of Uninsured and Privately Insured Hospital Patients: Condition on Admission, Resource Use, and Outcome," Journal of the American Medical Association, Vol. 265, No. 3 (1991), pp. 374-79.

[28]P. W. Newacheck, "Poverty and Childhood Chronic Illness," Archives of Pediatric and Adolescent Medicine, Vol. 148, No. 11 (1994), pp. 1143-49.

[29]L. A. Aday, "Health Insurance and Utilization of Medical Care for Chronically Ill Children With Special Needs," Advance Data, No. 215 (Hyattsville, Md.: National Center for Health Statistics, 1992).

uninsured.[30] About 13 percent of children who had chronic conditions and special health care needs were uninsured—with low-income, Hispanic, and nonsuburban children more likely to be uninsured.[31]

Having a regular source of care ensures continuity of care and professional monitoring of disease symptoms. Only a few studies looked at children who had chronic conditions and those who had special health care needs, and fewer controlled for factors that influence access other than insurance.[32] However, these few studies found differences in access to care by insurance status. (See table 3.) For example, poor children who had chronic conditions but no insurance were more than twice as likely as similar, insured children, to lack a usual source of routine care or sick care.[33] (See fig. 4.) Adjusting for severity of illness and other factors, they had only 2.3 physician contacts per year, compared with 3.7 for similar but insured children.

Table 3: Statistically Significant Differences in Access to Care for Chronically Ill Children and Children Who Had Special Health Care Needs, by Insurance Status

Compared with insured children, uninsured children	Study
Poor children with chronic conditions	
Were more likely to lack a usual source of routine care	Newacheck, 1994
Were more likely to lack a usual source of sick care	
Had fewer annual physician visits	
Children with chronic conditions and special health care needs	
Were less likely to have been hospitalized in the past year	Aday and others, 1993
Children reported in fair or poor health	
Were more likely not to have used a physician's services during a year	Newacheck, 1992

Notes: Full study citations are in the bibliography. All differences reported in this table between uninsured and insured children were statistically significant at the .05 level. Some were significant at the .01 or .001 level.

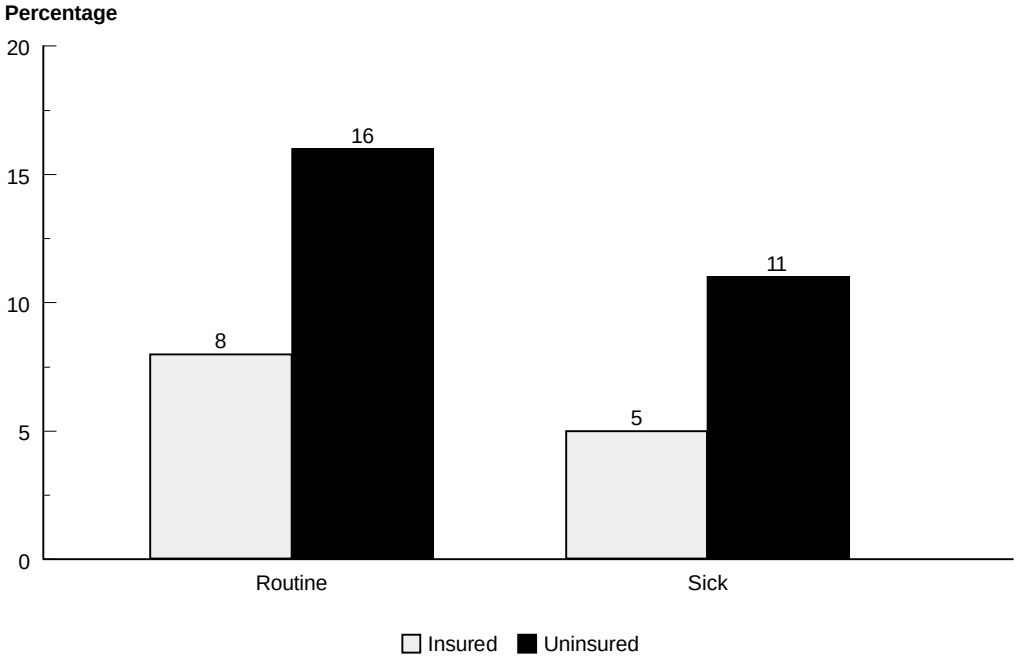
[30]Newacheck, "Poverty and Childhood Chronic Illness."

[31]Aday, "Health Insurance and Utilization of Medical Care."

[32]For a study that compared access of asthmatic children by insurance status, without controlling for other factors that influence access, see Holl and others, "Profile of Uninsured Children in the United States."

[33]Newacheck, "Poverty and Childhood Chronic Illness."

Figure 4: Insured and Uninsured Poor Children Who Had Chronic Conditions and Lacked a Usual Source of Routine or Sick Health Care by Insurance Status, 1988



Source: P. W. Newacheck, "Poverty and Childhood Chronic Illness," Archives of Pediatric and Adolescent Medicine, Vol. 148, No. 11 (1994), pp. 1143-49.

An analysis that went even further to separate insurance status from other factors that could affect children's access to care found that children who had chronic conditions and special health care needs were more than twice as likely to be hospitalized if they had public or private insurance

than if they were uninsured, adjusting for differences in need for hospitalization based on their conditions.[34]

Health Insurance Differs in Coverage of Children's Common Health Care Needs

Many health plans do not cover a number of preventive, primary, and developmental health services needed by some or all children. Private policies differ in whether they cover well-child, dental, and vision care. In 1996, KMPG Peat Marwick reported that 57 percent of the indemnity health plans used by firms with 200 to more than 5,000 workers covered well-child care, compared with 96 percent of health maintenance organizations (HMO) and 73 percent of preferred provider organization (PPO) plans.[35] Dental caries are a common problem for children, while poor vision can lead to problems in learning. Nevertheless, only about half or less of the private plans surveyed covered dental or vision care. Medicaid's child health benefit package, the Early and Periodic, Screening, Diagnosis, and Treatment (EPSDT) program requires coverage of well-child care, including dental, hearing, and vision care. Other publicly funded programs, such as the Florida HealthyKids Program and New York's Child Health Plus Program, have not covered dental care; HealthyKids covered vision and hearing care, but Child Health Plus did not.[36]

Children who have chronic conditions and special health care needs may have particular difficulties because the services and supplies they need may not be covered by their insurance. For example, coverage for speech or physical therapy to help with developmental delays is often limited or explicitly excluded from private health insurance policies. In contrast, Medicaid's EPSDT program covers a wide variety of developmental services.

Some children are insured but with "bare-bones" policies that provide minimal coverage except for catastrophic costs. Such children, if eligible for Medicaid, could get coverage for services not covered by their private

[34]Defined as children who had one or more selected chronic conditions that caused them to experience pain or discomfort or to be upset often or all the time in the past year or who were limited in their major childhood activities as a result of these or other impairments or health problems. Their conditions included frequent or repeated ear infections, digestive allergies, frequent diarrhea or bowel trouble, diabetes, sickle cell anemia, anemia, asthma, hay fever or respiratory allergies, epilepsy or seizures, frequent or severe headaches, musculoskeletal impairments including arthritis, cerebral palsy, heart disease, and other conditions requiring surgery and lasting longer than 3 months. L. A. Aday and others, "Health Insurance and Utilization of Medical Care for Children With Special Health Care Needs," Medical Care, Vol. 31 (1993), pp. 1013-26. Another study looking at similar issues for adults and children combined is C. Hafner-Eaton, "Physician Utilization Disparities Between the Uninsured and the Insured: Comparisons of the Chronically Ill, Acutely Ill, and Well Nonelderly Populations," Journal of the American Medical Association, Vol. 269, No. 6 (1993), pp. 787-92.

[35]KPMG Peat Marwick, Health Benefits in 1996 (n.p.: 1996).

[36]Children's Health Insurance Programs, 1996 (GAO/HEHS-97-40R, Dec. 3, 1996).

insurance. However, Title XXI—the new child health insurance program—was designed to be restricted to uninsured children, so that low-income children with coverage, even if it were only catastrophic coverage, would not be considered eligible. Florida HealthyKids and New York's Child Health Plus, two state-based plans whose benefits have been grandfathered into Title XXI, have in the past covered insured children if their health insurance was not comparable in scope to the state-based coverage.[37]

Some experts have argued that special pediatric standards should be developed that recognize children's specific needs, such as their need for health services to ensure optimal development. They have argued that such services should be considered medically necessary and should be covered by private health insurance.[38] Medicaid's standard of medical necessity is more global than that of private plans. However, families in Medicaid have sometimes had difficulty finding mainstream providers willing to accept them as patients, which limits their ability to secure covered benefits for their children.

Expanding Public Insurance Improves Access

Since providing uninsured children with publicly funded insurance improves their access to preventive and acute health services, families are more likely to report that their children's health needs are being met. Children are more likely to be up to date with recommended preventive care and are more likely to see a physician. Two different researchers estimated that the expansion of publicly funded insurance in the United States and Canada decreased child mortality, in association with either more physicians' visits or more prenatal care.

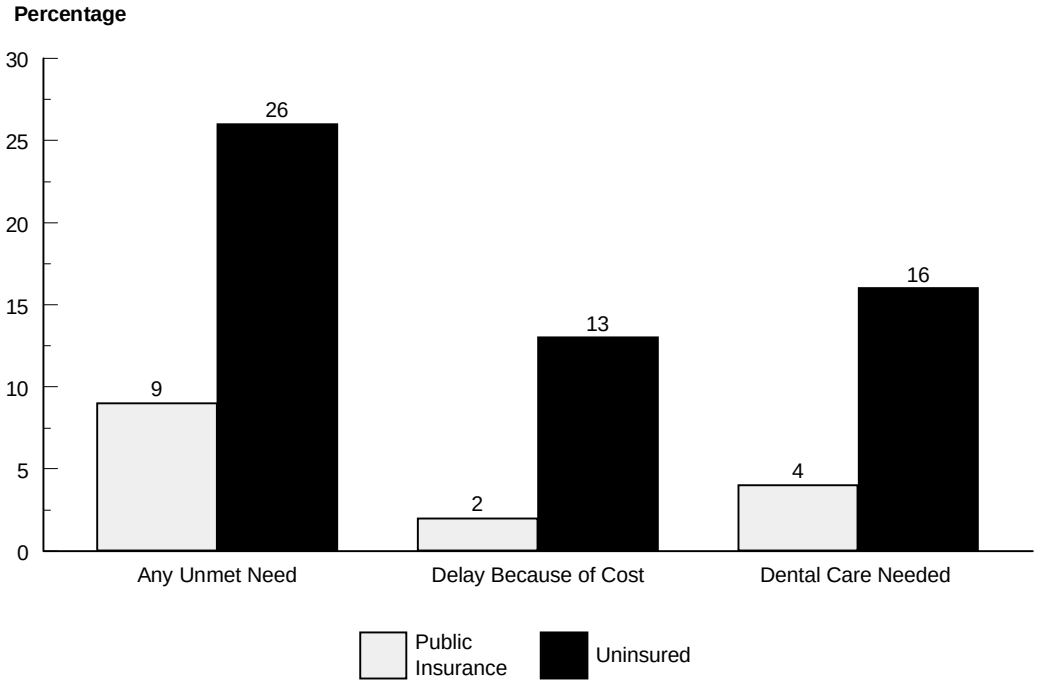
NCHS reported that uninsured children were about three times as likely to have an unmet health need as children with publicly funded insurance (generally Medicaid). (See fig. 5.) Dental care was the most common unmet need for all children—but uninsured children were more than three times as likely not to receive needed dental care as children who had

[37]Health Insurance for Children: State and Private Programs Create New Strategies to Insure Children (GAO/HEHS-96-35, Jan. 18, 1996).

[38]E. Wehr and E. J. Jameson, "Beyond Benefits: The Importance of a Pediatric Standard in Private Insurance Contracts to Ensuring Health Care Access for Children," The Future of Children: Critical Health Issues for Children and Youth, Vol. 4, No. 3 (1994), pp. 115-33.

publicly funded insurance. Almost 16 percent of uninsured children were reported as needing but not receiving dental care.[39]

Figure 5: Percentage of U.S. Children Who Had Publicly Funded Insurance or No Insurance and Unmet Health Needs, 1993



Source: Gloria Simpson and others, "Access to Health Care Part 1: Children," Vital and Health Statistics, Series 10, No. 196 (Hyattsville, Md.: U.S. Department of Health and Human Services, 1997).

Parents of uninsured children reported delaying getting care for their children because of its cost almost five times as often as children who had publicly funded insurance. One local study in Los Angeles found that inner-city Latino parents were also most likely to report that they deferred

[39]The NCHS study simply compared privately insured, Medicaid, and uninsured children without controlling for other factors that could affect access. However, since children in Medicaid have lower average family income than uninsured children and are more likely to be more socially disadvantaged, regression analysis might well increase the comparative effect of insurance, so we are including these results for a simple comparison. See Simpson and others, "Access to Health Care Part 1."

health care for their toddlers for financial reasons when they were uninsured, compared with others who had Medicaid or private coverage.[40]

A number of studies estimated the effect that providing publicly funded insurance, such as Medicaid, had on lessening the gap between uninsured and insured children. One research team examined the effect of expanding Medicaid coverage to children and found decreases over time in the probability that children would go without at least one ambulatory care visit in a year. Making a child eligible for Medicaid lowered the child's estimated probability of going without a visit by 13 percent. Hospitalizations also rose by an estimated 14 percent—but the estimated probability of making visits to physicians' offices increased even more than making visits to other sites, suggesting to the authors that expanding Medicaid coverage increased ambulatory care. These authors also looked at the effects of Medicaid expansion on child health as measured by decreases in child mortality. They estimated that the 15-percent rise in the number of children eligible for Medicaid between 1984 and 1992 decreased child mortality by 5 percent.[41] A similar study that looked at the effect of providing national health insurance in Canada found a statistically significant increase in early prenatal care and a significant decrease in infant mortality.[42]

Another study of children's rates of preventive and illness-related primary care visits found that, adjusting for other factors such as race and perceived health status, the predicted probability of making either a preventive or illness-related visit increased if children were covered by public or private insurance, compared with being uninsured. For example, for uninsured children younger than 6 in single-parent families headed by mothers, the predicted probability of making a preventive visit was more than 40-percent greater if the children were covered by public or private insurance, and it was almost 100-percent greater for children aged 6 to 17.[43]

[40]N. Halfon and others, "Medicaid Enrollment and Health Services Access by Latino Children in Inner-city Los Angeles," Journal of the American Medical Association, Vol. 277, No. 8 (1997), pp. 636-72.

[41]J. Currie and Jonathan Gruber, "Health Insurance Eligibility, Utilization of Medical Care, and Child Health," Quarterly Journal of Economics, Vol. 111, No. 2 (1996), pp. 431-66.

[42]Maria J. Hanratty, "Canadian National Health Insurance and Infant Health," American Economic Review, Vol. 86, No. 1 (1996), pp. 276-84.

[43]Peter J. Cunningham and Beth A. Hahn, "The Changing American Family: Implications for Children's Health Insurance Coverage and the Use of Ambulatory Care Services," The Future of Children: Critical Health Issues of Children and Youth, Vol. 4, No. 3 (1994), pp. 24-42. See also Mary L. Rosenbach, "The Impact of Medicaid on Physician Use by Low-Income Children," American Journal of Pediatric Health, Vol. 79, No. 9 (1989), pp. 1220-26.

Many children miss recommended preventive visits, but uninsured children fare worse than insured children. Short and Lefkowitz found that in 1987, only 49 percent of uninsured preschool children had made any well-child visits, compared with 65 percent of insured children, and only 32 percent of uninsured preschool children had made the recommended number of visits, compared with 48 percent of insured children.[44] They found that when adjusting for other factors, private insurance status was only marginally significant in predicting well-child visits, which they explained by the degree to which private insurance varies in its coverage of well-child care. However, they estimated that for low-income children who would otherwise be uninsured, a full year of Medicaid coverage increased the probability of making any well-child visits by 17 percentage points, and compliance with AAP's guidelines for well-child visits would increase by 13 percentage points. (See table 2 for AAP guidelines.)

Lack of Health Insurance Is Only One Barrier to Care

Getting appropriate health care when it is needed can be difficult for children. Parents and guardians usually make the decision to seek care for them. Having health insurance and having a regular source of health care facilitate a family's use of health services, but some families experience systemic, financial, and personal barriers to care. Systemic barriers can include a lack of primary care providers readily available in the neighborhood, physicians' missing opportunities to provide vaccinations during health care visits, and physicians' refusing to accept certain patients. Financial barriers, apart from lack of insurance, can include lack of funds to make copayments or pay for uncovered services. Personal barriers can include parents' lack of knowledge that care is needed and language differences between parents and providers. Similarly, discrimination and poor treatment by health care workers can discourage the use of health care services.[45]

Uninsured children and children in Medicaid may also be likely to face systemic, financial, or personal barriers that limit their access to care, beyond their lack of insurance. Compared with privately insured children, uninsured children and those in Medicaid are more likely to have less family income, to be members of a minority group, to have parents who have lower educational attainment, or to live with only one parent—characteristics associated with lower use of health services.

[44]Pamela Farley Short and Doris C. Lefkowitz, "Encouraging Preventive Services for Low-Income Children: The Effect of Expanding Medicaid," Medical Care, Vol. 30, No. 9 (1992), pp. 766-80.

[45]Paul W. Newacheck and others, "Children's Access to Health Care: The Role of Social and Economic Factors," in Health Care for Children: What's Right, What's Wrong, What's Next, ed. by Ann R. E. Stein (New York: United Hospital Fund of New York, 1997).

As a result, experts in health issues have concluded that while insurance plays a critical role in getting children access to health care, encouraging their appropriate use of health care encompasses multiple strategies. These include making insurance coverage more continuous in order to foster children's relationships with providers, maintaining a better organized system of primary care in settings that ease access for parents and that have good links to more complex care, enhancing systems in which primary care providers can track and prompt preventive visits and immunizations, and aiming outreach and educational programs at parents.[46]

Conclusion

Research has clearly demonstrated that having health insurance makes a difference for children. Children who have no insurance—even those who are sick or chronically ill or have special health care needs—get less health care than children who have insurance. Many studies have shown that increasing children's coverage increases their access to care, particularly primary care. Without appropriate access to primary care, children are more likely to suffer unnecessarily from illness.

But having health insurance is no guarantee that children will get appropriate, high-quality care. Some children live in families that do not understand the need for preventive care or do not know how to seek high-quality care. Some live in neighborhoods that have few health care providers, where they have to travel further and wait longer to get care. Some live in families in which most of the members do not speak English or defer getting care because they have had difficulty getting care previously. Some children have health insurance that does not cover some of the services that they need most—such as dental care or physical therapy for the developmentally disabled. Some children have health insurance whose deductibles and cost-sharing are unaffordable. Such barriers can reduce the likelihood that even insured children will get the care they need.

Overcoming these kinds of barriers would require that children be more continuously covered by health insurance so that they could develop long-term relationships with primary care providers. Having a stable

[46]Institute of Medicine, Paying Attention to Children in a Changing Health Care System (Washington, D.C.: National Academy Press, 1996); James Perrin, Bernard Guyer, and Jean M. Lawrence, "Health Care Services for Children and Adolescents," The Future of Children: U.S. Health Care for Children, Vol. 2, No. 2 (1992), pp. 58-77; J. Currie, "Socio-Economic Status and Child Health: Does Public Health Insurance Narrow the Gap?" Scandinavian Journal of Economics, Vol. 97, No. 4 (1995), pp. 603-20; Short and Lefkowitz, "Encouraging Preventive Services for Low-Income Children."

source of insurance can help families use the health system for their children optimally over time. Beyond that, children have needs for specific developmental and preventive care that differ in some ways from those of adults. For insurance to work for children, the services they need must be both covered and affordable.

Overcoming nonfinancial barriers might require outreach and education for families so that they can learn how better to use preventive and primary health care for their children. In addition, making high-quality primary health services convenient for families in local communities might facilitate children's access to appropriate care.

Experts' Comments and Our Response

We asked experts on access to health insurance and children's health care to review a draft of this report, and we incorporated their comments and suggestions where appropriate.

We will make copies of this report available on request. Please contact me at (202) 512-7114 if you or your staff have any questions. This report was prepared by Michael Gutowski, Jonathan Ratner, Sheila Avruch, and Sarah Lamb.

Sincerely yours,

William J. Scanlon
Director, Health Financing
and Systems Issues

Contents

Abbreviations

AAP	American Academy of Pediatrics
CBO	Congressional Budget Office
EPSDT	Early and Periodic, Screening, Diagnosis, and Treatment
HMO	health maintenance organization
NCHS	National Center for Health Statistics
PPO	preferred provider organization

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