Maryland
Hospital Association

EMERGENCY DEPARTMENT DIVERSIONS, WAIT TIMES: UNDERSTANDING THE CAUSES

Introduction

In 2016, the Maryland Hospital Association began to examine a recent upward trend in the number of emergency department (ED) diversions and wait times. The goal of this effort, which drew on the expertise of clinicians throughout the state, was to determine the root causes for the increases and identify potential solutions. There are several contributing factors to the rise in diversions and wait times:

- the state's behavioral health crisis
- Medicaid expansion
- non-emergent patients seeking care in the ED
- a nationwide nursing shortage
- care redesign and delivery transformation

Each of these problems is multi-faceted and many will require a community-wide approach that addresses the root causes rather than the symptoms of rising ED diversions and wait times.

Background

The Maryland Institute for Emergency Medical Services Systems (MIEMSS) stratifies diversions into several categories based on current conditions that affect a hospital's capacity to treat patients. For example, red and blue alerts indicate there are no more heart monitoring beds or cold weather has overwhelmed the ED and impacted bed availability. The most common alerts, yellow, indicate that a hospital is backlogged with patients and is requesting ambulances temporarily transport lower-acuity patients to other facilities. Yellow alerts account for the majority of diversion hours and have tripled from 12,772 in 2013 to 38,557 in 2016, according to MIEMSS. These data are reported by hospitals to the Centers for Medicare & Medicaid Services (CMS) and are included in the Hospital Inpatient Quality Reporting Program and Hospital Outpatient Quality Reporting Program. Collectively, Maryland's hospital wait times are among the highest in the nation. While the increase in diversions and wait times is a concern, it should be noted that diversions can be a valuable tool to relieve ED overcrowding and direct patients to hospitals that have available beds.

Emergency Department Wait Time Data as Indicated by Inpatient Quality Reporting Program Measures

Measure*		FY 2013 MD	FY 2013 State Rank	FY 2015 MD	FY 2015 State Rank
ED 1b	Median time in minutes from emergency department arrival to emergency department departure for admitted patient	355	47	373	48
ED 2b	Admit decision time in minutes to emergency department departure time for admitted patient	143	45	142	46

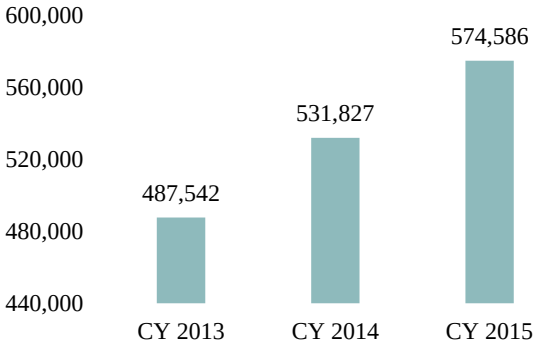
*Data reflect the average number of minutes for all hospital volume designations
Source: MHA analysis of Centers for Medicare & Medicaid Services data

THE CAUSES

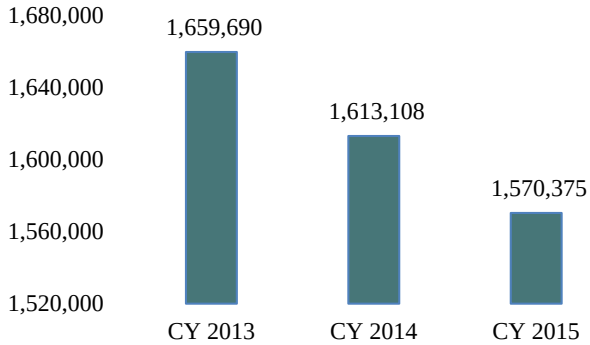
BEHAVIORAL HEALTH

One of the primary causes of ED diversions and overcrowding is Maryland's behavioral health crisis, based on MHA's analysis of HSCRC's hospital discharge data. The number of ED visits by individuals with a behavioral health diagnosis rose by 18 percent between 2013 and 2015; at the same time, visits by patients without a behavioral health diagnosis fell by more than 5 percent.

All-Payer Behavioral Health ED Visits



All-Payer Non-Behavioral Health ED Visits



Source: HSCRC inpatient and outpatient claims data, using primary and secondary diagnoses

Hospital leaders throughout the state cite multiple examples of insufficient capacity for behavioral health patients, resulting in delayed transfers and long lengths of stay. Limited capacity, combined with the extensive resources needed to care for behavioral health patients, creates overcrowding, long wait times and the need for diversions. Studies show hospitals with

bed occupancy rates exceeding 85 percent can expect regular bed shortages, periodic bed crises, and difficulty in providing timely access to care.[1] The problem is exacerbated because behavioral health patients often stay in the ED longer, a total of 12 hours on average in 2015, according to MHA's analysis. A non-behavioral health visit typically lasts no more than nine hours.

This problem is even more pronounced for psychiatric patients who must be either admitted to an inpatient bed or transferred to an appropriate facility but are delayed due to a dearth of available residential treatment beds and specialty psychiatric beds. Due to the increased lengths of stay and an overall rise in Medicaid behavioral health admissions, available inpatient psychiatric bed capacity in Maryland's acute care hospitals has shrunk, despite the fact that psychiatric staffed bed capacity has remained relatively constant. In 2015, the average occupancy rate for staffed psychiatric beds for inpatients with a behavioral health primary diagnosis was 99.7 percent, a 4 percent increase from 2013. Additionally, the closing of state-operated psychiatric beds (state beds decreased from 4,390 to 950 between 1982 and 2016) has not been offset by greater access to community-based services. Three state facilities have closed in the past decade and the remaining five state hospitals now primarily serve forensic patients from the court system. This gap between demand and capacity, as noted in a 2012 report commissioned by the state, has resulted in a care delivery system with severe deficiencies. That report recommended that the state would need anywhere from 216 to 482 additional state hospital beds, depending on the level of investment made in community-based treatment. While the state has recently budgeted for a limited increase in bed capacity, significant pressure on acute care general hospitals to fill this gap remains.

As an example, one CEO reported that on a single day, 75 percent of his facility's ED bed capacity was filled with behavioral health patients. Another hospital experienced a record 41-hour length of stay for behavioral health patients. The ED chair at yet another hospital reported an average length of stay of 36 hours for psychiatric patients requiring transfer, nine times the average length of stay for non-psychiatric patients.

A lack of placement options for children also poses significant challenges. One hospital leader attributed "an alarming increase" in the lengths of stay for young behavioral health patients to an inability to transfer them to more appropriate settings of care, in turn causing longer wait times in that ED. Some children at this facility have been hospitalized more than 100 days beyond what is medically necessary. Another hospital leader reported that his entire pediatric unit was filled with behavioral health patients, despite the fact that this unit was not designed to be a psychiatry ward. Behavioral health needs, along with insufficient community and inpatient resources, has created a backlog that impedes the hospital's ability to move patients from the ED to an inpatient bed.

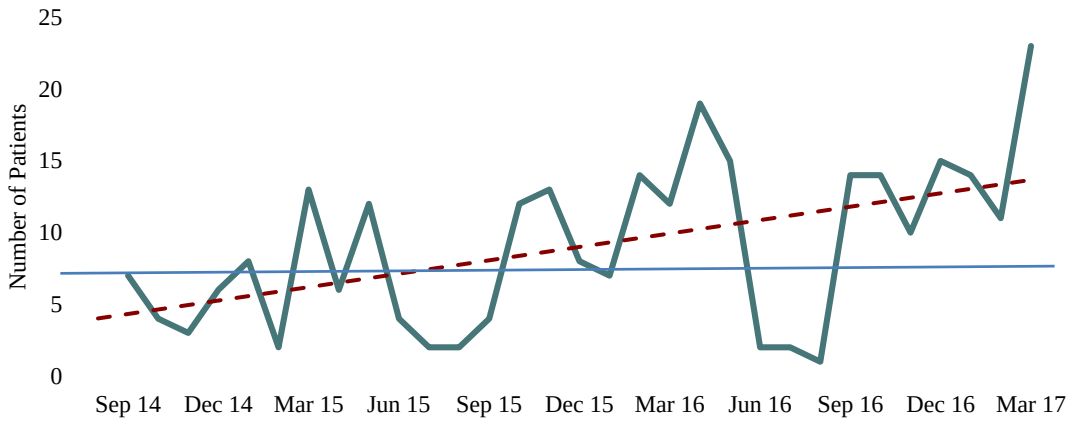
This problem impacts the state budget and, more importantly, patients. First, the state often pays well beyond what it would need to if patients could be directed to appropriate community-based

[1] Capacity Strategy: The Science of Improving Future Performance, Report by GE Healthcare, 3000 North Grandview Blvd., Waukesha, WI 53188

behavioral health providers, with inpatient services costing more than $2,000 a day; for a child hospitalized 100 days or longer, total costs can approach a quarter of a million dollars. Second, hospital care for non-behavioral health patients is compromised without efficient and appropriate transfers of behavioral health patients.

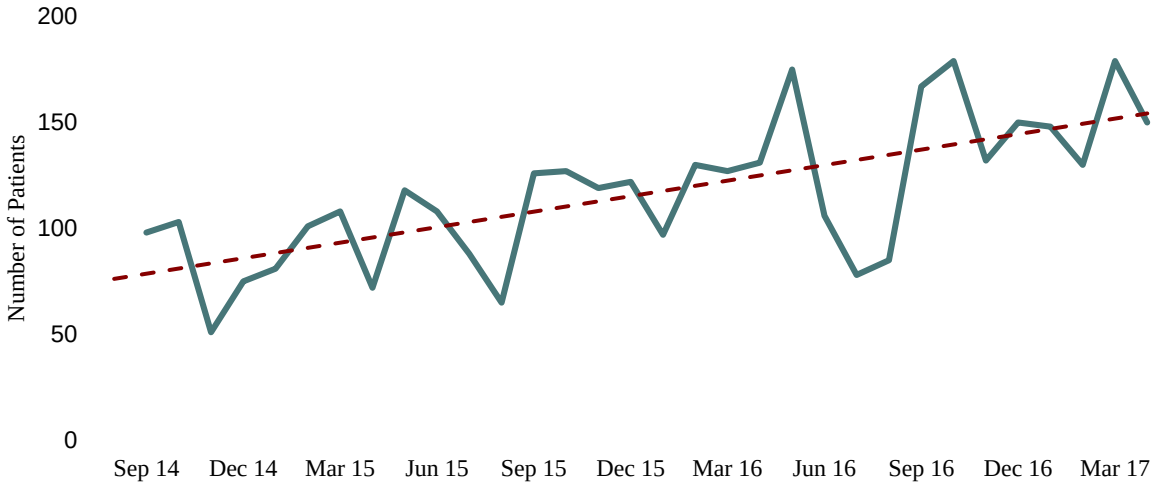
One hospital's data on pediatric psychiatric patients illustrates the increase in the number of patients with longer ED lengths of stay from 2014 to the first quarter of 2017:

One Maryland Hospital's Visit Count of Patients with Psychiatric Behavior Conditions with ED Lengths of Stay Longer Than 24 Hours



Heightening the crisis is that behavioral health patients often require resource-intensive care and close supervision. Without it, there is a risk of self-harm or harm to others. Numerous ED directors and hospital leaders have reported that the proportion of violent and difficult patients is increasing. This assertion is supported by the following data depicting trends in the number of pediatric psychiatric patients who were transported by police to one hospital's ED:

One Maryland Hospital's Monthly Visit Count of Patient's Who Arrive by Police



Additionally, the growing substance use, accelerated by people who use opioids, has led to overcrowding and longer periods until inpatient admission or discharge from EDs. This is due to hospitals increasingly adopting lifesaving practices that keep patients in the ED longer, including:

- coordinating with peer recovery counselors
- screening, brief interventions, and referrals to treatment (SBIRT)
- prescribing naloxone and education about its proper use to patients and their families
- providing other types of mental health and lifestyle assessments, such as suicide and domestic violence screenings

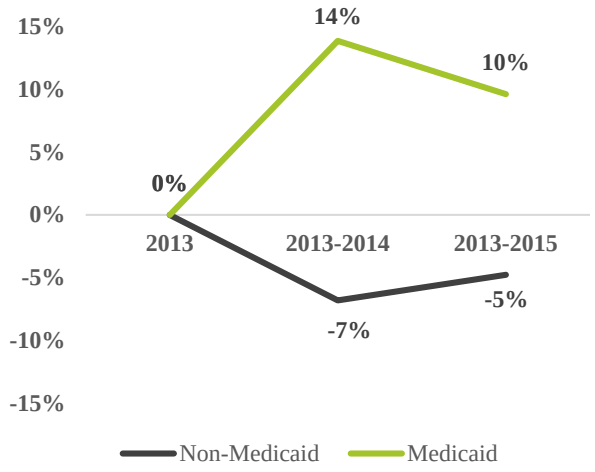
MEDICAID EXPANSION

Policymakers predicted that Medicaid expansion states would reduce ED utilization as beneficiaries sought treatment in primary care. However, recent studies indicate that those with Medicaid use the ED more than those without coverage. One study found that ED visits increased 40 percent for the newly enrolled in the first 15 months after gaining coverage and found no evidence that the increases were driven by pent-up demand that dissipated over time (the increases in utilization persisted when follow-up study was performed after 24 months).[2] Maryland's hospitals are seeing more and more Medicaid patients in the ED and in the inpatient setting. From 2013 to 2015, ED Medicaid visits increased 10 percent, while ED visits for non-Medicaid decreased 5 percent. During this same time period, Medicaid inpatient admissions also grew 10 percent, while all other types of admissions declined 10 percent. These data suggest that

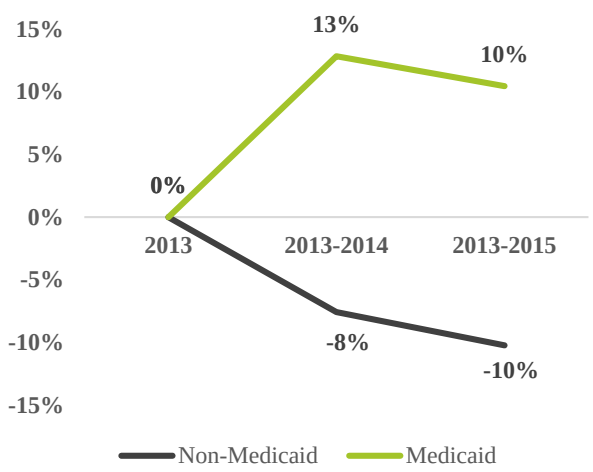
[2] Fikelstein, A. N., Ph.D., Taubman, S. L., Ph.D, Allen, H. L., Ph.D, Wright, B. J., Ph.D, & Baicker, K., Ph.D. (2016). Effect of Medicaid Coverage on ED Use — Further Evidence from Oregon's Experiment. The New England Journal of Medicine, 375, 1505-1507. doi:10.1056/NEJMp1609533

the Medicaid expansion population is further compounding ED diversions and wait times. More work needs to be done to understand the potential impact that a limited number of Medicaid community providers may have on a hospitals' ability to efficiently coordinate care to safely discharge this vulnerable population.

Change in ED Visits for Patients with Medicaid Relative to Non-Medicaid



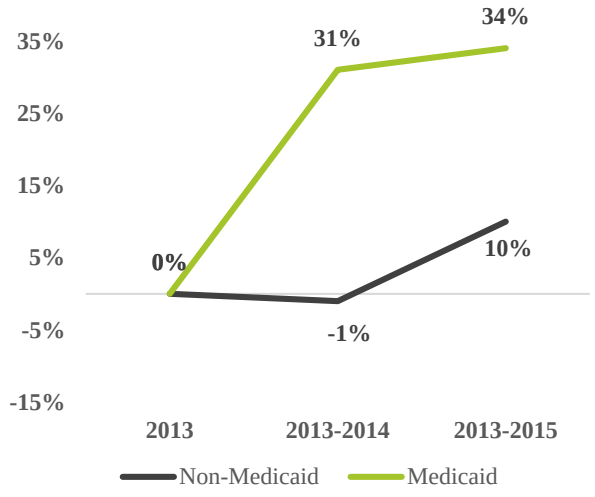
Change in Admissions for Patients with Medicaid Relative to Non-Medicaid



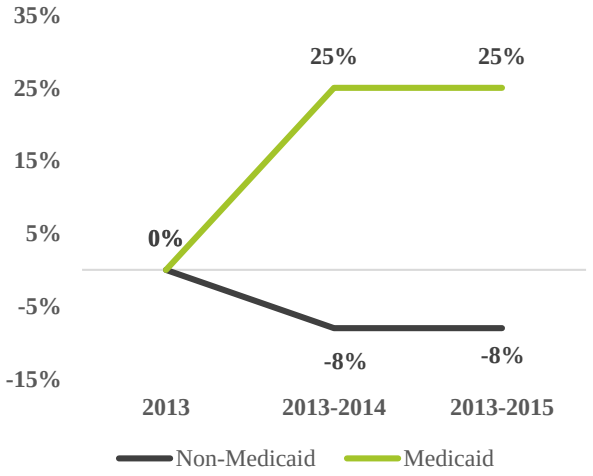
Source: HSCRC inpatient and outpatient claims data

Medicaid enrollees are increasingly visiting the ED for behavioral health concerns. From 2013 to 2015, Medicaid behavioral health visits increased 34 percent. Similarly, Medicaid behavioral health admissions rose 25 percent during this same time period. Trends in Medicaid behavioral health hospital use point to the need for strengthened community-based services.

Change in Medicaid Behavioral Health ED Visits Relative to Non-Medicaid



Change in Medicaid Behavioral Health Admissions Relative to Non-Medicaid



Source: HSCRC inpatient and outpatient claims data, using primary and secondary diagnoses

NON-EMERGENT USE OF ED

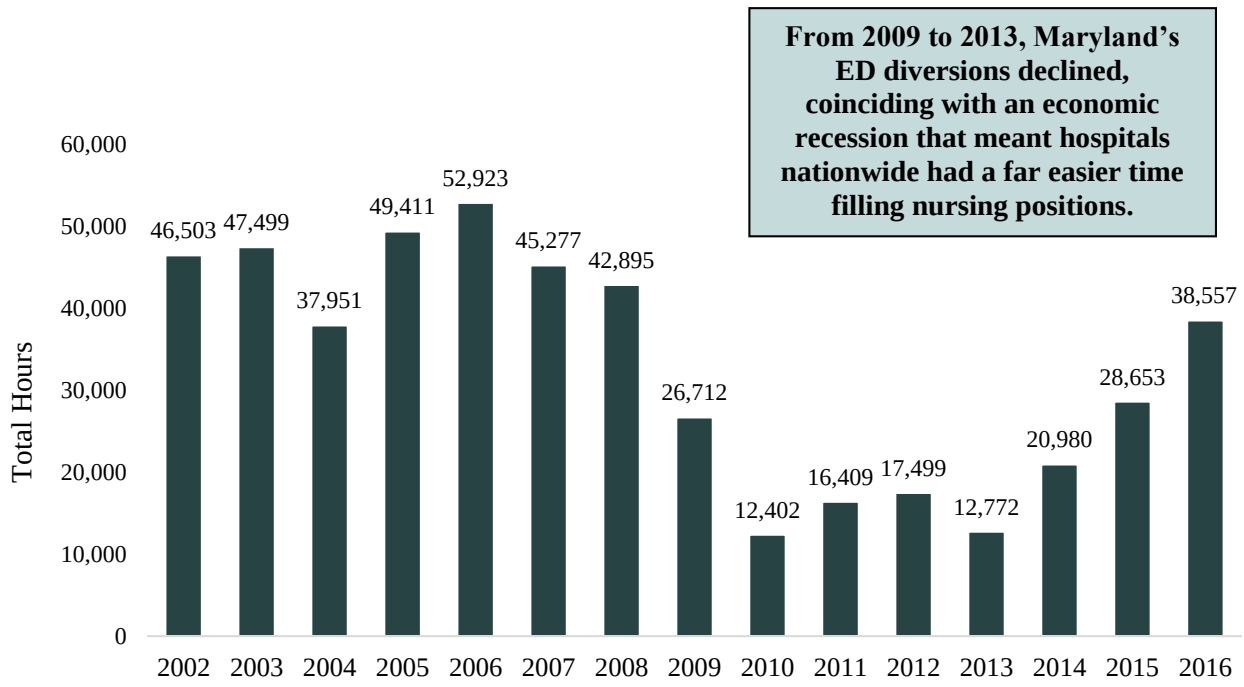
Non-emergent use of the ED is a significant concern for hospitals and a cause of overcrowding. *The American Journal of Managed Care* reported that on average, 37 percent of all ED visits are non-urgent.[3] Though non-urgent cases can be triaged to accommodate higher priority patients, assessment, screening and treatment of non-urgent cases lengthen the amount of time it takes to care for patients in the ED.

NURSING SHORTAGES

The state's growing nursing shortage is also contributing to ED overcrowding. The percentage of hospitals reporting a registered nurse vacancy rate of 7.5 percent or greater nearly tripled from 2012 to 2016, according to a 2016 report from Nursing Solutions, Inc. In 2016, more than 48 percent of hospitals had a RN vacancy rate of 7.5 percent or more.

An inability to fully staff departments such as critical care and intensive care units means fewer available beds for ED patients who need to be admitted. It should be noted that overall hospital staffing did increase by nearly 7 percent statewide from 2010-2015, as hospitals invested in positions to support population health efforts.

Statewide Yellow Alert Total Hours



Source: Maryland Institute for Emergency Medical Services Systems County/Hospital Alert Tracking System

[3] Uscher-Pines, L., Ph.D, Pines, J., MD, MBA, Kellermann, A., MD, MPH, Gillen, E., & Mehrotra, A., MD, MS. (2013). Deciding to Visit the Emergency Department for Non-Urgent Conditions: A Systematic Review of the Literature. American Journal of Managed Care, 19(1), 47-59. Retrieved May 18, 2017, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4156292/

As the economy recovered, many nurses retired, shifted to part-time, or took different positions. Maryland's hospitals are eager to hire to meet the needs of their patients, but shortages of nurses and professionals in other specialty practices make this a challenge. The result is increased reliance on temporary staffing:

Total Nurse and Allied Health Staff Hours Supplied by Temporary Staffing Agencies

Total Nurse and Allied Health Staffing Hours			Percent Change	
2014	2015	2016	2014-2015	2015-2016
725,188	850,257	1,041,248	17.2%	22.5%

Source: The Chesapeake Registry Program

CARE TRANSFORMATION AND REDESIGN

Maryland's unique All-Payer Model requires the state's hospitals to, among other things, reduce unnecessary inpatient admissions and readmissions, and use the associated savings to improve the care of individuals *outside* the hospital– the right care, at the right time, in the right setting.

As hospitals have worked to direct patients to the most appropriate care setting, the time it takes to assess, treat, and transfer or discharge patients after they arrive in the ED has also increased. These lifesaving practices are intended to meet goals of the All-Payer Model including reductions in admissions, readmissions, and potentially avoidable utilization, as well as the coordination of care following hospital services. But the processes that have brought about positive results are time-consuming and, in the ED, designed to ensure that only true emergency patients are treated. This requires screenings and treatments, such as newly instituted ED cardiac protocols for patients with chest pain who now receive lab work, electrocardiograms, and drug administration. If heart attack or other serious and time-sensitive conditions can be ruled out, then the patient is discharged with an arrangement for follow-up care. Previously, these patients would have been admitted without such screening, reducing the amount of time they spend in the ED. Similar treatment protocols for other conditions also have been introduced and contribute to longer wait times. Additionally, the patient population seen by hospitals is older and has more complex care needs. Diagnosing and treating older, higher acuity patients, along with focus on reducing potentially avoidable utilization, also results in longer wait times in the ED.

CONCLUSION

A number of complex and interrelated factors have led to the recent increase in Maryland's ED wait times and diversions. Some of these are related to national problems with which all states are struggling, while others are unique to Maryland, such as the push toward more deliberative assessments of hospital patients so they can be directed to the most appropriate and efficient care setting.

As Maryland's hospitals work with other stakeholders to address the concerns around diversions and wait times, we must not lose sight of the benefits to patients and communities that have been realized since the inception of the All-Payer Model. According to the 2017 Edition of the Commonwealth Fund Scorecard on State Health System Performance, Maryland is the 12th healthiest state, up from 14th in 2013. The rankings aggregate more than 40 indicators of health in five areas: health care access, quality, avoidable hospital use and costs, health outcomes, and health care equity.[4] These are gains that should be recognized and protected as we work to improve ED diversions and wait times.

Hospitals are eager to collaborate on strategies to address the increase in diversions and wait times, recognizing that any attempts to treat the problem by implementing new payment policy incentives and penalties would be counterproductive. Such an approach would not only single out one group of stakeholders among many, but also would address only the result of myriad factors. Most important, altering payment policies would be detrimental, inappropriately diverting resources from the care people need.

[4] Aiming Higher: The 2017 Scorecard on State Health System Performance. (n.d.). Retrieved May 17, 2017, from http://www.commonwealthfund.org/interactives/2017/mar/state-scorecard/