Update to a 2012 Analysis of 340B Disproportionate Share Hospital Services Delivered to Vulnerable Patient Populations

Eligibility Criteria for 340B DSH Hospitals Continue to Appropriately Target Safety Net Hospitals

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Eligibility Criteria for 340B DSH Hospitals Continue to Appropriately Target Safety Net Hospitals

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An analysis of fiscal year (FY) 2014 Medicare cost report data compared to FY 2012 data shows that the eligibility criteria under the 340B drug discount program for disproportionate share (DSH) hospitals continue to appropriately target safety net hospitals. Compared to non-340B acute care hospitals, 340B DSH hospitals continue to provide more services to Medicaid and low-income Medicare patients, provide a disproportionate amount of uncompensated care, and are more likely to provide specialized health care services. Comparing 340B DSH hospitals to non-340B hospitals of similar sizes shows that 340B DSH hospitals consistently provide more uncompensated care than non-340B hospitals. We note that looking at uncompensated care alone may not be appropriate, as some 340B hospitals with low uncompensated care levels relative to other hospitals have high levels of Medicaid patients, for which they are chronically under-reimbursed.

Objectives

340B Health commissioned Dobson DaVanzo & Associates, LLC to update its earlier study which had determined the extent to which 340B DSH hospitals are continuing to target their services to vulnerable patient populations. To achieve this goal, we used the FY 2014 Medicare cost reports and compared our findings to those of our earlier report, which had used data from the FY 2012 Medicare cost reports. As in the earlier analysis, this study was designed to achieve three main study objectives:

1. To determine if 340B DSH hospitals deliver more hospital services to Medicaid and low-income Medicare patients than non-340B acute care hospitals.

2. To determine if the share of total patient care costs comprising uncompensated care (or care that is not reimbursed) for 340B DSH hospitals differs significantly from the share of uncompensated care and unreimbursed costs for comparably sized organizations not in the 340B program.

3. To analyze the public health and specialized services disproportionately provided by safety-net hospitals to determine if 340B DSH hospitals provide more, less, or about the same amount of these services as non-safety-net hospitals. These services have been described as being dedicated to the "common good" but are often financially unprofitable for the hospital.

This update was also designed to explore how 340B hospitals continue to serve as safety net providers as the implementation of the Patient Protection and Affordable Care Act (ACA) has begun to expand Medicaid participation.

Background

Congress limited 340B participation to hospitals that treat a high level of Medicaid and low-income Medicare patients and hospitals that serve rural communities. The focus of this analysis is on DSH hospitals that qualify due to their high volume of low-income patients.

Hospitals that treat high levels of low-income patients have traditionally been referred to as safety-net hospitals. A recent review of the literature by McHugh and colleagues[1] identified three basic metrics for defining a safety-net hospital: 1) Medicaid caseload,[2] 2) burden of uncompensated care,[3, 4] and 3) facility characteristics. A 2002 RAND study came to a similar conclusion. RAND identified the following three criteria: 1) services to vulnerable populations, 2) disproportionate amount of uncompensated care, and 3) type of care provided (e.g., specialized services).[5]

For this update, we analyzed data from FY 2014 Medicare cost reports, the HRSA OPA Covered Entity Daily Report, the FY 2014 Inpatient Prospective Payment System (IPPS) Impact File, and the 2014 American Hospital Association survey to compare 340B DSH hospitals to non-340B hospitals in their targeting of services to low income, uninsured, and otherwise vulnerable patients. The FY 2014 cost reports, which can begin anywhere from October 1, 2013 to September 30, 2014, are the first to include data on patient insurance status and uncompensated care after states began to expand Medicaid as part of the ACA implementation. States began expanding Medicaid January 1, 2014.

[1] McHugh M, Kang R, Hasnain-Wynia R. (2009) Understanding the safety net: Inpatient quality of care varies based on how one defines safety-net hospitals. *Med Care Res Rev*, Vol. 66 (No. 5): 590-605.

[2] Hadley, Cunningham (2004) Availability of safety net providers and access to care for uninsured persons. *Health Services Research;* 39(5): 1527-46.

[3] Bazzoli, Lindrooth, Kang, Hasnain-Wynia. (2006) The influence of market factors on the hospital safety net. *Health Services Research* 41(4 Pt 1): 1159-1180.

[4] Zwanziger, Kahn (2008) Safety-net hospitals. *Medical Care Research and Review*. 65(4): 478-495.

[5] Wynn B, Coughlin T, Bondarenko S, Bruen B. *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Project Memorandum to the Assistant Secretary of Planning and Evaluation, submitted by RAND under contract to the Urban Institute. PM-1387-ASPE.

Findings in Brief

The first metric described above relates to care delivered to low income and vulnerable populations. Our analysis suggests that the existing 340B eligibility criteria continue to appropriately target hospitals serving low income and vulnerable patient populations. We found that 340B hospitals continue to deliver more care to Medicaid and Medicare SSI recipients, and thus have higher low income patient loads, than non-340B hospitals. As can be seen in Exhibit ES-1, this was true in both 2012 and 2014. In 2014, the low income patient load (defined as the sum of the percent Medicaid days of total inpatient days and the percent Medicare SSI days of total Medicare days) for 340B hospitals was 42.5 percent, versus 26.0 percent for non-340B hospitals. Thus, even as states began to expand Medicaid as part of the ACA implementation in 2014, 340B DSH hospitals continued to treat significantly more low-income patients than non-340B hospitals.

Exhibit ES-1. Comparison of Low Income Patient Load between 340B DSH Hospitals and Non-340B Hospitals in 2014 and 2012

Hospital Type	2014		2012	
	Number of Hospitals	Total Low Income Patient Load	Number of Hospitals	Total Low Income Patient Load
DSH Hospitals in the 340B Program	921	42.5%	945	41.9%
Acute Care Hospitals not in the 340B Program	1,633	26.0%	1,760	22.8%

Source: Dobson | DaVanzo analysis of 2014 Medicare cost reports, HRSA OPA FY2016 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

To examine the second metric relating to uncompensated care, we compared uncompensated care totals across all study hospitals and also stratified these hospitals by quartile, based on total patient care costs. We stratified on total patient care costs in order to determine how various subsets of 340B hospitals are performing relative to other "comparably sized" hospitals not in the 340B program. It is important to compare hospitals of like size because simple aggregate comparisons of uncompensated care do not take into account the different scope of operations reflected in hospitals of varying sizes. These operational differences could affect results. Hospitals that are alike should be compared on a metric that measures care provided to vulnerable groups that is not paid for, or is partially paid for, by a hospital's payers. Therefore, in our uncompensated care analysis, the largest 340B hospitals were compared to the largest non-340B hospitals, and so on.

We found that 340B DSH hospitals continue to provide a disproportionate amount of uncompensated care, defined as charity care, public payer shortfall and bad debt, as compared to non-340B hospitals. This trend has continued from our earlier analysis even though Medicaid has expanded and the uninsured rate has declined. 340B DSH hospitals,

which represent 36 percent of hospitals in the analysis, provided $23.7 billion of uncompensated care in 2014 (59 percent of uncompensated care). Non-340B hospitals provided $16.1 billion of uncompensated care. Because uncompensated care can be defined in different ways, we performed the same analysis using a narrower definition (i.e., charity care and bad debt) and found similar results.

We also analyzed the share of total patient care costs that are attributable to uncompensated care by quartile. We found that, per facility, 340B hospitals overall provided more uncompensated care on an average, per facility basis in 2014 than did non-340B hospitals ($25.7 million for 340B hospitals overall vs. $9.9 million for non-340B hospitals). This trend was consistent across all hospital quartiles (see Exhibit ES-2 below)

Exhibit ES-2: Comparison of Average Per Facility Uncompensated Care Costs[a] by Hospital Quartile between 340B DSH Hospitals and Non-340B Hospitals in 2014 (Quartile 1 = hospitals with the highest patient care costs)

Quartile of Patient Care Costs	DSH Hospitals in the 340B Program		Acute Care Hospitals not in the 340B Program	
	Number of Hospitals	Uncompensated Care Costs Per Facility	Number of Hospitals	Uncompensated Care Costs Per Facility
1st	230	$61,941,113	408	$21,354,342
2nd	230	$24,331,610	408	$10,312,439
3rd	230	$11,771,313	408	$5,665,138
4th	231	$4,767,595	409	$2,218,502
Total	**921**	**$25,680,177**	**1,633**	**$9,882,909**

Source: Dobson | DaVanzo analysis of 2014 Medicare cost reports, HRSA OPA FY2016 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

[a] Uncompensated Care is defined as Charity Care, Public Payer Shortfall and Bad Debt

In evaluating these first two metrics, we found that looking at low income patient load or uncompensated care alone may not always be sufficient to determine a hospital's safety net status. For example, 340B hospitals with uncompensated care levels below the median for all study hospitals still had a higher low income patient load than non-340B hospitals with uncompensated care levels above the median, at 43.2 percent and 27.5 percent respectively (see Exhibit ES-3 below). These results demonstrate that looking at uncompensated care alone is not sufficient to determine a hospital's safety net status; looking at a hospital's low-income patient load is also relevant.

Exhibit ES-3: Comparison of 2014 Low Income Patient Load by Hospital Category and Level of Uncompensated Care

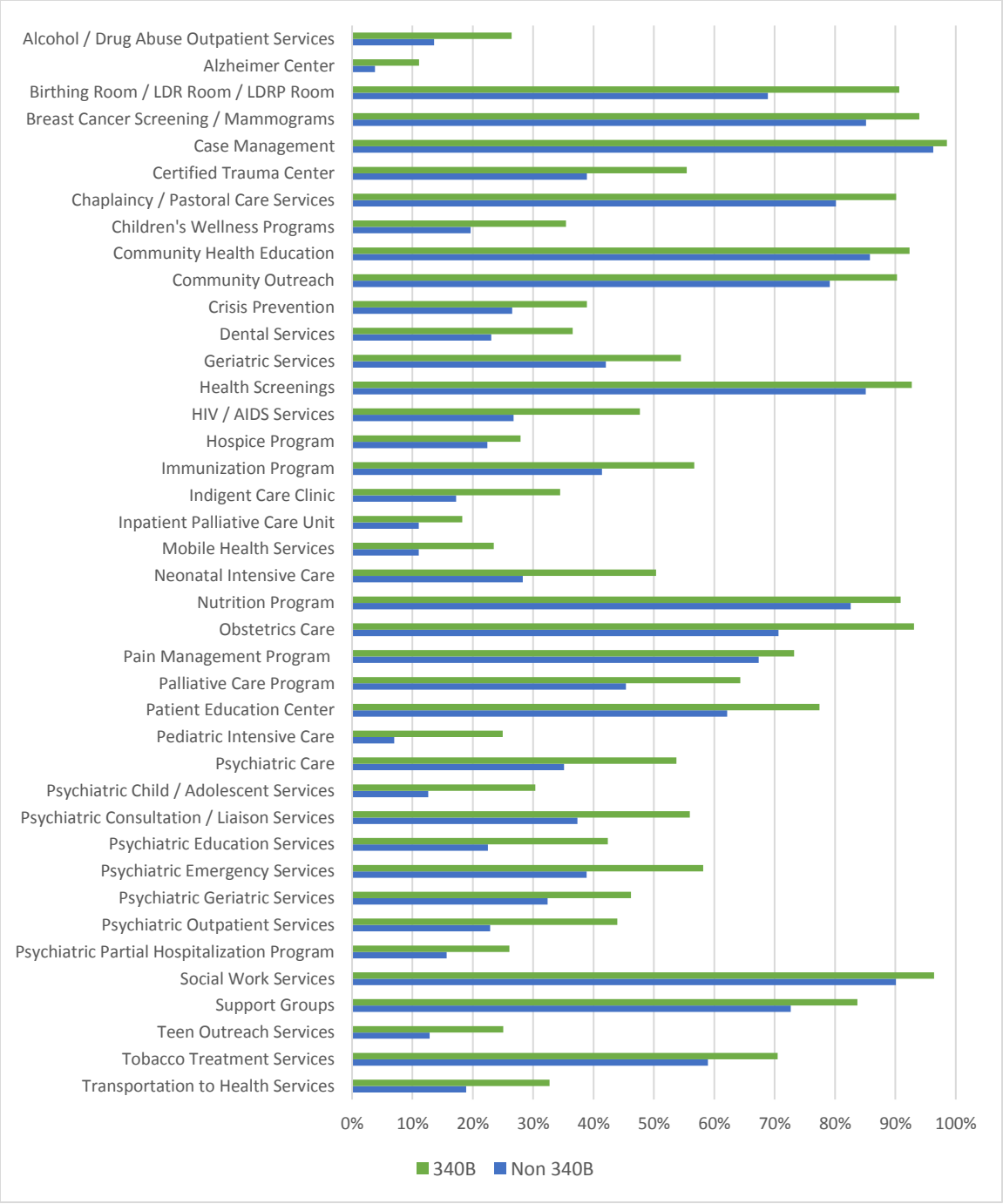
Hospital Category by Level of Uncompensated Care	Low Income Patient Load
340B Hospitals with Uncompensated Care Levels Below the Median (3.52%)	43.2%
Non-340B Hospitals with Uncompensated Care Levels Above the Median (3.52%)	27.5%
All Hospitals	**34.3%**

Source: Dobson | DaVanzo analysis of FY 2014 Medicare cost reports, HRSA OPA FY2016/2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Our examination of the third metric, the provision of public health and / or specialty services, revealed that for all services, the percentage of hospitals providing the service was higher among 340B hospitals than among those that were not in the program. These results are presented visually in Exhibit ES-4 and demonstrate that as Medicaid expansion decreased the number of uninsured patients, 340B DSH hospitals continued to fulfill their safety net mission by providing specialized services that non-340B hospitals do not provide to their communities. These services, which are essential to the community, may be financially unprofitable for the hospital.

The results of the analyses undertaken in this study show that as states began to expand Medicaid in 2014 as part of the ACA implementation, 340B DSH hospitals continued to meet the criteria, as identified in the literature, used to evaluate whether a hospital is a safety-net hospital. 340B DSH hospitals continue to have significantly higher caseloads of low-income, vulnerable patients than non-340B hospitals and continue to provide a disproportionately higher amount of uncompensated care than non-340B hospitals. They also continue to provide specialized services that non-340B hospitals do not provide. These results suggest that the 340B eligibility criteria continue to be appropriate in that they target hospitals serving the most vulnerable patient populations.

Exhibit ES-4: Percentage of 340B DSH Hospitals and Non-340B Hospitals Providing Public Health and Specialized Services Provided in 2014



Source: Dobson | DaVanzo analysis of the 2014 American Hospital Association Member Survey.

Introduction

Objectives

340B Health commissioned Dobson DaVanzo & Associates, LLC to update its earlier study which had determined the extent to which 340B disproportionate share (DSH) hospitals are continuing to target their services to vulnerable patient populations. To achieve this goal, we used the fiscal year (FY) 2014 Medicare cost reports and compared our findings to those of our earlier report, which had used data from the FY 2012 Medicare cost reports. This study was designed to update three main study objectives:

1. To determine if 340B DSH hospitals deliver more hospital services to Medicaid and low-income Medicare patients than non-340B acute care hospitals.

2. To determine if the share of total patient care costs comprising uncompensated care (or care that is not reimbursed) for 340B DSH hospitals differs significantly from the share of uncompensated care and unreimbursed costs for comparably sized organizations not in the 340B program.

3. To analyze the public health and specialized services disproportionately provided by safety-net hospitals to determine if 340B DSH hospitals provide more, less, or about the same amount of these services as non-safety-net hospitals. These services are described as being dedicated to the "common good" but are often financially unprofitable.

This update was also designed to explore how 340B hospitals continue to serve as safety net providers as implementation of the Patient Protection and Affordable Care Act (ACA) has begun to expand Medicaid participation.

Background

In setting our objectives, we took into account that Congress limited participation in the 340B program to DSH hospitals and hospitals that serve rural communities. The focus of this analysis is on DSH hospitals that treat a high proportion of Medicaid and low-income

Medicare patients. In our earlier analysis, we also looked at the 340B legislative history, which shows that the program was created to make discounted drug pricing available to providers that treat low-income and vulnerable patients to allow these organizations to stretch scarce resources. We reviewed published literature that proposes different types of measures that identify safety-net hospitals, or providers that serve a high volume of low-income patients.

Metrics to Evaluate Safety-Net Hospital Status

The purpose of our earlier analysis was to evaluate whether 340B DSH hospitals target their services to vulnerable patient populations because when Congress enacted the 340B program, it targeted DSH hospitals that provide high levels of care to Medicaid and low-income Medicare patients. Hospitals that treat high levels of low-income patients have traditionally been referred to as safety-net hospitals. A review of the literature by McHugh and colleagues[6] identified three basic metrics for defining a safety-net hospital: 1) Medicaid caseload,[7] 2) burden of uncompensated care,[8, 9] and 3) facility characteristics. A 2002 RAND study came to a similar conclusion. RAND identified the following three criteria: 1) services to vulnerable populations, 2) disproportionate amount of uncompensated care, and 3) type of care provided (e.g., specialized services).[10]

To evaluate these metrics, we first looked at care provided to low-income individuals. Although the definitions used by states, federal policymakers and researchers to characterize safety-net hospitals have varied over the years, a common theme in the literature is that safety-net hospitals provide a disproportionate amount of care to low-income and otherwise vulnerable populations.

The Institute of Medicine (IOM) report, *America's Health Care Safety Net*, adopted a definition of vulnerable populations that includes the "uninsured, Medicaid, and other vulnerable patients." The IOM report defines "core safety net providers" as having a "legal mandate or explicitly adopted mission to maintain an 'open door' [policy], offering patients access to services regardless of their ability to pay."[11]

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[6] McHugh M, Kang R, Hasnain-Wynia R. (2009) Understanding the safety net: Inpatient quality of care varies based on how one defines safety-net hospitals. *Med Care Res Rev*, Vol. 66 (No. 5): 590-605.

[7] Hadley, Cunningham (2004) Availability of safety net providers and access to care for uninsured persons. *Health Services Research;* 39(5): 1527-46.

[8] Bazzoli, Lindrooth, Kang, Hasnain-Wynia. (2006) The influence of market factors on the hospital safety net. *Health Services Research* 41(4 Pt 1): 1159-1180.

[9] Zwanziger, Kahn (2008) Safety-net hospitals. *Medical Care Research and Review*. 65(4): 478-495.

[10] Wynn B, Coughlin T, Bondarenko S, Bruen B. *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Project Memorandum to the Assistant Secretary of Planning and Evaluation, submitted by RAND under contract to the Urban Institute. PM-1387-ASPE.

[11] Lewin ME, Altman S., eds. *America's Health Care Safety Net: Intact but Endangered*. (Washington DC: National Academies Press. 2000.

Introduction

The literature discusses safety-net hospitals providing high levels of uncompensated care and, as a result, having high unreimbursed costs. For example, because of their unpredictability and tendency to often exceed insurance limits, the impoverished populations treated by safety-net hospitals face multiple and complex comorbidities, which have led to significantly increased uncompensated care.[12]

Safety-net hospitals comprise a select group of hospitals that play a major role in providing emergency care, ambulatory primary and specialty care, inpatient and outpatient care, and community and public health services. These institutions tend to provide "stand-by" capacity and other specialized services such as urgent care for trauma units, and premature infant care, which are typically under-reimbursed by the hospital's payers.

RAND researchers called for defining measures of the financial pressure faced by safety-net hospitals, suggesting that the best measures would be ones *directly related to serving low-income populations*. Furthermore, RAND made the point that safety-net hospitals are unique in that they provide both inpatient and outpatient care to uninsured and other vulnerable populations, with a relatively higher volume of outpatient care because uninsured patients have less access to community physicians than insured patients.[13]

Consistent with this literature, our initial analysis compared DSH hospitals in the 340B program to hospitals not in the 340B program on the following three metrics: (1) low-income patient caseload, (2) uncompensated care and unreimbursed costs, and (3) provision of specialized services using data from the FY 2012 Medicare cost reports and the 2013 AHA annual survey. This analysis, using FY 2014 Medicare cost reports and 2014 AHA survey, updates the results of the comparisons on these three metrics. The FY 2014 cost reports, which can begin anywhere from October 1, 2013 to September 30, 2014, are the first to include data on patient insurance status and uncompensated care after states began to expand Medicaid as part of ACA implementation. States began expanding Medicaid January 1, 2014.

Defining "Low-Income Patient Populations"

When comparing 340B DSH hospitals to non-340B DSH hospitals on their provision of service to low-income patient populations, we looked at the relative size of the hospital's caseload of patients eligible for both Medicaid and Medicare Supplemental Security

[12] Hadley, Cunningham (2004) Availability of safety net providers and access to care for uninsured persons. *Health Services Research;* 39(5): 1527-46.

[13] Wynn B, Coughlin T, Bondarenko S, Bruen B. *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Project Memorandum to the Assistant Secretary of Planning and Evaluation, submitted by RAND under contract to the Urban Institute. PM-1387-ASPE.

Income (SSI) benefits (low income patient load). We used this population because Congress chose to include only hospitals treating these vulnerable patients in the 340B statute for DSH eligibility. In addition, the legislative history behind the 340B program shows that Congress intended to provide lower drug pricing to hospitals that treat high levels of low-income patients and are, therefore, not fully compensated for their costs. Our study evaluated the extent to which 340B DSH hospitals are targeting services to these patients and, thus, meeting eligibility standards.

To understand why our study evaluated hospitals based on their Medicaid and Medicare SSI caseloads, it is important to understand the historical and legislative origins of the 340B program. The 340B program was the result of unintended consequences from the enactment of the Medicaid Prescription Drug Rebate Program in 1990. Congress established that program to protect the Medicaid program from paying more for outpatient drugs than other purchasers. In 1990, out of concerns for high pharmaceutical costs, the Medicaid Prescription Drug Rebate Program was enacted into law as part of the Omnibus Budget Reconciliation Act (OBRA 1990). The Medicaid rebate provision of the OBRA 1990 gave the Medicaid program the "most-favored customer" status by requiring drug companies to enter into a rebate program with the Secretary of Health and Human Services (HHS) as a precondition of doing business with Medicaid. However, since the stipulated rebates were based on a "best price" calculation under this agreement, it provided an incentive for pharmaceutical manufacturers to discontinue the discounted prices that they were offering to Federally-funded clinics and hospitals serving large numbers of vulnerable patients. As a result, many manufacturers raised their "best prices," thus increasing the financial burden on safety-net providers and undermining the anticipated savings from the program[14, 15]

Safety-net providers raised concerns to Congress over these increased drug prices. The House Committee report accompanying the 340B statute states that in hearing testimony about the need for relief from these high drug prices, "Federally-funded clinics and public hospitals serving large numbers of low-income patients also testified to the loss of 'best prices.'"[16] The report noted that a hospital testified before the House Energy and Commerce Health Subcommittee about "the adverse impact of drug price increases on public hospitals which serve large numbers of low-income and uninsured patients."[17] In particular, testimony focused on the need for relief due to the fact that safety-net providers treat so many low-income, vulnerable patients for whom costs are not fully

[14] http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Prescription-Drugs/Medicaid-Drug-Rebate-Program.html

[15] http://amcp.org/WorkArea/DownloadAsset.aspx?id=11257

[16] H. Rep. 102-384, pt. 2, at 12 (1992).

[17] *Id.*

covered by payers. The hospital testimony noted that safety net hospitals cannot shift cost increases onto other payers. It was noted that, "On average, more than one-third of all public hospital patients are uninsured or underinsured. Add to that the fact that one-third of our patients are Medicaid recipients and you begin to understand why public hospitals are squeezed by the price hikes of the pharmaceutical manufacturers…."[18]

In response to these concerns, Congress enacted the 340B program in 1992 as part of the Public Health Service Act. The Section 340B statute, 42 U.S.C. § 256b (amended in March 2010 by the Patient Protection and Affordable Care Act and Health Care Education Affordability Reconciliation Act), requires pharmaceutical manufacturers participating in the Medicaid or Medicare Part B programs to enter into a second agreement with HHS to provide "significant reduced prices" on covered outpatient drugs purchased by safety-net providers.

The focus of this analysis is subsection (d) hospitals (as defined in the Social Security Act). These hospitals are required to have a DSH adjustment percentage greater than 11.75 percent as an indicator of their provision of care to low income populations. The eligibility criteria Congress set for DSH hospitals make clear that the program is limited to hospitals serving high volumes of low-income patients for whom the cost of care would not be fully compensated. For example, the DSH adjustment percentage is the product of two patient caseload ratios, a Medicaid ratio and a Medicare SSI ratio. The Medicaid ratio is the number of inpatient days attributable to Medicaid patients who are not eligible for Medicare Part A benefits divided by the hospital's total patient days.[19] The Medicare SSI ratio is the number of patient days attributable to patients entitled to both Medicare Part A and SSI benefits divided by the total number of Medicare Part A patient days.[20]

Congress may have chosen to look at a hospital's Medicaid caseload, in particular, given that Medicaid often underpays providers. In 2014, hospitals received approximately 90 cents for each dollar spent serving Medicaid patients.[21] This would explain why Congress wanted to provide relief from high drug prices to hospitals with high Medicaid populations.

[18] Bills to Amend the Public Health Service Act and the Social Security Act to Establish Limits on Certain Drug Prices, Hearing on H.R. 2890, H.R. 3405 and H.R. 5614 Before the Subcommittee on Health and the Environment of the H. Comm. on Energy and Commerce, 102nd Cong. 83 (1992) (statement of MacGregor Day, Chief Operating Officer and Executive Vice President, Parkland Memorial Hospital).

[19] 42 U.S.C. § 1395ww(d)(5)(F)(vi)(I); 42 U.S.C. § 1395ww(d)(5)(F)(vi)(II).

[20] 42 U.S.C. § 1395ww(d)(5)(F)(vi)(I).

[21] American Hospital Association, Underpayment by Medicare and Medicaid, 2016 Fact Sheet, http://www.aha.org/content/16/medicaremedicaidunderpmt.pdf.

Introduction

Defining "Uncompensated Care"

The definition of "uncompensated care" is complex, and the determination of the relative proportion of total patient care comprising uncompensated care does not lend itself to a simplistic analysis. We considered two different definitions of uncompensated care using the FY 2014 Medicare cost reports: 1) charity care plus bad debt plus public payer shortfall; and 2) charity care plus bad debt. Public payer shortfall includes Medicaid and state and local indigent care programs but does not include Medicare. In both the earlier study and this update, we show how different definitions of uncompensated care, notably whether or not payment shortfall is included, affect the results.

We determined that bad debt should be included in uncompensated care and unreimbursed costs because bad debt is often undistinguishable from charity care. Charity care includes services for which hospitals determined a patient could not pay and therefore the hospital did not receive or expect to receive payment. Bad debt includes services for which hospitals expected payment but did not receive compensation.

It is often difficult for hospitals to distinguish between bad debt and charity care because of the time lag between when a hospital provides a service and when a patient self-identifies as medically indigent or underinsured. For example, an urgent need for treatment often requires hospitals to provide services to a patient without first determining if the patient is able to pay for the services, and a patient may never complete an application for financial assistance.[22]

In addition, hospitals often wait until determining whether a patient is eligible for Medicaid before labeling unpaid services as charity care or bad debt. Therefore, the cost of services provided to a patient who could have been eligible for financial assistance may be recorded as bad debt if it is determined that the patient could not pay but the hospital was not able to verify whether the patient met the hospital's financial assistance policy.[23] For these reasons, the American Hospital Association (AHA) includes both charity care costs and bad debt in its definition of uncompensated care, and the research literature supports this conclusion as well.[24]

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[22] American Hospital Association: "Uncompensated Hospital Care Cost Fact Sheet", January 2016, http://www.aha.org/content/16/uncompensatedcarefactsheet.pdf; Healthcare Financial Management Association, Principles and Practices Board Statement 15, Valuation and Financial Statement Presentation of Charity Care and Bad Debts by Institutional Healthcare Providers, December 2012

[23] American Hospital Association: "Uncompensated Hospital Care Cost Fact Sheet", January 2016

[24] American Hospital Association: "Uncompensated Hospital Care Cost Fact Sheet", January 2015; Wynn B, Coughlin T, Bondarenko S, Bruen B. *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Project Memorandum to the Assistant Secretary of Planning and Evaluation, submitted by RAND under contract to the Urban Institute. PM-1387-ASPE.

We included public payer shortfalls in the definition of uncompensated care because it is consistent with the 340B hospital eligibility criteria and these shortfalls demonstrate the financial pressures faced by hospitals. Public payer shortfalls include underpayments from Medicaid and other state and local indigent care programs that pay less than the hospital's cost to treat these patients. It is important to look at these shortfalls because, in addition to providing charity care and writing off costs as bad debt, safety-net hospitals also provide a vital service to their vulnerable patient populations by "bridging the gaps created by government underpayments from…Medicaid…."[25] Including all forms of uncompensated care provided by hospitals provides a complete picture of the financial pressures on hospitals from all forms of the unreimbursed care they provide.

The 340B statute includes DSH hospitals in the program only if they treat a high level of Medicaid patients, which is likely a recognition that safety-net hospitals struggle to meet their patients' needs because Medicaid often underpays providers. It would, therefore, make sense that having a high level of underpayments from Medicaid would demonstrate status as a safety-net hospital and a need for 340B discounts.

Published literature also underscores the importance of public payer shortfalls as an indicator of a hospital's financial risk. In characterizing safety-net hospitals, RAND researchers noted that the "measures most appropriate for this purpose would be those that are directly related to serving low-income populations such as shortfalls from Medicaid and local indigent care programs and/or uncompensated care."[26] Moreover, RAND said they measure a hospital's financial risk related to treating low-income patients by looking at Medicaid and local indigent care program shortfalls, bad debt and uncompensated care.

Defining Public Health and Specialized Services

We evaluated the public health and/or specialized services provided by hospitals using the 2014 AHA annual survey. This survey queries respondent hospitals on whether they provided various services. Published literature also presents examples of traditionally "unprofitable" services provided by hospitals dedicated to the health and well-being of the individual and the community, as well as representative services being provided by

[25] American Hospital Association, Underpayment by Medicare and Medicaid 2016 Fact Sheet

[26] Wynn B, Coughlin T, Bondarenko S, Bruen B. *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Project Memorandum to the Assistant Secretary of Planning and Evaluation, submitted by RAND under contract to the Urban Institute. PM-1387-ASPE.

different categories of hospitals that illustrate this concept.[27, 28, 29] In many communities, safety-net hospitals are the primary resources for burn care, pediatric and neonatal intensive care, and trauma care. These hospitals also tend to offer services that attract potentially difficult to treat patient populations, including psychiatric inpatient and outpatient care and alcoholism inpatient treatment.[30] Examining the extent to which 340B DSH hospitals provide these services is therefore essential to evaluating their status as safety-net hospitals.

[27] Catholic Health Association, Advocacy Agenda 2013-2014 (113th Congress).

[28] Horwitz, Jill, Research Note: Relative Profitability of Acute Care Hospital Services, Online Exhibit (2005), supplement to "Making Profits and Providing Care: Comparing Nonprofit, For-Profit and Government Hospitals," *Health Affairs* 24, no 3 (2005): 790-801.

[29] Schlein (2013) The pediatric intensive care unit business model. *Pediatric Clinics of North America*, Vol. 60, Issue 3: 593-604.

[30] Gaskin, D. Safety Net Hospitals: Essential Providers of Public Health and Specialty Services. New York: Commonwealth Fund, 1999.

Methodology

This analysis updates our earlier work and compares 340B DSH hospitals to those not in the 340B program on three metrics identified in the literature: 1) low income patient load, defined as the hospital's proportion of Medicaid days to total inpatient days and Medicare SSI days to total Medicare days; 2) uncompensated care and unreimbursed costs; and 3) provision of public health and specialized services. The data sources for the first two metrics are the FY 2014 Medicare cost reports, the Medicare Inpatient Prospective Payment System (IPPS) Impact File (FY 2014), and the Health Resources and Services Administration (HRSA) Office of Pharmacy Affairs (OPA) Covered Entity Daily Report. The analysis of the public health and/or specialized services provided by 340B DSH hospitals versus non-340B hospitals uses the 2014 American Hospital Association (AHA) annual survey. It should be noted that we made several minor modifications to the analytic methodology in the course of updating the original 2012 analysis to 2014. To be consistent, all calculations from 2012 were updated to reflect the revised methodology. The results of these updates, which did not materially change the study outcome, are presented in this report.

In order to facilitate the comparison of uncompensated care, we stratified 340B DSH hospitals and the non-340B comparison hospitals into quartiles, where the quartiles are defined by total patient care costs. We did not use total hospital costs as we did not want to compare unrelated costs, such as the costs of running the gift shop, with costs for treating vulnerable populations. This approach allows for an appropriate comparison between hospitals that are similar in size and scope of operation.

The hospitals initially included in these analyses were short-term acute care hospitals in the United States that filed 2014 Medicare cost reports and were reported in the FY 2014 Medicare IPPS Impact File. Using these two sources, we initially identified 3,176 acute care hospitals for inclusion in the study. Critical Access Hospitals were excluded from the analysis.

Identifying 340B Hospitals – Hospitals participating in the 340B program were identified using the HRSA OPA Covered Entity Daily Report as of 02/08/2016. This method identified 1,135 participating hospitals that participated in the program at some time during FY 2014 (October 1, 2013 - September 30, 2014).

Removing Statistical Outliers – The analysis focused on hospital uncompensated care and unreimbursed costs as a percent of total patient care costs. Therefore, hospitals with extreme values or statistical outliers on patient care costs and/or uncompensated care and unreimbursed costs were excluded from the analysis. Removing statistical outliers is consistent with standard practice and results in a more accurate estimation of the variables of interest.

First, hospitals with a total patient care cost per bed[31] value that was above or below two standard deviations from the log of the mean value were excluded from the analysis. Costs reported in Worksheet A of the Medicare cost report were used for this calculation because these costs form the basis for Medicare cost finding, which is the primary purpose of the Medicare cost reports. Worksheet A provides for recording the trial balance of expense accounts from a hospital's accounting records and also provides for the necessary reclassifications and adjustments to certain accounts. (As noted above, only patient-related costs are pertinent to this analysis.)

Second, hospitals not reporting total uncompensated care or unreimbursed costs[32] were excluded. Finally, hospitals with implausible Worksheet S-10 data were excluded.[33]

From this dataset, we included only 340B participating hospitals that were categorized as a DSH in the HRSA Office of Pharmacy Affairs (OPA) database, which resulted in 921 hospitals being included in our final analysis file.

Identifying Non-340B Hospitals – Comparison Group – To be consistent, for hospitals not participating in the 340B program, we excluded hospitals with a RRC or SCH provider type from the Medicare IPPS Impact File. We then examined the excluded RRCs and SCHs and found hospitals for which the DSH adjustment percentage was over 11.75 percent. These hospitals were added back to the file making a total of 1,633 hospitals in the comparison group (non-340B).

[31] Total patient care costs were defined from Medicare cost report (Worksheet A, line 118, col 7). Patient care costs exclude costs for Medicare non-reimbursable cost centers (i.e., gift shop, research, physician private offices and non-paid workers) from hospital operating costs since these are not related to patient care. Number of beds was defined as total facility beds (Worksheet S-3, line 27, col 2).

[32] Total uncompensated care or unreimbursed costs were obtained from (Worksheet S-10, line 31).

[33] Hospitals with total costs reported on Worksheet S-10 (lines 7, 11, 15, 21 and 29) plus Medicare costs greater than total hospital costs (Worksheet C, Part I, line 202, col 3) were excluded.

Methodology

Examining Low Income Patient Load and **Uncompensated Care** – For our first metric, we obtained the percent of total inpatient days which were attributable to Medicaid as well as the percent of Medicare days devoted to patients with SSI. We then compared the 340B DSH hospitals to the non-340B hospitals on a combined Medicaid/Medicare SSI metric, or low income patient load, to determine the extent to which each group of hospitals treated low-income and other vulnerable patients.

We next examined average uncompensated care costs within the two hospital groups defined by 340B participation status. For this analysis, hospitals in each group were categorized into evenly sized quartiles based on their total patient care costs (highest to lowest). Average patient care costs, charity care costs, public program payment shortfalls, and bad debt costs per facility were computed for each quartile group. We obtained charity care and bad debt costs from the 2014 Medicare cost reports, Worksheet S-10, lines 23 (charity) and 29 (bad debt) respectively. We obtained public payer shortfall from Worksheet S-10, lines 8, 12, and 16.

We also considered two definitions of uncompensated care for this analysis. A first, more complete measure includes charity care costs, bad debt costs and public payer shortfalls. The 340B statute's eligibility criteria and the research literature support our inclusion of public payer shortfalls in the definition of uncompensated care. However, we recognize that uncompensated care can be defined in different ways. We therefore performed the same analysis using a narrower definition. In this second analysis, uncompensated care is defined more simply as charity care plus bad debt.

Provision of Public Health and / or Specialized Services – We evaluated public health and/or specialized services provided by hospitals using the 2014 AHA annual survey, which queries respondent hospitals on whether they provided various services. Because survey respondents are, by definition, limited to hospitals with AHA membership in 2014, the sample size for this analytical component was reduced to 810 340B DSH hospitals and 1,249 non-340B hospitals. Because participation rates were different between the two groups, hospitals without survey responses were excluded from the denominator for percentage calculations. This was a change from the methodology used in our earlier report, which used 2013 AHA data. To ensure comparisons could be made between the two years, all percentages using the 2013 AHA data were recalculated using this methodology.

Issues with the Medicare Cost Report Form S-10 –This study relies on data from Medicare cost report Worksheet S-10. Please refer to our earlier report for a discussion of problematic aspects of the S-10, which are primarily related to the fact that the S-10 is a relatively new Medicare cost report worksheet.

Findings

Provision of Care to Medicaid / Medicare SSI Patients

We evaluated the metric of care to low income patients by combining hospitals' Medicaid ratios and Medicare SSI ratios to examine low income patient load. We found that 340B hospitals continue to carry a disproportionate share of this load.

Exhibit 1 contains a comparison of low income patient load, or Medicaid inpatient days as a percent of total inpatient days plus Medicare SSI days as a percent of total Medicare days. It shows that 340B DSH hospitals continued to have a higher low income load in 2014 than non-340B hospitals, just as they did in 2012. Overall, the low income patient load for 340B DSH hospitals in 2014 was 42.5 percent, versus 26.0 percent for non-340B hospitals.

Exhibit 1. Comparison of Low Income Patient Load between 340B DSH Hospitals and Non-340B Hospitals in 2014 and 2012

	2014		2012	
Hospital Type	Number of Hospitals	Total Low Income Patient Load	Number of Hospitals	Total Low Income Patient Load
DSH Hospitals in the 340B Program	921	42.5%	945	41.9%
Acute Care Hospitals not in the 340B Program	1,633	26.0%	1,760	22.8%

Source: Dobson | DaVanzo analysis of 2014/2012 Medicare cost reports, HRSA OPA FY2016/2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Comparison of Uncompensated Care Costs[34]

340B Hospitals Continue to Provide a Disproportionate Share of Uncompensated Care

In our analysis of 2012 data, we examined the composition of uncompensated care and unreimbursed costs and determined that studies which only consider charity care in determining the safety-net contribution of DSH hospitals in the 340B program are not considering the whole picture. We updated this analysis using 2014 data to determine whether 340B hospitals continue to provide higher levels of uncompensated care, based on differing definitions of this measure.

Our analysis shows that in 2014, as states began to expand Medicaid as part of the ACA implementation, 340B hospitals continued to provide a disproprotionate amount of uncompensated care compared to non-340B hospitals. 340B DSH hospitals provided $23.7 billion in uncompensated care in 2014, while non-340B hospitals provided $16.1 billion. Although 340B hospitals accounted for only 36 percent of hospitals in the 2014 analysis, they provided 59 percent of all uncompensated care. See Exhibit 2 below.

Exhibit 2: Comparison of Total Aggregate Uncompensated Care Costs between 340B and Non-340B DSH Hospitals in 2014 and 2012

	2014		2012	
	Number of Hospitals	Aggregate Charity Care, Public Payer Shortfalls and Bad Debt Costs	Number of Hospitals	Aggregate Charity Care, Public Payer Shortfalls and Bad Debt Costs
DSH Hospitals in the 340B Program	921	$23,651,442,642	945	$24,760,648,861
Acute Care Hospitals not in the 340B Program	1,633	$16,138,790,354	1,760	$17,709,333,408

Source: Dobson | DaVanzo analysis of 2014/2012 Medicare cost reports, HRSA OPA FY2016/2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

We also analyzed the share of total patient care costs that are attributable to uncompensated care by quartiles defined by patient care costs. Hospitals with the highest patient care costs comprise quartile #1. We found that 340B hospitals overall provided more uncompensated care on an average, per facility basis in 2014 than did non-340B hospitals ($25.7 million for 340B hospitals overall vs. $9.9 million for non-340B hospitals). This trend was consistent across all hospital quartiles (see Exhibit 3a - 2014) and similar to the trends seen in the 2012 analysis (see Exhibit 3b - 2012).

[34] *Uncompensated care* refers to care provided for which no payment was received from the patient or insurer, such as charity care and bad debt. *Unreimbursed costs* refer to payments that have been received from public payers (Medicaid, CHIP and other indigent care programs) that are below the cost of treating the patients and are included in uncompensated care in this analysis.

Exhibit 3a - 2014: Comparison of Average Per Facility Uncompensated Care Costs[a] by Hospital Quartile between 340B DSH Hospitals and Non-340B Hospitals in 2014 (Quartile 1 = hospitals with the highest patient care costs)

Quartile of Patient Care Costs	2014			
	DSH Hospitals in the 340B Program		Acute Care Hospitals not in the 340B Program	
	Number of Hospitals	Uncompensated Care Costs Per Facility	Number of Hospitals	Uncompensated Care Costs Per Facility
1st	230	$61,941,113	408	$21,354,342
2nd	230	$24,331,610	408	$10,312,439
3rd	230	$11,771,313	408	$5,665,138
4th	231	$4,767,595	409	$2,218,502
Total	921	$25,680,177	1,633	$9,882,909

Source: Dobson | DaVanzo analysis of 2014 Medicare cost reports, HRSA OPA FY2016 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

[a] Uncompensated Care is defined as Charity Care, Public Payer Shortfall and Bad Debt

Exhibit 3b - 2012: Comparison of Average Per Facility Uncompensated Care Costs[a] by Hospital Quartile between 340B DSH Hospitals and Non-340B Hospitals in 2012 (Quartile 1 = hospitals with the highest patient care costs)

Quartile of Patient Care Costs	2012			
	DSH Hospitals in the 340B Program		Acute Care Hospitals not in the 340B Program	
	Number of Hospitals	Uncompensated Care Costs Per Facility	Number of Hospitals	Uncompensated Care Costs Per Facility
1st	236	$64,837,282	440	$22,209,511
2nd	236	$23,672,835	440	$10,489,144
3rd	236	$11,848,581	440	$5,428,548
4th	237	$4,540,068	440	$2,121,282
Total	945	$26,201,745	1,760	$10,062,121

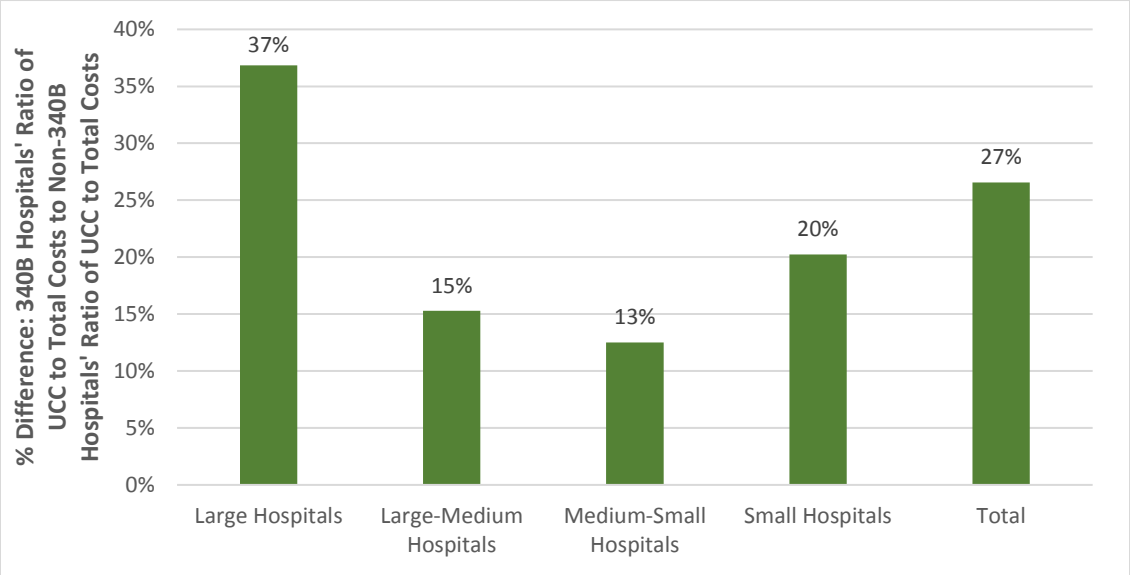
Source: Dobson | DaVanzo analysis of FY 2012 Medicare cost reports, HRSA OPA FY 2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File

[a] Uncompensated Care is defined as Charity Care, Public Payer Shortfall and Bad Debt

We next examined uncompensated care as a percent of total patient care costs. When taking hospital quartiles into account and looking at uncompensated care as a percent of total patient care costs, 340B hospitals across all hospital sizes provided consistently high levels of uncompensated care. The percentage of uncompensated care costs relative to total care is higher in 340B hospitals overall and in each quartile of hospitals. These results are consistent with results obtained in the earlier analysis of the 2012 data (not shown) and demonstrate that 340B DSH hospitals of all sizes provide a disproportionate amount of uncompensated care.

The differences between 340B and non-340B DSH hospitals are presented graphically in Exhibit 4 below. In this chart, the difference in uncompensated care percents between 340B and non-340B are presented as a percent of the non-340B ratio. Thus, overall, the ratio of uncompensated care costs to total patient costs is 27 percent higher for 340B DSH hospitals than it is for non-340B hospitals.

Exhibit 4: 340B DSH Hospitals Provide Significantly More Uncompensated Care than Non-340B DSH Hospitals in all Hospital Size Quartiles



Source: Dobson | DaVanzo analysis of 2012 Medicare cost reports, HRSA OPA FY 2012 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Results are Comparable Using a Less Expansive Definition of Uncompensated Care

The literature demonstrates that an evaluation of a hospital's safety net status based on uncompensated care requires a look at a hospital's public payer shortfalls, not just charity care and bad debt. Nevertheless, because uncompensated care can be defined in different ways, we performed the same analysis using a narrower definition of uncompensated care and found similar results to those presented above.

Exhibit 5 shows that when uncompensated care is **defined as charity care plus bad debt**, 340B DSH hospitals provided $16.1 billion of uncompensated care in 2014, or 65 percent of the total. Yet, 340B DSH hospitals comprise 36 percent of hospitals in the analysis. This is consistent with the results from 2012, in which 340B DSH hospitals (35 percent of hospitals in the analysis) provided $18.3 billion of uncompensated care, or 61 percent of the total. Even with this narrower definition, we continue to see relatively more uncompensated care being provided by 340B DSH hospitals.

Exhibit 5: Comparison of Aggregate Uncompensated Care Costs (Defined as Charity Care Plus Bad Debt) between 340B DSH and Non-340B Hospitals in 2014 and 2012

	2014		2012	
	Number of Hospitals	Aggregate Charity Care and Bad Debt Costs	Number of Hospitals	Aggregate Charity Care and Bad Debt Costs
DSH Hospitals in the 340B Program	921	$16,056,159,911	945	$18,295,647,385
Acute Care Hospitals not in the 340B Program	1,633	$8,796,886,900	1,760	$11,697,910,544

Source: Dobson | DaVanzo analysis of FY 2014/2012 Medicare cost reports, HRSA OPA FY2016/2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Exhibits 6a - 2014 and 6b - 2012 display the average, per-facility uncompensated care costs by hospital quartile in 2014 and 2012, using uncompensated care **defined as charity care plus bad debt**. As with the broader definition of uncompensated care, these tables show that the average, per-facility uncompensated care costs for 340B DSH hospitals are higher in each quartile of hospitals. These results further demonstrate that 340B DSH hospitals provide a disproportionate amount of uncompensated care, regardless of the manner in which uncompensated care is defined.

Exhibit 6a - 2014: Comparison of Average Per-Facility Uncompensated Care Costs (Defined as Charity Care Plus Bad Debt) by Hospital Quartile between 340B DSH Hospitals and Non-340B Hospitals in 2014 (Quartile 1 = hospitals with the highest patient care costs)

Quartile of Patient Care Costs	2014			
	DSH Hospitals in the 340B Program		Acute Care Hospitals not in the 340B Program	
	Number of Hospitals	Charity Care and Bad Debt Costs Per Facility	Number of Hospitals	Charity Care and Bad Debt Costs Per Facility
1st	230	$44,340,093	408	$11,757,658
2nd	230	$14,477,681	408	$5,642,207
3rd	230	$7,774,631	408	$2,861,059
4th	231	$3,203,059	409	$1,296,895
Total	921	$17,433,398	1,633	$5,386,948

Source: Dobson | DaVanzo analysis of FY 2014 Medicare cost reports, HRSA OPA FY 2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Exhibit 6b - 2012: Comparison of Average Per-Facility Uncompensated Care Costs (Defined as Charity Care Plus Bad Debt) by Hospital Quartile between 340B DSH Hospitals and Non-340B Hospitals in 2012 (Quartile 1 = hospitals with the highest patient care costs)

Quartile of Patient Care Costs	2012			
	DSH Hospitals in the 340B Program		Acute Care Hospitals not in the 340B Program	
	Number of Hospitals	Charity Care and Bad Debt Costs Per Facility	Number of Hospitals	Charity Care and Bad Debt Costs Per Facility
1st	236	$49,283,525	440	$14,921,865
2nd	236	$16,382,456	440	$6,797,992
3rd	236	$8,308,321	440	$3,498,108
4th	237	$3,534,651	440	$1,368,195
Total	945	$19,360,473	1,760	$6,646,540

Source: Dobson | DaVanzo analysis of FY 2012 Medicare cost reports, HRSA OPA FY 2014 Covered Entity Daily Report and FY 2014 IPPS Impact File.

Low income Patient Load or Uncompensated Care Alone may not be Determinative of Safety Net Status

In evaluating the metrics of low income patient load and uncompensated care, it was apparent that looking at one of these metrics alone may not be sufficient to determine whether a hospital is a safety net hospital. For example, a hospital with a lower level of uncompensated care compared to all hospitals may nevertheless have a significantly higher level of low income patients than hospitals providing higher levels of uncompensated care. To further evaluate the safety net status of 340B hospitals, within each hospital analysis group defined by 340B participation status we further defined hospital subgroups based on a hospital's level of uncompensated care**, defined in this instance as the ratio of charity care and bad debt to total patient care costs**. Exhibit 7 demonstrates that 340B DSH hospitals with uncompensated care levels below the median for all study hospitals (i.e., the ratio of uncompensated care costs to total patient care costs is less than 3.52 percent) still have a higher low income patient load than non-340B hospitals with uncompensated care levels above the median, at 43.2 percent and 27.5 percent respectively.

Exhibit 7: Comparison of 2014 Low Income Patient Load by Hospital Category of Uncompensated Care

Hospital Category by Level of Uncompensated Care	Low Income Patient Load
340B Hospitals with Uncompensated Care Levels Below the Median (3.52%)	43.2%
Non-340B Hospitals with Uncompensated Care Levels Above the Median (3.52%)	27.5%
All Hospitals	**34.3%**

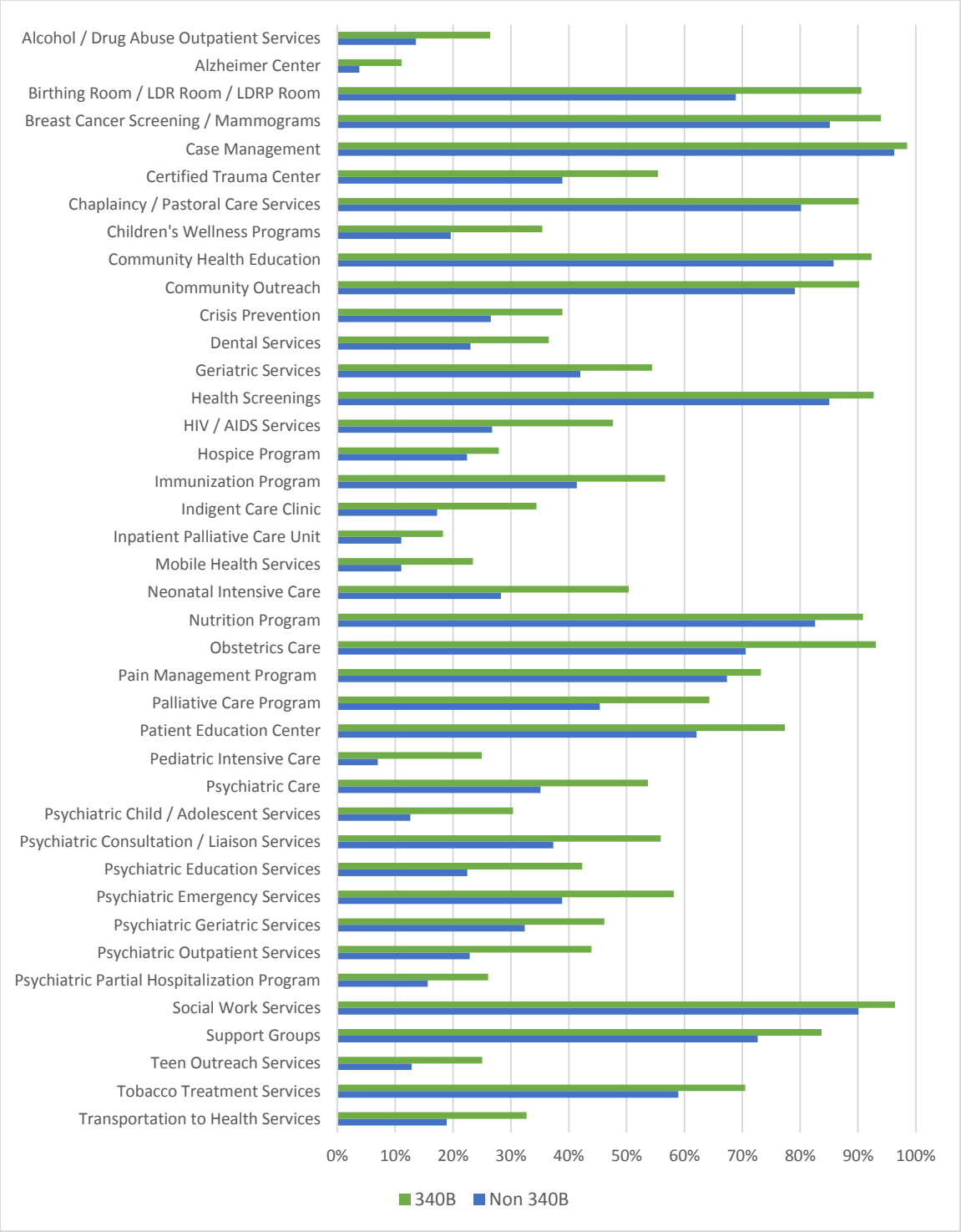
Source: Dobson | DaVanzo analysis of FY 2014 Medicare cost reports, HRSA OPA FY2016/2014 Covered Entity Daily Report, and FY 2014 IPPS Impact File.

Further analysis indicates that 90.8 percent of 340B DSH hospitals with uncompensated care levels below the overall study hospital median of 3.52 percent have greater than the median value of low income patient load for all study hospitals (data not shown). Furthermore, 49.0 percent of these hospitals are in the top quartile among all study hospitals for low income patient load, and 7.2 percent of 340B DSH hospitals with uncompensated care levels below the overall study hospital median are in the top 5 percent among all study hospitals for low income patient load (low income patient load greater than 67.2 percent, data not shown). Despite having uncompensated care levels under the overall hospital median, these 340B hospitals delivered more care to Medicaid and Medicare SSI recipients than did the non-340B hospitals in the study. This suggests that looking at charity care and bad debt alone is not demonstrative of a hospital's safety net status; it is also important to look at a hospital's provision of care to low income patients.

Provision of Public Health and Specialized Services

In our original report, we used 2013 AHA survey data to examine the public health and specialized services that the safety-net hospitals participating in the 340B program provide, and compared this to the care provided by hospitals not participating in the 340B program. We found that in all cases, the percentage of hospitals providing the service was higher among 340B hospitals than those that were not in the program. As shown in Exhibit 8, we found similar results when we updated the analysis using the 2014 AHA survey data. Additionally, for a number of service categories in the 2014 survey, including alcohol and drug abuse outpatient services, indigent care clinics, mobile health services and pediatric intensive care, the percentage of 340B hospitals providing the service was more than two times higher than the percentage among hospitals not in the 340B program. These results demonstrate that as Medicaid expansion decreased the number of uninsured patients, 340B DSH hospitals continued to fulfill their safety net mission by providing specialized services that non-340B hospitals do not provide to their communities. Refer to Appendix A for a tabular presentation of the survey results using both the 2014 and the 2013 data.

Exhibit 8: Percentage of 340B DSH Hospitals and Non-340B Hospitals Providing Public Health and Specialized Services Provided in 2014



Source: Dobson | DaVanzo analysis of the 2014 American Hospital Association Member Survey.

Discussion

The 340B statute and its legislative history demonstrate that Congress limited 340B participation to hospitals that serve high numbers of Medicaid and low-income Medicare patients. These organizations have traditionally been referred to as safety-net hospitals. This analysis updated our earlier study which evaluated the extent to which 340B DSH hospitals fall into the category of safety-net hospitals and meet the 340B eligibility standards. The analysis also determined how Medicaid expansion under the ACA has impacted 340B hospitals, including their treatment of low income patients and provision of uncompensated care, and whether the 340B program continues to target safety net hospitals for participation.

We analyzed hospital services delivered to vulnerable populations to determine if the low income patient load for 340B hospitals differs from the corresponding load for hospitals that are not sole community hospitals (SCHs), rural referral centers (RRCs), or otherwise in the 340B program. We examined the share of total patient care costs comprising uncompensated care (or care that is not reimbursed) for 340B DSH hospitals to determine whether it differs significantly from the uncompensated care and unreimbursed costs for comparably sized organizations not in the 340B program. We also looked at public health and specialized services provided by 340B DSH and non-340B hospitals.

We stratified hospitals into quartiles based on total patient care costs for our uncompensated care analysis as a way to compare 340B DSH hospitals to non-340B hospitals that are comparable in size. The largest 340B hospitals were compared to the largest non-340B hospitals, and so on. Simple aggregate comparisons of uncompensated care provided by all 340B hospitals vs. all non-340B hospitals do not take into account the different scope of operations reflected in hospitals of varying sizes. These operational differences could affect results. Hospitals that are alike should be compared on a metric that measures care provided to vulnerable groups that is not paid for, or is partially paid for, by a hospital's payers.

Discussion

On the metric of low income patient load, we found results consistent with those of our 2012 analysis. That is, 340B DSH hospitals continued to have higher rates than hospitals not in the 340B program, which shows that 340B hospitals continued to provide substantially higher levels of care to low income populations as states began to expand Medicaid as part of ACA implementation in 2014.

Our examination of uncompensated care also revealed that 340B DSH hospitals continue to provide more uncompensated care than comparably sized hospitals not in the 340B program, as was the case in 2012. This was true whether uncompensated care was interpreted broadly as charity care, bad debt and public payer shortfalls or more narrowly as charity care plus bad debt.

Our evaluation of low income patient loads and uncompensated care showed that looking at one of these metrics alone may not be sufficient to determine a hospital's safety net status. Even those 340B hospitals with uncompensated care below the median level across all study hospitals had higher low income patient loads than the non-340B hospitals with uncompensated care above the median level. This demonstrates that hospitals with relatively lower levels of uncompensated care provided higher levels of care to low income patients than their non-340B counterparts. Looking at low income patient loads in addition to uncompensated care levels shows that hospitals providing uncompensated care levels below the median level are nevertheless safety net hospitals. Looking at uncompensated care alone does not tell the whole story.

The third metric that we examined is directly tied to the notion of safety-net hospitals providing services to the individual and to the community as a whole. Safety-net hospitals comprise a select group of hospitals that play a major role in providing emergency care, ambulatory primary and specialty care, inpatient and outpatient care, and community and public health services. These institutions tend to provide "stand-by" capacity and other specialized services such as urgent care for trauma units, and premature infant care, which are typically under-reimbursed by the hospital's payers. Thus, many of these services are unprofitable to the hospital but are essential to their communities. Our analysis shows that there continues to be a higher percentage of 340B DSH hospitals providing public health and/or specialized services dedicated to the "common good" than do hospitals not in the 340B program, as was the case in the 2012 analysis.

The intent of the 340B legislation is to assist hospitals that serve large numbers of low-income, vulnerable patients in providing services to their vulnerable patient populations by giving these hospitals discounts on outpatient drugs. Its benefit is not limited to assisting hospitals solely on the basis of how much charity care they provide. Rather, it is intended to

support hospitals that treat significant volumes of low-income patients, which are often referred to as safety-net hospitals.

The results of the analyses undertaken in this study show that as states began to expand Medicaid in 2014 as part of ACA implementation, 340B DSH hospitals continued to meet the criteria used in the literature to evaluate whether a hospital is a safety-net hospital. 340B DSH hospitals continue to have significantly higher caseloads of low-income, vulnerable patients than non-340B hospitals and continue to provide a disproportionately higher amount of uncompensated care and unreimbursed costs than non-340B hospitals. They also continue to be more likely to provide specialized services than non-340B hospitals. These results suggest that the 340B eligibility criteria continue to be appropriate in that they target hospitals serving the most vulnerable patient populations.

Appendix A

Exhibit A-1. Analysis of Public Health and Specialized Services Provided by 340B DSH Hospitals and Non-340B Hospitals in 2014 and 2013

	2014					2013				
	340B Hospitals (n =810)		Non-340B Hospitals (n = 1,259)		Percent Difference	340B Hospitals (n = 833)		Non-340B Hospitals (n = 1,378)		Percent Difference
Service	Count	Percent	Count	Percent		Count	Percent	Count	Percent	
Alcohol / Drug Abuse Outpatient Services	214	26.4%	171	13.6%	12.8%	207	24.8%	192	13.9%	10.9%
Alzheimer Center	90	11.1%	48	3.8%	7.3%	82	9.8%	49	3.6%	6.3%
Birthing Room / LDR Room / LDRP Room	734	90.6%	867	68.9%	21.8%	748	89.8%	968	70.2%	19.5%
Breast Cancer Screening / Mammograms	761	94.0%	1072	85.1%	8.8%	782	93.9%	1,182	85.8%	8.1%
Case Management	798	98.5%	1212	96.3%	2.3%	812	97.5%	1,326	96.2%	1.3%
Certified Trauma Center	449	55.4%	490	38.9%	16.5%	453	54.4%	511	37.1%	17.3%
Chaplaincy / Pastoral Care Services	730	90.1%	1009	80.1%	10.0%	733	88.0%	1,095	79.5%	8.5%
Children's Wellness Programs	287	35.4%	247	19.6%	15.8%	292	35.1%	276	20.0%	15.0%
Community Health Education	748	92.3%	1080	85.8%	6.6%	762	91.5%	1,171	85.0%	6.4%
Community Outreach	731	90.2%	996	79.1%	11.1%	746	89.6%	1,095	79.5%	10.0%
Crisis Prevention	315	38.9%	334	26.5%	12.4%	299	35.9%	357	25.9%	10.0%
Dental Services	296	36.5%	290	23.0%	13.5%	302	36.3%	324	23.5%	12.7%
Geriatric Services	441	54.4%	529	42.0%	12.4%	442	53.1%	614	44.6%	8.5%
Health Screenings	751	92.7%	1071	85.1%	7.6%	767	92.1%	1,172	85.2%	6.9%
HIV / AIDS Services	386	47.7%	337	26.8%	20.9%	381	45.7%	379	27.5%	18.2%
Hospice Program	226	27.9%	282	22.4%	5.5%	225	27.0%	316	23.0%	4.0%
Immunization Program	459	56.7%	521	41.4%	15.3%	446	53.5%	581	42.2%	11.3%
Inpatient Palliative Care Unit	148	18.3%	139	11.0%	7.2%	140	16.8%	152	11.0%	5.8%
Indigent Care Clinic	279	34.4%	217	17.2%	17.2%	279	33.7%	247	18.0%	15.7%
Mobile Health Services	190	23.5%	139	11.0%	12.4%	191	22.9%	165	12.0%	11.0%

Appendix A

	2014					2013				
	340B Hospitals (n =810)		Non-340B Hospitals (n = 1,259)		Percent Difference	340B Hospitals (n = 833)		Non-340B Hospitals (n = 1,378)		Percent Difference
Service	Count	Percent	Count	Percent		Count	Percent	Count	Percent	
Neonatal Intensive Care	408	50.4%	356	28.3%	22.1%	405	48.6%	396	28.8%	19.9%
Nutrition Program	736	90.9%	1040	82.6%	8.3%	757	90.9%	1,149	83.4%	7.4%
Obstetrics Care	754	93.1%	889	70.6%	22.5%	747	89.7%	946	68.8%	20.9%
Pain Management Program	593	73.2%	848	67.4%	5.9%	574	68.9%	913	66.3%	2.7%
Palliative Care Program	521	64.3%	571	45.4%	19.0%	494	59.3%	617	44.8%	14.5%
Patient Education Center	627	77.4%	782	62.1%	15.3%	622	74.7%	883	64.1%	10.5%
Pediatric Intensive Care	202	24.9%	88	7.0%	17.9%	196	23.5%	99	7.2%	16.3%
Psychiatric Care	435	53.7%	442	35.1%	18.6%	443	53.2%	497	36.1%	17.1%
Psychiatric Child / Adolescent Services	246	30.4%	159	12.6%	17.7%	230	27.6%	193	14.0%	13.6%
Psychiatric Consultation / Liaison Services	453	55.9%	470	37.3%	18.6%	424	50.9%	516	37.4%	13.5%
Psychiatric Education Services	343	42.3%	283	22.5%	19.9%	335	40.2%	307	22.3%	17.9%
Psychiatric Emergency Services	471	58.1%	489	38.8%	19.3%	445	53.4%	542	39.3%	14.1%
Psychiatric Geriatric Services	374	46.2%	408	32.4%	13.8%	380	45.6%	468	34.0%	11.7%
Psychiatric Outpatient Services	356	44.0%	288	22.9%	21.1%	347	41.7%	331	24.0%	17.6%
Psychiatric Partial Hospitalization Program	211	26.0%	197	15.6%	10.4%	203	24.4%	226	16.4%	8.0%
Social Work Services	781	96.4%	1134	90.1%	6.3%	797	95.7%	1,239	89.9%	5.8%
Support Groups	678	83.7%	915	72.7%	11.0%	685	82.2%	999	72.5%	9.7%
Teen Outreach Services	203	25.1%	162	12.9%	12.2%	200	24.0%	188	13.6%	10.4%
Tobacco Treatment Services	571	70.5%	742	58.9%	11.6%	580	69.6%	790	57.3%	12.3%
Transportation to Health Services	265	32.7%	238	18.9%	13.8%	262	31.5%	290	21.0%	10.4%

Source: Dobson | DaVanzo analysis of the 2014 and 2013 American Hospital Association Annual Survey