

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Paying for Quality Care: Implications for Racial and Ethnic Health Disparities in Pediatric Asthma

Cara V. James and Sara Rosenbaum

Pediatrics 2009;123;S205-S210

DOI: 10.1542/peds.2008-2233L

The online version of this article, along with updated information and services, is
located on the World Wide Web at:

http://www.pediatrics.org/cgi/content/full/123/Supplement_3/S205

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2009 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



Paying for Quality Care: Implications for Racial and Ethnic Health Disparities in Pediatric Asthma

Cara V. James, PhD^a, Sara Rosenbaum, JD^b

^aHenry J. Kaiser Family Foundation, Washington, DC; ^bDepartment of Health Policy, George Washington University School of Public Health and Health Services, Washington, DC

The authors have indicated they have no financial relationships relevant to this article to disclose.

ABSTRACT

Children who are from racial and ethnic minority groups, are of low income, or are both are affected disproportionately by asthma. Despite advances in the treatment and management of asthma, including the development of guidelines for clinical practice, substantial racial, ethnic, and socioeconomic disparities exist in both health care quality and health outcomes. Financial incentives generally have the potential to improve overall quality and, when targeted specifically toward disparity reduction, may be able to help close the quality gap. For this strategy to succeed, however, efforts must be made to eliminate fundamental access barriers created by uneven, unstable, and seriously constrained health care financing for low-income children. *Pediatrics* 2009;123:S205–S210

www.pediatrics.org/cgi/doi/10.1542/peds.2008-2233L

doi:10.1542/peds.2008-2233L

Key Words

health status disparities, population characteristics, incentive reimbursements, childhood asthma prevalence

Abbreviations

HEDIS—Healthcare Effectiveness and Data Information Set

P4P—pay for performance

Accepted for publication Nov 4, 2008

Address correspondence to Cara V. James, PhD, Kaiser Family Foundation, 1330 G St, NW, Washington, DC 20005. E-mail: cjames@kff.org

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275). Copyright © 2009 by the American Academy of Pediatrics

RACIAL AND ETHNIC disparities in asthma treatment and morbidity rates among children have been well documented, particularly among low-income and minority children.^{1–4} Disparities exist despite considerable knowledge regarding what works and the existence of evidence-based treatment guidelines. Even in the case of children enrolled in the same health plan, the quality of care can vary significantly according to race and ethnicity.⁵ Although pay-for-performance (P4P) plans and other strategies for incentivizing quality improvement hold important promise, incentivization strategies that are poorly designed or poorly executed can exacerbate racial and ethnic health disparities.

In this article we examine the implications of financial incentives to improve the overall quality of pediatric asthma care and to reduce racial, ethnic, and socioeconomic disparities in health and health care outcomes among children with asthma. After a brief overview of pediatric asthma, we examine financing strategies as a means of achieving health and health care quality improvements and as an approach for reducing racial, ethnic, and socioeconomic disparities in health and health care.

PEDIATRIC ASTHMA AND ASTHMA CARE AS AN INDICATOR OF HEALTH CARE QUALITY

For purposes of this analysis, several observations are in order. First, asthma is a widespread, serious, pediatric health condition affecting an estimated 6.5 million children in the United States.⁶ Disproportionately associated with poverty and its environmental, financial, and social effects, asthma strikes low-income and minority children especially hard. In 2006, the prevalence of asthma was estimated to be 2.9 times greater for Puerto Rican children, 1.4 times greater for black children, and 1.4 times greater for poor children, compared with non-Hispanic white and nonpoor children.⁷ Therefore, as is the case with virtually all childhood illnesses and conditions,⁸ it is the poorest children who not only are at heightened risk for asthma but also are likely to experience its most serious manifestations.⁹ Children who are of low income, members of racial or ethnic minority groups, and urban residents are at higher risk of asthma and are more likely to experience disease-related hospitalization and death.

Second, although clinical experts consider asthma to be a chronic condition that can be managed appropriately in ambulatory primary health care settings through a combination of clinical interventions, outreach and family supports, and prescription drug treatment,¹⁰ poorly managed asthma takes an enormous human and financial toll. Data from the 2006 National Hospital Discharge Survey showed that asthma is a leading cause of hospitalization for children between ages 1 and 17.¹¹ In 2004, ~300 000 children were admitted to the hospital with an asthma-related problem, which resulted in charges of more than \$2.4 billion.¹² In the same year, >340 000 children with asthma were discharged from emergency departments, which resulted in charges of more than \$280 million. Most asthma-related hospitalizations are thought to be preventable through “the treatments, prescriptions and health education provided by timely and effective primary health care.”¹³

Third, failure to receive clinically appropriate asthma treatment in ambulatory care settings significantly increases the risk of asthma-related hospitalization among affected children.¹⁴ Fourth, substandard pediatric ambulatory care is widespread; indeed, 1 recent study estimated that, in general, children receive clinically appropriate care for

chronic conditions only slightly more than one half of the time, and less than one half of the time in the case of asthma.¹⁵ Of special significance is the underuse of ambulatory clinical management services, that is, chronically ill children are not regularly seen on a more-frequent schedule.¹⁵

Fifth, the association between the underuse of ambulatory treatment and management services for pediatric asthma and avoidable hospitalization is sufficiently powerful that experts have concluded that increased compliance with clinical treatment guidelines could substantially reduce the number of asthma-related hospital admissions among children, thereby generating significant cost savings.^{16,17} These improved health outcomes and savings can be expected to accrue disproportionately with respect to children at the highest risk for severe asthma.

Sixth, appropriate clinical ambulatory management of asthma is considered both a public health bellwether, as reflected in *Healthy People 2010*,¹⁸ and a staple of health care quality management. The National Asthma Education and Prevention Program expert panel has issued several reports updating its initial 1991 recommendations for the diagnosis and management of asthma. Current guidelines group treatment recommendations into 3 categories, that is, medications, monitoring, and prevention.¹⁹ These 3 categories can be further refined into 4 distinct types of intervention strategies deemed “essential” to effective treatment, that is, (1) assessment, measurement, and monitoring, (2) education, (3) control of environmental factors and comorbid conditions that affect asthma, and (4) pharmacologic therapy.²⁰

Although health care quality measurement should be multidimensional where pediatric asthma is concerned, standard measurement systems tend to be selective in terms of what measures are used. For example, the Healthcare Effectiveness and Data Information Set (HEDIS) is the most widely used health care performance measurement tool at the health plan level. Because HEDIS is a tool for use in assessing general health plan performance, its measurement scheme includes measures that span all ages and encompass hundreds of health conditions. Given the enormity of the quality measurement task undertaken by HEDIS, the extent to which the system can assess the quality of care for any particular condition is inevitably limited. With regard to asthma, HEDIS currently focuses on only 2 quality measures, that is, use of appropriate medications for people with asthma and relative resource use²¹; until 2007, HEDIS relied only on the former measure.

Other quality measurement tools have similar constraints with respect to measuring performance. The Ambulatory Quality Alliance is a coalition that includes the American Academy of Family Physicians, the American College of Physicians, America’s Health Insurance Plans, and the Agency for Healthcare Research and Quality, among others. The Ambulatory Quality Alliance was established in 2004 to improve data collection, aggregation, and reporting in clinical care. Although the Ambulatory Quality Alliance focuses specifically on clinical care quality, it also includes only 2 measures of

asthma care, both of which relate to the appropriate use of medications.²²

In summary, although much is known about how to improve the quality of pediatric asthma care, standard health care quality-of-care measurement tools, whether at the health plan or clinical care level, tend to focus only on selected components of overall asthma care quality, because asthma care of children is one of many types of performance to be measured. Furthermore, whether performance in accordance with selected quality measurement components is a true proxy for overall quality, that is, whether quality generally can be inferred from adequate performance on only a subset of measures, is not known.

FINANCIAL INCENTIVES AND HEALTH CARE QUALITY

The idea that there is an association between how care is financed and its quality and outcomes is hardly new. Indeed, the history of health care financing in the United States underscores the fact that, in medicine, as in the US economy as a whole, use of financial incentives is a long-standing practice. For decades, payers have been actively involved in building bridges between financing and quality.²³

The earliest advocates of prepaid health care thought that global prepayment for group care could make well-ness profitable by reversing the tendency of fee-for-service medicine to profit from delayed and costly treatment.²⁴ More-recent efforts to finance group practices rested on the same logic. In this regard, the modern P4P movement, in which financial incentives are linked to quality performance indicators, can be thought of as a twist on a long-standing theme of designing financing mechanisms that reward quality and efficiency.²³

In a public financing context, Medicare has been in the vanguard of the financial incentive movement for decades, conducting payment efficiency experiments as early as 1967, when Congress was confronted with escalating program costs. Additional attempts to incentivize quality and efficiency through financial mechanisms include enactment of the hospital prospective payment system in 1982²⁵ and the resource-based, relative value scale system for paying physicians in 1989.²⁶ Both systems have struggled with numerous challenges, particularly the failure of the resource-based, relative value scale system to correct chronic disincentives to furnish ambulatory primary care.²⁷ These Medicare payment reforms, coupled with an expanded federal investment in health services cost and quality research through funding for the Agency for Healthcare Research and Quality, emphasize policymakers’ interest in the link between how care is financed and the quality of its delivery.²⁸

Medicaid generally lacks the federal attention to health care financing that dominates Medicare. In several cases, however, federal Medicaid reforms have focused on encouraging the provision of certain types of ambulatory primary health care services in locations where access to quality care is limited. The 2 most prominent examples of this policy approach are federally qualified health centers and rural health clinics, whose payment arrangements are (like the Medicare prospec-

tive payment system) prospective and cost-related.²⁹ Aside from these policies and federal policies related to payment of hospitals that treat a disproportionate number of low-income and publicly insured patients, Medicaid and its smaller companion, the State Children's Health Insurance Program, accord states broad discretion over payment methods for primary, specialty, and institutional care.

Current approaches to performance incentives tend to focus on very specific types of conduct and outcomes. This tendency may result in part from a growing understanding of the gap that exists between the current level of knowledge about specific types of care that are effective and the actual standard of practice.^{30,31} In its 2007 report titled *Rewarding Provider Performance: Aligning Incentives in Medicare*, the Institute of Medicine reported widespread adoption by private insurers of specific financial incentive arrangements and advocated the growth of such practices as a means of promoting the broad societal goal of value in health care.³²

There are a number of ways to incentivize health care practices, ranging from prepayment to case payments, compensation formulas weighted toward certain desired outcomes, and the use of rewards and penalties tied to specific forms of provider conduct. The latter approach, popularly known as P4P,³²⁻³⁴ suggests the use of positive financial incentives (ie, additional payments over baseline spending) to reward quality outcomes. There is evidence, however, that the physician "incentive" in P4P can be the avoidance of punitive measures, such as withholding of funds that otherwise would have been paid³⁵ or other strategies aimed at diverting revenues away from lower-quality providers.

An important aspect of virtually all incentive-based strategies is budget neutrality. Prepayment, prospective payment systems, and the resource-based, relative value scale system are all structured to be budget-neutral. With national health expenditures surpassing 16% of the Gross Domestic Product and expenditures increasing at an average annual rate of 9.8% since 1970,³⁶ budget neutrality has emerged as a key dimension of P4P; financial rewards, whatever their form, should rationalize rather than add to overall health expenditures, directing the national investment in health care toward higher-quality, more-efficient sources of health care.^{32,33}

There are numerous P4P programs. A compendium of purchasing innovations maintained by the Leapfrog Group contains more than 100 programs, 53 of which are targeted at physicians.³⁷ In recent years, payers have shown greater interest in incentivizing specialists and surgeons, as well as primary care physicians; are moving to include cost efficiency and information technology measures; and are increasingly including outcome measures in their P4P programs.³⁸ These programs tend to include some indicators of compliance with guidelines for chronic conditions such as diabetes mellitus and asthma. However, very few of these programs have been formally evaluated.

As noted, P4P programs can work in a negative manner. In recent years, insurers have developed and implemented hospital and physician tiering arrangements that

penalize underperformance by shifting network membership to a separate tier whose use carries greater patient cost-sharing, as a means of discouraging patients from using low-performing health care professionals and institutions. This approach has been controversial and, until recently, slow to be accepted. In 2007, only 15% of employers offered a tiered provider network in the health plan with the largest enrollment, and only 7% said they were very likely to introduce tiered cost sharing in 2008.³⁹ It is not known to what extent tiered networks exist in programs such as Medicare and Medicaid.³⁴

The slow growth of tiered networks may be the result of difficulties associated with the creation of tiers. In a comparison of commonly used strategies for the identification of preferred hospitals, researchers found little overlap between low-cost and high-quality hospitals, as well as wide variations in the degree of overlap based on geographic features.⁴⁰ Many questions remain unanswered with regard to tiered networks; more employers may consider using tiered networks when these questions have been answered.

CHALLENGES TO USING FINANCIAL INCENTIVES TO IMPROVE PEDIATRIC CARE AND TO REDUCE DISPARITIES

Lack of Sufficient Insurance Coverage

An obvious point for any payment incentive program is that the model works only in the case of insured patients. In 2006, 9.4 million children, disproportionately of low income and members of racial and ethnic minority groups, were uninsured.⁴¹ In some communities, health care for these children might be partially subsidized through grant-supported health care providers, such as community health centers that receive government financing to furnish care to medically uninsured and underserved populations. Although grant payments, like insurance payments, could include an incentivization component, per capita payments under public programs already are modest in relation to the overall cost of care; for example, per capita health center grant payments were only \$119 in 2006, decreased from \$359 in 1980.⁴² The modest size of public grants in relation to need leaves little margin for financial redirection among hard-pressed clinical providers who, in view of their limited funding, are already demonstrating considerable efficiency in delivering care.

Even when they are insured, children as a group, and low-income and minority children in particular, rely disproportionately on public health insurance.⁴³ Although Medicaid has been vital to improving health care for children, the program suffers from 2 basic problems. First, studies examining coverage over time show that children's Medicaid coverage can fluctuate substantially because of its sensitivity, as a need-based program, to even slight changes in family income and employment arrangements. As of 2007, only 9 states had elected to guarantee annual periods of Medicaid enrollment for children, regardless of changes in family income.⁴⁴

In addition to unstable enrollment, Medicaid is a low payer with respect to ambulatory health care. With the

exception of payments to federally qualified health centers, which are heavily regulated, states are free to set payment rates; in many states, payments for ambulatory care are so low (and provider participation in Medicaid so constrained as a result) that budget-neutral redirection of ambulatory care financing toward high-value providers would be virtually impossible. Medicaid agencies certainly could adopt innovative approaches to payment for pediatric care, but it is doubtful that these agencies could do so without committing additional resources to the task.

Heavy restrictions in coverage design that leave certain classes or types of essential care completely uncovered represent an additional dimension of the insurance problem for children, and one that does not apply to Medicaid. Medicaid is known for the comprehensiveness of its coverage of children through the program's Early and Periodic Screening, Diagnostic, and Treatment benefit, which not only offers a comprehensive array of coverage but also uses a developmental standard of medical necessity that is designed to ensure coverage at the earliest point of need.⁴⁵ In contrast, commercial health insurance often excludes numerous classes of benefits and services needed by children with serious and chronic health conditions and imposes an array of exclusions and restrictions that can reduce the efficacy of coverage significantly.⁴⁵ In recent years, insurance products have shifted away from comprehensive, "first dollar" coverage and toward high-deductible health coverage arrangements with greater patient cost-sharing, narrowed benefits, and restrictive coverage rules.^{39,45,46} Therefore, even when it is present, pediatric coverage may be inadequate to finance health care according to evidence-based standards.

Structuring payment incentives without adequate coverage that can support known effective standards of care is impossible; payment in health insurance is predicated on the existence of covered services. Only in the case of Medicaid (and, to a lesser extent, its smaller companion, State Children's Health Insurance Program) can coverage definitively be said to be sufficiently broad to allow payment for the full array of treatments and procedures that together constitute the appropriate standard of treatment for asthma.

Insufficient and Uneven Diffusion of Incentive Practices Within the Health Care Market

Studies suggest that incentive programs tied to quality, as well as other value-purchasing tools, are discussed more than they are used. A recent study found that only 16% of large employers actually use value-purchasing tools for physician, medical group, or hospital quality, with only 2% reporting the use of provider payment incentives.⁴⁷ In this regard, Medicaid, the largest insurer of children, may be ahead of private payers. A review of state Medicaid purchasing practices conducted in 2006 for the District of Columbia Medical Assistance program found performance measurement tied to financial incentives in widespread use among state Medicaid agencies,⁴⁸ a finding that was echoed in a recent study by the Center for Health Care Strategies.⁴⁹

Incomplete or Inaccurate Measurement of Quality Health Care Delivery

Existing quality measurement tools such as HEDIS incorporate asthma treatment into their measurement schemes. However, the large number of treatment procedures that must be measured when the quality of an overall health care system is under review, as well as the burden of collection and evaluation, puts a limit on the conditions included in the measurement scheme and the range of procedures examined. For example, despite the recommendations of the National Asthma Education and Prevention Program expert panel and the goals of Healthy People 2010, HEDIS 2007 included only selected aspects of asthma treatment effectiveness, such as the use of prescription drugs. Although HEDIS was recently updated to consider also consumption of resources (that is, the actual interaction between patients and clinical management systems), not all payers use both of these HEDIS measures. A state Medicaid program may choose to consider only the use of drugs as a measurement of quality care, despite the fact that the most authoritative study on the quality of pediatric care concluded that underperformance where pediatric asthma is concerned may have less to do with failure to adhere to a drug regimen than with underuse of medical management.¹⁵

Current P4P programs do not have explicit design features aimed at reducing racial and ethnic disparities, perhaps because these programs operate under the assumption that, with improvement of the quality of care for all, disparities will cease to exist. Although there has been an extremely limited amount of research to test this hypothesis, a review article found at least 1 study in which a quality improvement program that focused on public reporting led to greater disparities.⁵⁰ The incorporation into an incentive program of indicators that measure processes through which disparities arise has the potential both to reduce disparities and to improve the overall quality of care. For children with asthma, this could mean not only measuring whether the physician provided a written asthma action plan for the child or educated the child's caregivers on ways to limit exposure to allergens but also measuring whether the plan and education were provided in a culturally competent manner that took into account the language abilities and health literacy levels of the patient and caregivers.

Because existing measurement schemes are incomplete and selective in assessing quality, they lead to inaccurate results when incentives are structured inadequately or in ways not in accordance with well-accepted evidence for standards of care. For example, critics have pointed to the absence of risk adjustment, to compensate for health care professionals who treat patients with more-severe health conditions, or physicians "teaching to the test," by focusing on care that is measured, rather than that which is most efficacious.⁵¹

Finally, the highly fragmented approach to health care financing that characterizes US health policy has resulted in a multitude of payers (public and private), all of which impose their concepts of health care quality on health care professionals. A single pediatric practice is

likely to participate in several dozen insurance arrangements, which places the practice in the position of needing to comply with an enormous array of performance measurement systems, each tied to a specific set of measures, with little commonality or overlap. Although efforts have been made to reach greater concordance among payers with respect to the quality measures used, widespread variation is still possible, resulting in an administrative burden on practices that is so great that the financial benefits of high performance may be offset by the costs of complying with a multitude of measurement and reporting systems.

Ineffective Incentives and Inadequate Financing of Care

P4P systems can reward quality; however, if the amount, timing, and structure of the rewards are weak and the "baseline" involves severely depressed payments, then the incentive to improve performance results will be inadequate. This situation could explain why, in some studies, incentives seemed to flow to providers who were good performers at the start, rather than to providers whose practices merited improvement.³⁴ The underfinancing of care may be particularly acute in the case of primary health care, the most important dimension of asthma care, because of the tendency of resource-based payment arrangements to underfinance primary care and to overfund costly and highly specialized procedures.⁴⁷

CONCLUSIONS

Moving toward a health care financing scheme that ties compensation to the quality of care can only benefit children, given the enormous gap between what is known about pediatric health care quality and what is being done. No condition provides a stronger example of this potential for gain than pediatric asthma, because much is known about effective management of this chronic condition and effective management is also cost-effective. For performance-based financing to work, however, especially for low-income and minority children, who stand to gain the most from changes in the health care system, the nation must be prepared to resolve the challenges and barriers that characterize the US health care system. These challenges include unstable and inadequate insurance coverage; the general underfinancing of primary care; a multitude of payers, whose disparate approaches to health care quality threaten to place enormous burdens on health care professionals, which can wipe out any financial gains; and incomplete performance measurements that fail to assess performance at the actual standard of care. In this regard, the growing interest in performance measurements that focus on quality in the management of chronic conditions is especially important, as are efforts to eliminate disparities in health insurance coverage and health care access among low-income and minority children.

REFERENCES

1. Akinbami LJ, Rhodes JC, Lara M. Racial and ethnic differences in asthma diagnosis among children who wheeze. *Pediatrics*. 2005;115(5):1254–1260
2. McDaniel M, Paxson C, Waldfogel J. Racial disparities in childhood asthma in the United States: evidence from the National Health Interview Survey, 1997 to 2003. *Pediatrics*. 2006;117(5). Available at: www.pediatrics.org/cgi/content/full/117/5/e868
3. Guevara JP, Mandell DS, Rostain AL, Zhao H, Hadley TR. Disparities in the reporting and treatment of health conditions in children: an analysis of the Medical Expenditure Panel Survey. *Health Serv Res*. 2006;41(2):532–549
4. Canino G, Koinis-Mitchell D, Ortega AN, McQuaid EL, Fritz GK, Alegria M. Asthma disparities in the prevalence, morbidity, and treatment of Latino children. *Soc Sci Med*. 2006;63(11):2926–2937
5. Trivedi AN, Zaslavsky AM, Schneider EC, Ayanian JZ. Relationship between quality of care and racial disparities in Medicare health plans. *JAMA*. 2006;296(16):1998–2004
6. Akinbami LJ. The state of childhood asthma, United States, 1980–2005. *Adv Data*. 2006;(381):1–24
7. National Center for Environmental Health. 2006 Asthma data. Available at: www.cdc.gov/asthma/nhis/06/data.htm. Accessed September 8, 2008
8. Newacheck PW. Poverty and childhood chronic illness. *Arch Pediatr Adolesc Med*. 1994;148(11):1143–1149
9. Halfon N, Newacheck PW. Childhood asthma and poverty: differential impacts and utilization of health services. *Pediatrics*. 1993;91(1):56–61
10. Flores G, Abreu M, Tomany-Korman S, Meurer J. Keeping children with asthma out of hospitals: parents' and physicians' perspectives on how pediatric asthma hospitalizations can be prevented. *Pediatrics*. 2005;116(4):957–965
11. Centers for Disease Control and Prevention, National Center for Health Statistics. Health Data Interactive. Available at: www.cdc.gov/nchs/hdi.htm. Accessed January 14, 2009
12. Agency for Healthcare Research and Quality. 2006 Hospital Stay for Children Only: Outcomes by Diagnosis Related Group 98 Bronchitis & asthma age 0–17. Data available at: <http://hcupnet.ahrq.gov/>. Accessed January 14, 2009
13. Laditka JN, Laditka SB. Race, ethnicity and hospitalization for six chronic ambulatory care sensitive conditions in the USA. *Ethn Health*. 2006;11(3):247–263
14. Bauman LJ, Wright E, Leickly FE, et al. Relationship of adherence to pediatric asthma morbidity among inner-city children. *Pediatrics*. 2002;110(1). Available at: www.pediatrics.org/cgi/content/full/110/1/e6
15. Mangione-Smith R, DeCristofaro A, Setodji CM, et al. The quality of ambulatory care delivered to children in the United States. *N Engl J Med*. 2007;357(15):1515–1521
16. Cloutier MM, Wakefield DB, Sangelot-Higgins P, Delaronde S, Hall CB. Asthma guideline use by pediatricians in private practices and asthma morbidity. *Pediatrics*. 2006;118(5):1880–1887
17. Cloutier MM, Hall CB, Wakefield DB, Bailit H. Use of asthma guidelines by primary care providers to reduce hospitalizations and emergency department visits in poor, minority, urban children. *J Pediatr*. 2005;146(5):591–597
18. US Department of Health and Human Services. *Healthy People 2010*. 2nd ed. Washington, DC: US Department of Health and Human Services; 2000
19. National Heart, Lung, and Blood Institute. *Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma: Update on Selected Topics, 2002*, NIH Publication No 02-5074. Bethesda, MD: National Institutes of Health; 2002. Available at: www.nhlbi.nih.gov/guidelines/archives/epr_2_upd/index/htm. Accessed January 14, 2009
20. National Heart, Lung, and Blood Institute. *Expert Panel Report 3 (EPR 3): Guidelines for Diagnosis and Management of Asthma*. Available at: www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm. Accessed January 14, 2009

21. National Committee for Quality Assurance. HEDIS 2007 summary table of measures and product lines. Available at: www.ncqa.org/tabid/176/Default.aspx. Accessed January 14, 2009
22. Agency for Healthcare Research and Quality. Ambulatory Care Quality Alliance: recommended starter set, clinical performance measures for ambulatory care. Available at: www.ahrq.gov/qual/aqastart.htm. Accessed February 19, 2008
23. Rosenblatt RE, Law SA, Rosenbaum S. *Law and the American Health Care System*. Westport, CT: Foundation Press; 1997
24. Brown LD. Competition and health cost containment: cautions and conjectures. *Milbank Mem Fund Q Health Soc*. 1981;59(2):145–189
25. Tax Equity and Fiscal Responsibility Act of 1982, Pub L No. 97–248, §101(a)(1) (1982)
26. Omnibus Budget Reconciliation Act of 1989, Pub L No. 101–239, §6102(a) (1989)
27. Goodson JD. Unintended consequences of resource-based relative value scale reimbursement. *JAMA*. 2007;298(19):2308–2310
28. Field MJ, Lohr KN, eds. *Guidelines for Clinical Practice: From Development to Use*. Washington, DC: National Academy Press; 1992
29. Social Security Act, 42 USC §1396aa(1) (1990)
30. Dartmouth Medical School, Center for the Evaluative Clinical Sciences. *The Dartmouth Atlas of Health Care*. Lebanon, NH: Dartmouth Medical School; 1996. Available at: www.dartmouthatlas.org/atlas/atlas_series.shtm. Accessed January 14, 2009
31. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001
32. Institute of Medicine. *Rewarding Provider Performance: Aligning Incentives in Medicare*. Washington, DC: National Academies Press; 2007
33. Glickman SW, Ou FS, DeLong ER, et al. Pay for performance, quality of care, and outcomes in acute myocardial infarction. *JAMA*. 2007;297(21):2373–2380
34. Rosenthal MB, Frank RG, Li Z, Epstein AM. Early experience with pay-for-performance: from concept to practice. *JAMA*. 2005;294(14):1788–1793
35. Rosenbaum S, Kornblat S, Borzi P. *An Assessment of Legal Issues Raised in “High Performing” Health Plan Quality and Efficiency Tiering Arrangements: Can the Patients Be Saved?* Washington, DC: Robert Wood Johnson Foundation; 2007
36. Henry J. Kaiser Family Foundation. *Health Care Costs: A Primer*. Menlo Park, CA: Henry J. Kaiser Family Foundation; 2007. Publication 7670. Available at: www.kff.org/insurance/7670.cfm. Accessed January 14, 2009
37. Leapfrog Group. Incentives and Rewards Compendium. Available at: www.leapfroggroup.org/leapfrog-compendium. Accessed September 4, 2007
38. Rosenthal MB, Landon BE, Howitt K, Song HR, Epstein AM. Climbing up the pay-for-performance learning curve: where are the early adopters now? *Health Aff (Millwood)*. 2007;26(6):1674–1682
39. Henry J. Kaiser Family Foundation. *Employer Health Benefits 2007 Survey*. Menlo Park, CA: Henry J. Kaiser Family Foundation; 2007. Publication 7672. Available at: www.kff.org/insurance/7672/index.cfm. Accessed January 14, 2009
40. Rosenthal MB, Landrum MB, Meara E, Huskamp HA, Conti RM, Keating NL. Using performance data to identify preferred hospitals. *Health Serv Res*. 2007;42(6):2109–2119
41. Holahan J, Cook A. *What Happened to the Insurance Coverage of Children and Adults in 2006?* Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2007. Publication 7694. Available at: www.kff.org/uninsured/7694.cfm. Accessed January 14, 2009
42. Shin P, Finnegan B, Sharac J, Rosenbaum S. *Health Centers: An Overview and Analysis of Their Experiences With Private Health Insurance*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2008. Available at: www.kff.org/uninsured/upload/7738.pdf. Accessed January 14, 2009
43. US Census Bureau. Current Population Survey (CPS) table creator for the Annual Social and Economic Supplement. Available at: www.census.gov/hhes/www/cpstc/cps-table-creator.html. Accessed February 21, 2008
44. Cohen Ross D, Cox L, Marks C. *Resuming the Path to Health Coverage for Children and Parents: A 50-State Update on Eligibility Rules, Enrollment and Renewal Procedures, and Cost-Sharing Practices in Medicaid and SCHIP in 2006*. Washington, DC: Kaiser Commission on Medicaid and the Uninsured; 2007. Publication 7608. Available at: www.kff.org/medicaid/7608a.cfm. Accessed January 14, 2009
45. Rosenbaum S, Wise P. Crossing the Medicaid/private health insurance divide: the case of EPSDT. *Health Aff (Millwood)*. 2007;26(2):382–393
46. Sommers JP. *Offer Rates, Take-Up Rates, Premiums, and Employee Contributions for Employer-Sponsored Health Insurance in the Private Sector for the 10 Largest Metropolitan Areas, 2005*. Rockville, MD: Agency for Healthcare Research and Quality; 2007. Statistical Brief 178. Available at: www.meps.ahrq.gov/mepsweb/data_files/publications/st178/stat178.pdf. Accessed January 14, 2009
47. Rosenthal MB, Landon BE, Normand SL, Frank RG, Ahmad TS, Epstein AM. Employers’ use of value-based purchasing strategies. *JAMA*. 2007;298(19):2281–2288
48. George Washington University. *Overview of State Medicaid Managed Care Purchasing Practices and Use of Pay for Performance*. Washington, DC: George Washington University; 2006
49. Mathematica Policy Research. *Evaluation of the Medicaid Value Program: Health Supports for Consumers With Chronic Conditions*. Hamilton, NJ: Center for Health Care Strategies; 2007. Available at: www.chcs.org/publications3960/publications.show.htm?doc_id=514988. Accessed January 14, 2009
50. Chien AT, Chin MH, Davis AM, Casalino LP. Pay for performance, public reporting, and racial disparities in health care: how are programs being designed? *Med Care Res Rev*. 2007;64(5 suppl):283S–304S
51. Casalino LP, Elster A, Eisenberg A, Lewis E, Montgomery J, Ramos D. Will pay-for-performance and quality reporting affect health care disparities? *Health Aff (Millwood)*. 2007;26(3):w405–w414

Paying for Quality Care: Implications for Racial and Ethnic Health Disparities in Pediatric Asthma

Cara V. James and Sara Rosenbaum

Pediatrics 2009;123;S205-S210

DOI: 10.1542/peds.2008-2233L

Updated Information & Services

including high-resolution figures, can be found at:
http://www.pediatrics.org/cgi/content/full/123/Supplement_3/S205

References

This article cites 21 articles, 14 of which you can access for free at:
http://www.pediatrics.org/cgi/content/full/123/Supplement_3/S205#BIBL

Citations

This article has been cited by 1 HighWire-hosted articles:
http://www.pediatrics.org/cgi/content/full/123/Supplement_3/S205#otherarticles

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):

Asthma

<http://www.pediatrics.org/cgi/collection/asthma>

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.pediatrics.org/misc/Permissions.shtml>

Reprints

Information about ordering reprints can be found online:
<http://www.pediatrics.org/misc/reprints.shtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

