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March 11, 2019

VIA ELECTRONIC MAIL
AND HAND DELIVERY

Ruby Potter, Administrator
Maryland Health Care Commission
Center for Health Care Facilities
Planning & Development
4160 Patterson Avenue
Baltimore, MD 21215

Re: In the Matter of Johns Hopkins Bayview Medical Center
Docket No. 18-24-2430

Dear Ms. Potter:

Enclosed are six copies of Applicant's Response to Comments of United Workers, Charm City Land Trust and Sanctuary Streets.

Thank you for your attention to this matter.

Sincerely,

Marta Harting

Marta D. Harting

MDH:rlh
Enclosures

IN THE MATTER OF	*	BEFORE THE
JOHNS HOPKINS	*	MARYLAND
BAYVIEW MEDICAL CENTER	*	HEALTH CARE
ADDITION OF 16 COMPREHENSIVE	*	COMMISSION
INPATIENT REHABILITATION BEDS	*	Docket No. 18-24-2430

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APPLICANT'S RESPONSE TO COMMENTS OF UNITED WORKERS, CHARM CITY LAND TRUST AND SANCTUARY STREETS

The Applicant, Johns Hopkins Bayview Medical Center ("JHBMC"), responds to the comments filed by United Workers, Charm City Land Trust and Sanctuary Streets regarding JHBMC's Application for a Certificate of Need ("CON") in this matter.

INTRODUCTION

JHBMC has applied for a CON to convert 16 beds currently licensed as chronic care beds to comprehensive inpatient rehabilitation ("CIR") beds, reducing JHBMC's number of licensed chronic beds from 76 to 60 and increasing the number of licensed CIR beds from 12 to 28 (the "Project"). The Project will align the licensure category of these beds with the way in which they have been utilized for many years. Accordingly, the Project involves no construction, capital expenditure (or rate increase), or operational changes. Additionally, the Project will not change the number of patients served by JHBMC, or its revenues or expenses. Application ("App."), at 5.

United Workers, Charm City Land Trust and Sanctuary Streets (collectively, the "Commenters") filed joint Comments seeking to become interested parties in this review, both as organizations and on behalf of their members. As organizations, they claim that they "support and advocate for the development of affordable and equitable housing within the service area of the hospital" and that "changes and new development" by

JHBMC impact affordable housing and thereby "adversely impact our members, and subvert the mission of our organization." Comments, at 2. As explained below, the Commenters do not qualify to be interested parties because an alleged adverse impact on affordable housing is not an issue area over which the Commission has jurisdiction, and the Comments do not claim any respect in which the approval of this Project (which involves no construction) would result in an adverse impact on affordable housing in any event. There is no basis to grant interested party status to affordable housing advocacy organizations to represent asserted health care interests of their members, and there has been no demonstration that their members would be "adversely affected" by the approval of the Project as required by COMAR 10.24.01B(2)(d) and .01B(20)(e).

Finally, the Comments do not identify any respect in which the Application is inconsistent with the applicable State Health Plan standards and review criteria, and thus provide no basis for denying the CON. Most of the matters that the Commenters have raised in their Comments are unrelated to any State Health Plan standards and review criteria that govern this review, and relate to matters that are in the exclusive jurisdiction of the Health Services Cost Review Commission ("HSCRC"), not the Maryland Health Care Commission ("MHCC" or "Commission"), to regulate.

ARGUMENT

1. The Comments Should Be Dismissed For Failure to Comply with COMAR 10.24.01.08F(1)(d)

The Comments contain numerous factual assertions that are (1) not part of the record in this matter, and (2) not supported by sworn affidavit or appropriate documentation, contrary to COMAR 10.24.01.08F(1)(d). The Comments include several factual assertions to support the Commenters' request to be recognized as interested

parties in this case, none of which are supported by the required sworn affidavit or documentation.[1] Moreover, the Commenters claim (without sworn affidavit) to have conducted a review of all of the medical debt cases filed by JHBMC, The Johns Hopkins Hospital and other Johns Hopkins Health System (JHHS) hospitals over the last 10 years in the Maryland Judiciary Case Search data base, but provided no documentation of its alleged findings.[2] Accordingly, the Comments should be dismissed for failure to comply with COMAR 10.24.01.08F(1)(d).[3] See also COMAR 10.24.01.08F(1)(a)(requiring a person seeking interested party status to file written comments in accordance with the regulation).

2. The Commenters Do Not Have Standing To Be Interested Parties

The Commenters claim that they should be granted interested party status as persons who would be adversely affected by the approval of the project under COMAR 10.24.01B(2)(d) and .01B(20)(e). Specifically, they rely on the definition of "interested party" in COMAR 10.24.01.01B(20)(e) to include "a person who can demonstrate to the reviewer that the person would be adversely affected, in an issue area over which the Commission has jurisdiction, by the approval of the proposed project." The Commenters

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[1] These unsupported factual assertions outside the record include, but are not limited to, the following: (1) Commenters represent people who live in JHBMC's service area, (2) Commenters' members purchase health care services in JHBMC's service area, (3) Commenters' members purchase health insurance plans covering residents of JHBMC's service area, and (4) Commenters' members are qualified to receive financial assistance in the service area. The Comments also claim (without sworn affirmation or supporting documentation) that the Commenters advocate for the development of affordable and equitable housing within the service area of JHBMC, and that "changes and new development" at JHBMC have an impact on cost of housing in surrounding neighborhoods and directly or indirectly lead to higher rents and reduced affordability. Comments at 1-2.

[2] In Docket No. 18-24-2414 (a different JHBMC project), the AFL-CIO filed comments claiming -- also without any sworn affidavit or documentation -- to have done the same search and reached the same findings as claimed by the Commenters in this case.

[3] In Argument Section 3 below, JHBMC will address additional respects in which the Commenters failed to document and/or attest to various factual assertions regarding medical debt collection.

claim to be "adversely affected", which is defined in COMAR 10.24.01.01B((2)(d)(4) as persons who:

> ...can demonstrate that the person could suffer a potentially detrimental impact from the approval of a project before the Commission, in an issue area over which the Commission has jurisdiction, such that the reviewer, in the reviewer's sole discretion, determines that the person should be qualified as an interested party to the Certificate of Need review.

The requirement of this regulation that a person demonstrate "detrimental impact" to establish standing is consistent with (and should be interpreted in light of) settled principles of standing under Maryland common law, which require that a person establish that the person will be aggrieved by the challenged action or decision in order to have standing. To have standing, a person must demonstrate some kind of "special damage ... differing in character and kind from that suffered by the general public." Voters Organized for the Integrity of City Elections v. Baltimore City Elections Board, 451 Md. 377, 396 (2017). Unlike Federal Courts, Maryland courts do not recognize associational or representational standing, in which an association is afforded standing based on the interests of its members under certain circumstances.[4] Id. The Commenters claim standing both as an organization and as an association acting on behalf of its members.

a. Organizational Standing

The Commenters assert that they "support and advocate for the development of affordable and equitable housing within the service area of [JHBMC]" and that "[c]hanges and new development" at JHBMC impact the cost of housing in surrounding

[4] Federal courts allow "associational standing" only if: (1) an organization's members would otherwise have standing as individuals, (2) the interests at stake are germane to the group's purpose; and (3) neither the claim made nor the relief sought requires the participation of the individual members. See Taubman Realty Group v. Mineta, 320 F.3d 475, 480 (4th Cir. 2003).

neighborhoods and "directly or indirectly" lead to higher rents and affordability. As described above, however, in order to be an interested party as defined in .01B(20)(e), a person must demonstrate to the reviewer that the person would be "adversely affected" in "an issue area over which the Commission has jurisdiction, by the approval of the proposed project." (Emphasis supplied). Likewise, the definition of "adversely affected" in .01B(2)(d) requires the demonstration of a "potentially detrimental impact from the approval of a project before the Commission, in an issue area over which the Commission has jurisdiction." (Emphasis supplied). The Commenters fail to qualify as interested parties because affordable housing is not an issue area over which the Commission has jurisdiction. Nothing in the Commission's governing statute, regulations or State Health Plan require or authorize the Commission to review the impact of a proposed project on affordable housing.

Further, the definition of "interested party" in .01B(20)(e) and "adversely affected" in .01B(2)(d) require that the alleged adverse effect and detrimental impact be from/by the approval of the proposed project. This Project involves no construction whatsoever, let alone an expansion of the JHBMC campus. The Commenters do not even allege that this Project will have an impact on affordable housing. Instead, they vaguely refer to, but do not identify, "changes and new development" at JHBMC as impacting affordable housing. Accordingly, the Commenters do not qualify to be interested parties as organizations under the Commission's regulations.

b. Associational Standing

The Commenters seek interested party status on behalf of their members asserting that they are purchasers of health insurance and health care (including some who are

eligible for financial assistance for hospital care) in JHBMC's service area. As described above, Maryland courts do not recognize associational or representational standing, requiring that only persons who are themselves adversely affected by the subject of the case in some special and concrete way may participate as parties to litigation. Further, even if the Commission recognizes the potential for an association to be an interested party to represent its members' interests, it should impose the well-settled requirements for associational standing recognized by the Federal courts under which (1) the interests of the members sought to be protected by the association are germane to the association's organizational purposes, and (2) the members themselves would otherwise have standing as individuals to protect those interests. The Commenters satisfy neither of these requirements.

The "germaneness" requirement for associational standing is intended to ensure that the member interests sought to be protected are in parallel with the association's interests, such that it is reasonable to assume the association is in a position to effectively advocate for those interests. See Wright and Miller, 13A Fed. Prac. & Proc. Juris. §3531.9.5 (3d ed.) ("[s]o long as the topic of the litigation lies within the central concerns of the organization, it may be reasonable to assume that it will represent well the parallel interests of its members.") In Hunt v. Washington State Apple Advertising Commission, 432 U.S. 333 (1977), for example, the Apple Commission was granted associational standing to represent Washington state apple growers and dealers in challenging a North Caroline statute that restricted the sale of apples because the interests of the growers and dealers sought to be protected was found to be central to the Commission's purpose of protecting and enhancing the market for Washington apples. In contrast, in Pacific

Northwest Generating Cooperative v. Brown, 38 F.3d 1058 (9th Cir. 1994), an organization of utilities did not have standing to challenge a project asserting aesthetic and recreational interests of its members because there was nothing to show that it was "protecting an interest germane to its own purposes."

Here, the Commenters seek to represent the interests of their members as purchasers of health insurance and as purchasers of health care, but the Commenters' organizational purpose has nothing to do with health care or health insurance. Their self-described purpose is to "support and advocate for the development of affordable and equitable housing within the service area of [JHBMC]." Accordingly, because health care is far afield from the Commenters' self-described organizational purposes, they should not be granted interested party status to represent the health care-related interests of their members.

Likewise, the Commenters' members would not qualify on their own to be interested parties under the Commission's regulations. In order for the members to have standing on their own to be interested parties, they would need to demonstrate that they would be "adversely affected" by the approval of the project in an issue area within the Commission's jurisdiction, defined to require demonstration they could suffer a potentially detrimental impact from the approval of the project in an issue area within the Commission's jurisdiction. COMAR .01B(4)(d); (20)(e). The Comments allege that members purchase health insurance and health care (including some who are eligible for financial assistance for hospital care) in JHBMC's service area, but contain no allegations (let alone a demonstration) of how these members would be adversely affected by the conversion of 16 chronic care beds to CIR beds to align the licensure category of these

beds with the way in which they have been utilized for many years. Accordingly, granting the Commenters interested party status to represent their members based on the allegations in the Comments would be contrary to the regulations.

Further, a health insurer (as a third party payor) is a categorical form of interested party, alongside (and separate from) staff, the applicant, local health department, and the category of persons who can demonstrate they are adversely affected (as defined in .01B(2)) by the project in an issue area in the Commission's jurisdiction. Third party payors are not "adversely affected" persons as a matter of law; they are in a category of their own. Accordingly, it would be contrary to the regulation to recognize a person paying premiums to a health insurer as an interested party in the "adversely affected" category when the health insurer itself is not in that category. Further, if the category of "adversely affected" persons is broad enough to encompass persons who pay health insurance premiums to health insurers, it would certainly have been broad enough to encompass the health insurers themselves who are responsible for paying health care bills, leaving no reason to include third party payors as a categorical interested party. The regulation defining third party payors as an interested party would be mere surplusage under this interpretation, contrary to settled statutory construction principles. Black v. State, 426 Md. 328, 338-39 (2013).

Interpreting the regulation to allow any person in the service area who pays health insurance premiums or who purchases health care services, with or without eligibility for charitable hospital care, to qualify to be an interested party as "adversely affected" would be at odds with the painstaking detail with which the Commission defined the categories of persons who are "adversely affected", requiring them to demonstrate a form of special

damage from the project listed in the definition, consistent with the common law standing requirement. The MHCC's statute (Health-General Article §19-126(d)(8)) grants it broad authority to define "interested party", which it has exercised through adopting a definition of the term that lists five specific categories of persons who qualify. It then defined the category of "adversely affected" persons in a way that ensures that only persons with a concrete stake in the matter would have standing as interested parties, consistent with common law standing principles.[5] In contrast to the MHCC's governing statute, the HSCRC was not granted broad authority to specify who may participate as parties in its proceedings. Its governing statute allows "any person ... that contracts with or pays a facility for health care services has standing to participate in Commission hearings..." (Health-General Article §19-227(c)), which has been interpreted by the Court of Appeals to include not only health insurers, but persons who pay premiums to health insurers. Ass'n of HMOs v. HSCRC, 356 Md. 581, 589 (1999). The MHCC did not adopt this expansive approach to define who may participate in CON reviews, exercising its statutory authority instead to limit those who are eligible to participate to those who can demonstrate a form of special damage from the project listed in the definition, consistent with the common law standing requirement.

Under the Commenters' interpretation of the regulation, any person in the service area who purchases health insurance or health care services (and any association with members in the service area who purchase health insurance or health care services) would have standing to be an interested party in a CON review. In addition to being

[5] The definition is limited to (1) existing health care providers that either provide the same service in the same or contiguous jurisdiction or can demonstrate that the project will materially affect its quality of care or cause a substantial depletion of staff or other resources, and (2) persons who can demonstrate a potentially detrimental impact in an issue area over which the Commission has jurisdiction.

contrary to the Commission's regulations and common law standing principles discussed above, this virtually limitless interpretation of "interested party" flies in the face of the Commission's recently completed two-year long effort to find ways to modernize and streamline the CON process. Appendix G to the Commission's Interim Report[6] demonstrates that the average time from application filing to final action is nearly three times as long for contested reviews than for uncontested reviews (704 days vs. 247 days). Exhibit 1. Only 12 of the 49 cases shown on Appendix G (applications filed and completed between July, 2011 and May, 2018) were contested, and that number is likely to dramatically increase going forward if the Commenters are granted interested party status.

For example, if the Commenters are granted interested party status on this basis, it would open the door to become an interested party to other organizations for which advocating for patients is actually germane to their organizational purposes (unlike the Commenters), such as the Maryland Health Care For All Coalition[7], Consumer Health First[8], and Families USA[9]. Likewise, the Health Education and Advocacy Unit of the Consumer Protection Division of the Maryland Attorney General's Office, which assists

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[6] https://mhcc.maryland.gov/mhcc/pages/home/workgroups/documents/CON_modernization_workgroup/Final%20Report/FINAL_%20INTERIM_REPORT_MODERNIZATION_vol1_052518.pdf

[7] Self-described "health care consumer coalition with over 1200 diverse organizational members, including faith, health, community, labor, and business groups from across the state" that seeks to promote "access to quality and affordable health care." http://healthcareforall.com/about/.

[8] Self-described "alliance of individuals and organizations that seeks solutions and advances reforms that promote health equity through access to comprehensive, affordable, high quality care for all Marylanders." http://www.consumerhealthfirst.org/about-consumer-health-first.

[9] Self-described "national voice for health care consumers ... dedicated to the achievement of high-quality, affordable health care and improved health for all. We advance our mission through public policy analysis, advocacy, and collaboration with partners to promote a patient-and community-centered health system. https://familiesusa.org/about.

patients in health care billing and payment disputes, among other things, could seek interested party status in CON reviews on similar grounds.[10]

Of course, these and other advocacy organizations (including the Commenters) are entitled to participate and advocate for the interests of their members in the Commission's public, quasi-legislative process of developing the State Health Plan standards and regulations that govern the review of CON applications. They are not, however, entitled to be parties to the quasi-judicial CON review process, which should be limited to those who persons who demonstrate the potential for "special damage" from the approval of the project "differing in character and kind from that suffered by the general public." Voters Organized, 451 Md. at 396-97.

3. The Applicant Satisfies the Quality of Care Standard

The Commenters claim that JHBMC is below certain national and state averages on quality indicators, and therefore the Commission should delay the issuance of the CON until they have been addressed. The Commenters do not cite to any State Health Plan standard that they claim has not been met by JHBMC.

There are two State Health Plan standards regarding quality of care performance metrics that are applicable in this review. COMAR 10.24.09.04A(2)(b) in the Acute Inpatient Rehabilitation Services Chapter states:

> An applicant that currently provides acute inpatient rehabilitation services that is seeking to establish a new location or expand services shall report on all quality measures required by federal regulations or State agencies, including information on how the applicant compares to other Maryland acute inpatient rehabilitation providers. An applicant shall be required to meet quality of care standards or demonstrate progress towards reaching

[10] http://www.marylandattorneygeneral.gov/Pages/CPD/HEAU/default.aspx.

> these standards that is acceptable to the Commission before receiving a CON.

In response to this standard, JHBMC provided the required information about its performance on the applicable quality metrics (App. at 25-26; App. Exhibits 5-8), and in those areas where it fell below the standard, explained how it has already taken action to improve performance.

Similarly, the Acute Care Chapter related to performance on quality measures (10.24.10.04A(3)(b)) provides:

> A hospital with a measure value for a Quality Measure included in the most recent update of the Maryland Hospital Performance Evaluation Guide that falls within the bottom quartile of all hospitals' reported performance measured for that Quality Measure and also falls below a 90% level of compliance with the Quality Measure, shall document each action it is taking to improve performance for that Quality Measure.

JHBMC responded to this Standard and completed the required table and attached it to its Application as Exhibit 14. As shown on that exhibit, JHBMC scored better than average or average on two-thirds of the quality measures. For the measures on which it scored below average, JHBMC provided the required information on how it has already taken action to improve performance.

The Commenters do not refer to either of these standards, or claim that the Application fails to comply with them. Instead, they select certain standards on which JHBMC scored below average and claims that the CON should be delayed until this has been "remedied." Neither State Health Plan standard requires average or above-average performance on every quality measure. To the contrary, the State Health Plan standards <u>anticipate</u> that hospitals will have below-average performance on some

measures because they requires the hospital to summarize what steps it is taking to improve in those areas.

JHBMC has solid overall quality performance. As described above, it scored average or better than average on two-thirds of the Commission's Quality Measures. It rates three stars on CMS Hospital Compare, along with 17 other Maryland hospitals. (There are 14 hospitals in Maryland with ratings of 1 or 2 starts and 20 hospitals with 4 or 5 stars.)[11] See Exhibit 2. JHBMC scores very well compared to other Maryland hospitals on the Combined Quality and Safety Ratings. For Patient Safety, JHBMC is one of only three hospitals that scored "better than average", the highest rating.[12] Exhibit 2. For the combined rating related to deaths, JHBMC is one of only two hospitals in Maryland that scored "better than average".[13] Exhibit 2. In addition, JHBMC has achieved an "A" safety rating from Leapfrog. Exhibit 3. JBHMC meets either "threshold" or "benchmark" (equating to average and above average) for its private rooms in all of the HSCRC's Quality Based Reimbursement (QBR) measures.[14]

JHBMC's rehabilitation unit is CARF accredited for Inpatient Rehabilitation – Hospital (Adults) and Inpatient Rehabilitation – Hospital Stroke Specialty (Adults), demonstrating strong performance in meeting the quality and safety standards outlined

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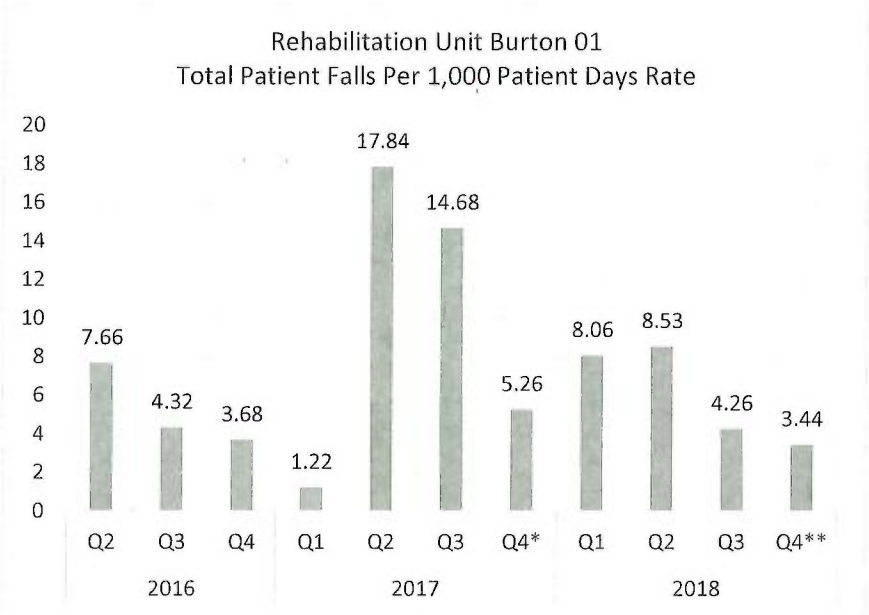
[11] CMS Hospital Compare Overall National Rating combines the results of 64 individual ratings and shows how well each hospital performed, on average, compared to other hospitals in the U.S.
[12] This summary score combines more than one rating related to how well the hospital keeps patients safe into one score.
[13] This summary score combines more than one rating related to the number of patients who die in the hospital into one score, including death as a result of medical conditions and surgeries.
[14] The QBR program incentivizes and rewards quality improvement across a wide variety of quality measurement domains, including person and community engagement, clinical care, and patient safety. https://hscrc.state.md.us/Pages/init_qi_qbr.aspx.

by CARF. App. Ex. 4. As stated in the CARF survey attached to the Application (App. Ex.3, at 2):

> On balance, JHBRU is part of a world-renowned medical system and a great example of inpatient rehabilitation care. The program demonstrates dedication to providing high-quality comprehensive rehabilitation services, along with stroke specialty services, as well, to the Baltimore community. The support of administration, the dedication of the rehabilitation nursing and therapy staffs, and the expertise and knowledge base of the physical medicine and rehabilitation physicians all meld into well-functioning rehabilitation operations.

The Commenters refer to JHBMC's patient fall rate. JHBMC experienced an increase in patient falls in its rehabilitation unit in the second quarter of 2017. Once this statistical increase was identified, JHBMC initiated a falls reduction project. A root cause analysis was performed and a detailed action plan was implemented. See Response to Completeness Questions, Question 6, Ex. CQ1.6. The rate of patient falls per quarter has significantly declined following implementation of the action plan. Of note, for the two most recent quarters that data is available, the fall rate at JHBMC fell below the average mean and median for hospitals in the peer group over the prior eight quarters. App. Ex. 6. JHBMC continues to monitor this metric closely and is confident this trend in falls reduction will continue. The chart below includes the values reported by NDNQI (App. Ex. 6) and updates this reporting with the most recently available rates.



*Implementation of falls reduction plan began in October 2017
**December 2018 data not yet reported by NDNQI
Source: National Database of Nursing Quality Indicators (NDNQI)

The Commenters also point to JHBMC's lower than average scores for several measures related to wait times in the emergency department. JHBMC has a pending CON application that will help to address these very issues (Docket No. 18-24-2414) by creating nearly all private hospital rooms. As explained in that Application (at 12), private rooms have become the standard for acute care hospitals in Maryland and, among their many other benefits, enable improved throughput from the emergency department.

The Commenters also note that JHBMC received a "below average" score for care for patients with sepsis and septic shock. Medical providers at the bedside have been challenged in identifying "time zero" (the moment the complete set of factors indicating sepsis are recognized) for the patients for the purposes of measurement. After several months of analysis, JHBMC selected a system that will capture and notify providers of

"time zero." JHBMC will implement TREWS: Targeted Real Time Early Warning System to provide clinicians with the necessary information to meet the targets in the sepsis measure, on March 5 in the Emergency Department, and then across the hospital two weeks later. Importantly, JHBMC has a lower than expected mortality rate for sepsis patients, as measured by the Premier Quality Advisor.[15] Exhibit 4.

The Commenters also refer to JHBMC's score on blood clots. Due to the small sample size on which this measure is based, the results are volatile. In fact for many Maryland hospitals the number of cases is too few to report, and so results are not available. The result referenced by the Commenters is from the Hospital Compare website using calendar year 2017 data. In calendar year 2018, JHBMC reported one case out of a sample of 54 eligible cases. This computes to a percentage of 1.85% for 2018, indicating that JHBMC's performance is consistent with the Maryland and National averages.

The Commenters also comment on JHBMC's readmission rate. JHBMC has achieved improvements in the readmission rate, and the work continues. A hospital's readmission rate is influenced by many factors within the hospital's control, and some factors that are not within the hospital's control. The level of socioeconomic disadvantage in a hospital's service area (such as is found in JHBMC's primary service area as

[15] Premier Quality Advisor™ measures and analyzes both hospital and provider performance to improve patient outcomes and reduce costs by integration of quality, safety and financial data. This is accomplished through benchmarking clinical and financial outcomes against peer hospitals; comparing internal and external performances in shaping best decisions; identifying care practice variations; reducing mortality, complications, readmissions and hospital-associated conditions; monitoring ongoing efforts to improve quality, resource utilization, and efficiency; and complying with regulatory reporting requirements. www.premierinc.com

highlighted by the Comments) is strongly correlated to the hospital's readmission rate.[16] While JHBMC will continue to work to reduce the rate of readmissions, it will not likely achieve rates as low as that in hospitals located in more prosperous areas.

JHBMC's readmission rate is also influenced by its Chemical Dependency Unit (CDU), which serves a patient population at high risk for readmission. It is an 18 bed inpatient medicine unit that offers safe medical detoxification for individuals addicted to alcohol or benzodiazepines. These patients are at high risk for complicated withdrawal from these substances. The average length of stay on the unit is 3 days which means that patients are discharged to continue their treatment journey at other treatment programs in the community. Many of those who come to the CDU have been struggling with their addiction for many years and have a high rate of relapse and readmission to this and other inpatient programs. Because of the high risk of withdrawal complications, when these patients relapse, they will always need medical management when they present in withdrawal, contributing to their readmission risk.

3. The Application Complies with the Charity Care Standard

The charity care standard in the State Health Plan chapter governing inpatient rehabilitation services (COMAR 10.24.09.04A(a)(a)(ii)) states: "Prior to a patient's admission, facilities should address any financial concerns of patients, and individual notice regarding the facility's charity care policy shall be provided." Similarly, the charity care standard in the State Health Plan chapter governing acute care general hospital projects (COMAR 10.24.10.04A(2)) states: "Individual notice regarding the hospital's

[16] Neighborhood Socioeconomic Disadvantage and 30 Day Rehospitalizations: An Analysis of Medicare Data, Ann Intern Med. December 2, 2014 (Exhibit 5).

charity care policy shall be provided at the time of preadmission or admission to each person who seeks services in the hospital."

JHBMC's Charity Care Policy (JHBMC Completeness Response, Ex. CQ1.12) complies with the State Health Plan requirement that individual written notice of the availability of charity care be provided to patients prior to admission. Specifically, all hospital inpatients (including inpatients in the rehabilitation unit) receive individual notice of the availability of charity care in the Patient Handbook (Exhibit 6) at the time of registration. In addition to providing charity care notice to patients before admission or provision of service as described above, charity care notice is included on all patient bills (see Exhibit 7), and is posted in the emergency department, at all patient registration sites, and in the admissions/business office (see Exhibit 8).

As a result of these and other efforts, JHBMC has achieved a level of charity care that puts it well above the average of all hospitals in the state. Specifically, JHBMC's charity care as a percent of total operating expenses is 2.13%, which is the 20th highest level out of 52 hospitals, consistent with the State Health Plan standard (10.24.10.04A(2)(b)). App. at 44.

The Commenters argue that JHBMC's charity care policy does not explicitly require charity care notice to be provided prior to admission. JHBMC interprets (and applies) its charity care policy to require charity care notice to be provided at the time of registration (i.e., prior to admission) in compliance with the State Health Plan standard.

This is demonstrated by the fact that JHBMC does, in fact, provide charity care notice at the required times under the standard as described above.[17]

The Commenters suggest that JHBMC is receiving more in rates than it provides charity care.[18] They provide a table purporting to show "Charity Care Provided," "Charity Care Rate Support," and "Rate Support in Excess of Charity Care Provided" for fiscal years 2015, 2016, and 2017. The values stated for "Charity Care Provided" are those reported by JHBMC each year to the HSCRC in the hospital community benefit report. Here is the amount of charity care reported by JHBMC for the last several years:

FY12	FY13	FY14	FY15	FY16	FY17	FY18
$25,308,100	$26,313,000	$22,183,000	$16,531,000	$12,679,000	$16,951,000	$18,957,000

The drop observed in FY15 and FY16 followed implementation of the Affordable Care Act and the increased availability of insurance coverage. Since FY16, the amount of charity care provided by JHBMC has been on an upward trend. The values stated in the Comments as "Charity Care Rate Support" are estimated numbers. Under the HSCRC's Uncompensated Care (UC) methodology, hospitals don't receive specific amounts in rates for Charity Care, they receive money in rates for Uncompensated Care which is the combination of Charity Care and Bad Debt. A hospital's revenue two years prior and estimated revenue for the coming year are used to estimate the amount of UC a hospital

[17] If the Reviewer concludes that JHBMC's charity care policy needs to be amended in order for the Project to be approvable, the Reviewer has the discretion to allow JHBMC to modify the Application to provide a revised charity care policy through the process in COMAR 10.24.10.08E(2), as has been done in several recent CON reviews, or could make this amendment a condition of the CON.

[18] This claim is not relevant to the Charity Care Standard in the State Health Plan and alleges a matter that is within the exclusive jurisdiction of the HSCRC.

will receive in rates that year. The HSCRC makes an approximation of the breakdown of the two components based on the actual breakdown from a prior year. At any point in time, some hospitals are funded more UC in rates and some are funded less than their actual experience because the estimated amounts are based on a regression methodology. Exhibit 9 shows JHBMC's UC included in rates, its actual UC, and the statewide average UC for FY14-18. Prior to FY15, JHBMC's actual UC exceeded both the amount in rates and the statewide average. After being nearly equivalent in FY15, JHBMC's UC in rates exceeded its actual UC for FY16 and 17. In FY18, once again, the lines cross as JHBMC's actual UC exceeds the amount in rates. This pattern is unsurprising given the HSCRC methodology.

The remainder of the Comments regarding charity care are not based on the charity care standard at all, but instead focus on medical debt collection. Nothing in the charity care standard or any other State Health Plan standard imposes requirements related to medical debt collection. The MHCC does not regulate the medical debt collection practices of hospitals. Medical debt collection by hospitals is extensively and exclusively regulated by the HSCRC pursuant to §19-214.2 of the Health-General Article and COMAR 10.37.10.26. Among the other requirements of the statute, under §19.214.2(a), each hospital is required to submit to the HSCRC a policy on medical debt collection that meets the requirements of that section. Under §19-214.2(h), the HSCRC is required to "review each hospital's implementation of and compliance with the hospital's policies and the requirements of this section." The HSCRC adopted COMAR 10.37.10.26 to implement the requirements of this law.

The HSCRC has long recognized that hospitals must make reasonable efforts to collect medical debt in order to control uncompensated care ("UC") costs that are paid by all payers through the HSCRC's UC funding methodology (and thus part of the total cost of care). The HSCRC explained in a February, 2009 Report (upon which the medical debt collection statute (§19-214.2) was based) that the purpose of its UC funding methodology is "to balance the need to promote efficient collection activity while, at the same time, fulfill the [HSCRC's] statutory mandate to fund the reasonable costs of hospital UC [uncompensated care]."[19] As the HSCRC also explained in the same report:

> Of course hospitals must still respond to the requirements of the HSCRC (and the marketplace) that they operate efficiently and effectively, even in their credit and collection activities. Some level of aggressiveness in collection is required to counter-balance the socially irresponsible behavior of some relatively affluent patients who choose not to purchase health insurance, or who actively avoid attempts by hospitals for payment. The Commission believes that any solutions advanced must recognize the balancing act hospitals must play in meeting their multiple goals.

Id., at 2. Accordingly, the HSCRC regulates medical debt collection practices under §19-214.2 and COMAR 10.37.10.26 to maintain the proper balance between these objectives. The Commenters' claims about JHBMC's medical debt collection practices are not within the jurisdiction of the MHCC.

In addition to being improper and irrelevant to this review, the Comments on this subject are misleading and unfounded. The Commenters suggests that the number JHBMC medical debt cases that the Commenters claim to have found in the Maryland courts database evidence an "aggressive pattern" of debt collection. It makes a similar

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[19] "Report to the Governor: Review of Financial Assistance and Credit and Collection Activities of Maryland Hospitals," Maryland Health Services Cost Review Commission, February 10, 2009 (at p. 8). https://hscrc.maryland.gov/Documents/pdr/GeneralInformation/ReviewFinancialAssistanceCreditCollectionActivities2009.pdf

claim about other JHHS hospitals. Looked at in context, however, this claim falls apart. As shown in Exhibit 10, whether looked at as a percentage of unique patient encounters or as a percentage of unique patients, a *de minimus* number (significantly less than 1%) end up in a medical debt lawsuit filed by JHBMC or the other JHHS hospitals highlighted by the Commenters.

The Commenters claim that JHBMC "targets" zip codes that have higher poverty rates and minority populations for medical debt collection. The table on pages 14-15 of the Comments lists the ten zip codes with the most medical debt lawsuits by JHBMC, along with information about each zip code's poverty levels and racial composition. These zip codes are JHBMC's primary service area. See Exhibit 10. JHBMC has nine zip codes in its primary service area, and all of them are in this table, with the tenth zip code in the table (21236) in JHBMC's secondary service area. The zip code that accounts for more discharges from JHBMC than any other zip code (21222) as shown in Exhibit 11 is also the zip code with the most medical debt cases. The Comments simply demonstrate the unsurprising fact that most of JHBMC's medical debt lawsuits come from within its primary service area.

Further, the claims in the bullet points on page 15 of the Comments are completely unsupported by underlying data.[20] There is nothing contained in, or attached to, the Comments showing how the percentages of cases were calculated; without knowing what areas or zip codes the Commenters are referring to and having the demographic data

[20] While the Commenters have not attested to their alleged findings from reviewing JHBMC's medical debt cases, assuming the total number of cases and breakdown by zip code in the table at the bottom of page 11 are accurate, the first bullet point on page 15 is the only one that can at least be calculated from information provided in the Comments. Specifically, 316 (13%) of the 2,373 cases come from these zip codes, all of which are in JHBMC's service area.

they used, there is no way to verify the accuracy of the claims in those bullet points, let alone to enable JHBMC to specifically respond to them. As explained above, the Comments should be dismissed because the Commenters failed to document their claims and provide sworn affidavits as required by COMAR 10.24.01.08F(1)(d). The bullet points on page 15 are another example of the Commenters' failure to comply with this requirement.[21]

4. Housing Policy Is Not The Subject of Any State Health Plan Standard Applicable to This Review

The Commenters claim that Johns Hopkins development projects in East Baltimore since the 1950s have involuntarily displaced local residents in East Baltimore and contributed to housing unaffordability. They refer specifically to projects in and around The Johns Hopkins Hospital. The Commenters ask the Commission to require JHHS to take various actions before a CON is issued, including requiring it to support "shared equity housing" in East Baltimore, grant property to community land trusts for affordable housing, provide financial assistance to community land trusts and modify its "Live Near Your Work" program.

The Commenters do not point to any State Health Plan standard which they allege JHBMC has not satisfied. Rather, they claim that development projects in and around The Johns Hopkins Hospital over the last 50 years appear to violate Policy 3.1 in the Acute Care Chapter, which provides:

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[21] The case examples are further examples of the Commenters' failure to provide appropriate documentation of their factual assertions in violation of the regulation. Each case example in the Comments contains factual assertions far beyond what can be found on the Maryland Courts website under the case number. All that is accessible on the website is basic identifying information of the case (such as the names of the parties) and a list of docket entries. The factual assertions made by the Commenters about the race, age, income, and employment status/earnings of the defendant, as well as the largely illegible pictures of forms contained in the Comments, are not available on the website.

> All Marylanders will have reasonable geographic and financial access to appropriate acute care hospital services. All Maryland hospitals and health systems will strive to address the needs of populations and to reduce identified ethic and racial disparities in the provision of acute hospital care.

State Health Plan policies are not standards under which CON applications are reviewed; rather, they are the policy framework used by the Commission in defining the standards to govern the review of CON applications for acute care hospital projects. Comments are required to state with particularity the State Health Plan "standards" (not policies) and review criteria that the commenter believes have not been met by the applicant. COMAR 10.24.01.08F(c) The Acute Care Chapter policies are codified at COMAR 10.24.10.03, while the standards are codified at COMAR 10.24.10.04 and the review criteria are codified at COMAR 10.24.01.08G. No State Health Plan standard or review criteria provides for the Commission to consider housing policy issues in the review of a CON application, let alone deny or delay the CON based on them. Further, even if Policy 3.1 was a CON review standard, it is not a housing policy. It is explicitly a policy of ensuring geographic and financial access to acute care hospital services and addressing the needs of underserved populations in access to hospital care.

In short, contrary to COMAR 10.24.01.08F(c), the Commenters have not identified any State Health Plan standard or review criteria that JHBMC has not satisfied based on their claims about displacement and affordable housing.[22] Even if there was a standard under which these issues could be considered, the Commenters have not referred to any development project undertaken by JHBMC alleged to have caused involuntary displacement or unaffordable housing, let alone explain how the housing policy issues

[22]Likewise, there is no basis for the Commission to require JHHS to make property and financial contributions to the Commenters or any other relief sought in the Comments.

they seek to litigate in this CON review are at all germane to this project (which involves no construction, and would simply convert 16 chronic care beds to CIR beds, consistent with how they have been used for many years).

In fact, the facility that is now JHBMC has been located on the same campus since 1866. Previously owned and run by Baltimore City, JHBMC became part of JHHS in 1984, and JHHS committed to modernization of the declining facilities and infrastructure. JHBMC has not expanded the hospital campus acquired in 1984, and the only JHBMC facility outside the campus is a leased commercial building across the street from the campus (situated on Lombard Street along Interstate 95) that opened in 2017 in order to house outpatient mental health services. Since the 1984 acquisition, attentive to the needs and wishes of the area residents, JHBMC has worked collaboratively with community development corporations and other community-based groups to ensure that the neighborhoods surrounding JHBMC remain vibrant. JHBMC is supportive of home ownership in the community and keeping it affordable for the many JHBMC employees living in the area.

CONCLUSION: For the reasons stated: (1) the Comments should be dismissed for failure to comply with COMAR 10.24.01.08F(1)(d), and (2) the Commenters should be denied interested party status. Additionally, the Comments fail to identify any respect in which JHBMC's Application does not meet the applicable State Health Plan standards, so the Comments do not provide any basis to deny a CON in this matter.

Marta D. Harting

Marta D. Harting
Venable LLP, Counsel for JHBMC
750 E. Pratt Street, Suite 900
Baltimore, MD 21202

CERTIFICATE OF SERVICE

I certify that on this 11th day of March, 2019, a copy of the foregoing Response to Comments of United Workers, Charm City Land Trust and Sanctuary Streets was emailed and mailed, first class, postage prepaid, to Peter Sobonis (peter@nesri.org) P.O Box 41547, Baltimore, MD 21203.

Marta D. Harting

Marta D. Harting

AFFIRMATIONS

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

Anne Langley
Senior Director
Health Planning and Community Engagement
Johns Hopkins Health System

11 March 2019
Date

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

Carol Sylvester

3-9-19

Carol Sylvester, RN, MS
Vice President, Care Management Services
Johns Hopkins Bayview Medical Center

Date

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

Mary M. Sonier
Director Patient Financial Services
Johns Hopkins Health System

3/11/19
Date

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

Spencer Wildonger
Director of Health Planning
Health Care Transformation & Strategic Planning
Johns Hopkins Health System

3/11/2019
Date

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

7-11-19

Tyler Dunn
Administrative Resident
Health Care Transformation & Strategic Planning
Johns Hopkins Health System

Date

Affirmation

I hereby declare and affirm under the penalties of perjury that the facts stated in the foregoing Response to Comments and Attachments are true and correct to the best of my knowledge, information, and belief.

[name and title]

VP Revenue Mgmt
& Reimbursement
JHHS

3/11/19

Date

EXHIBIT 1

Appendix G

The Time Required for CON Project Review

APPENDIX G: Projects Filed in July 2011 or Later for which Final Action by MHCC or Withdrawal by the Applicant has Occurred
Length of Project Review CORRECTED MAY 2018

Type of Project (Basis for Review)	Date of Application Filing	Date of Docketing of Application	Date of Final Action or Withdrawal	Type of Review	Project Cost Estimate	Application Filing to Docketing (Days)	Docketing to Action or Withdrawal (Days)	Application Filing to Action or Withdrawal (Days)
Change in bed capacity of a general hospice	7/28/2011	10/7/2011	7/18/2013	Contested	$1,075,211	71	649	720
Introduce acute rehabilitation services at a general hospital	4/6/2012	6/15/2012	8/29/13*	Uncontested	$7,557,170	70	440	510
Capital expenditure by a general hospital	7/6/2012	10/5/2012	2/21/2013	Uncontested	$23,539,350	91	139	230
Change in bed capacity of an alcohol and drug abuse ICF	1/25/2013	5/17/2013	9/19/2013	Uncontested	$20,928,056	112	125	237
Change in bed capacity of a general hospice	6/21/2013	10/4/2013	6/19/2014	Uncontested	$458,343	105	258	363
Relocation of an ambulatory surgery center and addition of an operating room	7/5/2013	9/20/2013	11/21/2013	Uncontested	$891,000	77	62	139
Change in bed capacity of a general hospice	9/30/2013	3/21/2014	12/18/2014	Contested	$1,388,372	172	272	444
Relocation of a general hospital	10/4/2013	12/12/2014	12/17/2015	Contested	$400,198,988	69	370	439
Establishment of a comprehensive care facility	10/4/2013	2/7/2014	9/3/15*	Contested	$13,013,500	126	573	699
Establishment of a comprehensive care facility	10/4/2013	2/7/2014	4/17/2014	Uncontested	$30,995,328	126	69	195
Relocation of a general hospital	10/4/2013	4/3/2015	10/20/2016	Contested	$543,000,000	546	565	1,111
Relocation of an ambulatory surgery center and addition of two operating rooms	1/31/2014	4/4/2014	7/17/2014	Uncontested	$3,637,265	63	104	167
Establishment of a general hospice	6/2/2014	8/8/2014	9/18/2014	Uncontested	$225,100	67	41	108
Change in bed capacity of a comprehensive care facility	9/12/2014	11/14/2014	2/19/2015	Uncontested	$25,025,000	63	97	160
Change in bed capacity of a comprehensive care facility	9/12/2014	1/23/2015	3/19/15*	Uncontested	$160,000	133	55	188
Change in bed capacity of a general hospice	10/29/2014	1/23/2015	3/19/2015	Uncontested	$7,015,000	86	55	141
Establishment of a residential treatment center	10/29/2014	10/16/2015	4/7/17*	Contested	$3,693,760	352	539	891
Change in bed capacity of a comprehensive care facility	2/6/2015	4/3/2015	7/16/2015	Uncontested	$5,807,345	56	104	160
Establishment of a comprehensive care facility	2/6/2015	4/3/2015	6/18/2015	Uncontested	$12,215,376	56	76	132
Introduce cardiac surgery at a general hospital	2/20/2015	6/26/2015	3/23/2017	Contested	$2,500,381	126	608	734
Introduce cardiac surgery at a general hospital	2/20/2015	6/26/2015	3/23/2017	Contested	$1,259,117	126	608	734
Establish an alcohol and drug abuse ICF	3/27/2015	10/16/2015	1/26/2017	Contested	$16,783,294	203	468	671
Establish an alcohol and drug abuse ICF	3/27/2015	10/16/2015	12/15/2016	Contested	$7,388,582	203	436	639

Establish an alcohol and drug abuse ICF	3/27/2015	10/16/2015	1/26/2016	Contested	$12,239,219	203	468	671
Change in bed capacity of a comprehensive care facility	4/10/2015	6/12/2015	9/17/2015	Uncontested	$3,680,000	63	97	160
Relocation of a special psychiatric hospital	4/10/2015	9/18/2015	9/20/2016	Uncontested	$96,532,907	161	368	529
Capital expenditure by a general hospital	4/10/2015	9/4/2015	5/19/2016	Uncontested	$207,251,608	147	258	405
Establish an ambulatory surgery center	8/7/2015	12/11/2015	9/20/2016	Uncontested	$16,340,840	128	283	411
Capital expenditure by a general hospital	10/9/2015	3/4/2016	11/17/2016	Uncontested	$51,654,138	147	258	405
Change in condition of operation of a residential treatment center	12/22/2015	5/13/2016	7/21/2016	Uncontested	$80,000	143	69	212
Addition of an operating room by an ambulatory surgical facility	2/5/2016	5/13/2016	6/17/2016	Uncontested	$2,253,239	98	35	133
Establish an alcohol and drug abuse ICF	3/21/2016	6/10/2016	12/15/2016	Uncontested	$1,936,275	81	188	269
Capital expenditure by a comprehensive care facility	4/8/2016	1/16/2017	5/18/2017	Uncontested	$29,691,826	283	122	405
Change in bed capacity of a comprehensive care facility	5/6/2016	7/8/2016	10/20/2016	Uncontested	$10,195,736	63	104	167
Addition of an operating room by an ambulatory surgical facility	7/8/2016	9/16/2016	12/15/2016	Uncontested	$266,397	70	91	161
Change in bed capacity of a comprehensive care facility	8/5/2016	10/28/2016	2/16/2017	Uncontested	$5,457,500	84	111	195
Capital expenditure by a general hospital	8/5/2016	12/9/2016	6/15/2017	Uncontested	$70,000,000	126	188	314
Addition of an operating room by an ambulatory surgical facility	1/6/2017	3/3/2017	4/20/2017	Uncontested	$1,998,352	56	48	104
Addition of jurisdictions to the service area of a home health agency	3/10/2017	6/9/2017	7/20/2017	Uncontested	$34,000	91	406	497
Addition of an operating room by an ambulatory surgical facility	2/3/2017	4/28/2017	6/15/2017	Uncontested	$216,925	84	48	132
Addition of an operating room by an ambulatory surgical facility	2/3/2017	4/28/2017	7/20/2017	Uncontested	$741,499	84	83	167
Establishment of a special psychiatric hospital	3/28/2016	10/14/2016	4/19/2018	Contested	$24,984,795	200	552	752
Capital expenditure by a comprehensive care facility	4/7/2017	12/8/2017	2/15/2018	Uncontested	$14,273,000	245	69	314
Change in bed capacity of a comprehensive care facility	4/7/2017	7/7/2017	9/19/2017	Uncontested	$6,799,182	91	74	165
Change in bed capacity of a comprehensive care facility	4/7/2017	9/1/2017	10/19/2017	Uncontested	$138,000	147	48	195
Addition of an operating room by an ambulatory surgical facility	7/7/2017	9/29/2017	11/16/2017	Uncontested	$1,759,618	84	48	132
Capital expenditure exceeding threshold by a general hospice	8/14/2017	10/13/2017	12/21/2017	Uncontested	$7,998,114	60	69	129
Addition of an operating room by an ambulatory surgical facility	10/6/2017	1/19/2018	3/15/2018	Uncontested	$183,031	105	55	160
Capital expenditure by a comprehensive care facility	11/13/2017	3/16/2018	4/19/2018	Uncontested	$19,219,869	123	34	157

*Application withdrawn following negative recommendation by staff or Commissioner/Reviewer

49 Projects Filed between July 2011 and November 2017 that obtained final action by MHCC or were withdrawn

Average number of days from application filing to docketing of application:	128 (4.2 months)
Average number of days from docketing to final action or withdrawal:	222 (7.3 months)
Average number of days from application filing to final action or withdrawal:	350 (11.5 months)
Median number of days from application filing to docketing of application:	105 (3.5 months)
Median number of days from docketing to final action or withdrawal	117 (3.8 months)
Median number of days from application filing to final action or withdrawal:	222 (7.3 months)

EXHIBIT 2

Combined Quality and Safety Ratings - Maryland Hospitals

Hospital Name	Overall Star Rating	Patient Deaths*	Patient Safety**
Adventist HealthCare Shady Grove Medical Center	****	Average	Average
Adventist HealthCare Washington Adventist Hospital	***	Average	Average
Anne Arundel Medical Center	****	Below Average	Average
Atlantic General Hospital	***	Average	Average
Bon Secours Hospital	**	Average	Average
Calvert Memorial Hospital	****	Average	Average
Carroll Hospital Center	***	Average	Average
Doctors Community Hospital	***	Average	Average
Edward McCready Memorial Hospital	***	Average	Average
Fort Washington Medical Center	**	Average	Average
Frederick Memorial Hospital	*****	Below Average	Average
Garrett Regional Medical Center	****	Average	Average
Greater Baltimore Medical Center	****	Better than Average	Average
Holy Cross Germantown Hospital	***	Average	Average
Holy Cross Hospital	**	Average	Average
Howard County General Hospital	***	Average	Average
Johns Hopkins Bayview Medical Center	***	Better than Average	Better than Average
Johns Hopkins Hospital	**	Average	Average
MedStar Franklin Square Medical Center	****	Average	Average
MedStar Good Samaritan Hospital	****	Average	Average
MedStar Harbor Hospital	***	Average	Average
MedStar Montgomery Medical Center	***	Average	Average
MedStar Southern Maryland Hospital Center	**	Average	Average
MedStar St. Mary's Hospital	***	Average	Average
MedStar Union Memorial Hospital	*****	Average	Below Average
Mercy Medical Center	****	Average	Average
Meritus Medical Center	****	Average	Average
Northwest Hospital	***	Average	Average
Peninsula Regional Medical Center	*****	Average	Better than Average
Sinai Hospital	***	Average	Average
St. Agnes Hospital	*	Average	Average
Suburban Hospital	****	Average	Average
Union Hospital of Cecil County	***	Average	Average
University of Maryland Baltimore Washington Medical Center	*	Below Average	Average
University of Maryland Charles Regional Medical Center	***	Average	Average
University of Maryland Harford Memorial Hospital	**	Average	Average
University of Maryland Laurel Regional Hospital	*	Average	Average
University of Maryland Medical Center	*	Below Average	Average
University of Maryland Medical Center Midtown Campus	**	Average	Average
University of Maryland Prince George's Hospital Center	*	Average	Average
University of Maryland Rehabilitation & Orthopaedic Institute	-	Average	Average
University of Maryland Shore Medical Center at Chestertown	**	Average	Average
University of Maryland Shore Medical Center at Dorchester	***	Average	Average
University of Maryland Shore Medical Center at Easton	***	Average	Average
University of Maryland St. Joseph Medical Center	*****	Average	Better than Average
University of Maryland Upper Chesapeake Medical Center	***	Average	Average
Western Maryland Regional Medical Center	**	Average	Average

Below Average

Average

Above Average

Notes

Data Sources:

AHRQ-QI Composite Data (2015)

AHRQ-QI Provider Data (2015)

Hospital Compare Data (July 2018)

Accessed on MHCC website February 24, 2019

****Patients who died in the hospital after having one of six common conditions. Summary score that combines more than one rating related to the number of patients who die in the hospital into one score, includes deaths as a result of medical conditions and surgeries.***

*****How well this hospital keeps patients safe based on eleven patient safety problems. Summary score that combines more than one rating related to how the hospital keeps patients safe into one score.***

EXHIBIT 3

Johns Hopkins Bayview Medical Center

LEAPFROG HOSPITAL SAFETY GRADE

4940 Eastern Avenue
Baltimore, MD 21224-2780

Measure	The Hospital's Score	Worst Performing Hospital	Avg. Performing Hospital	Best Performing Hospital	Data Source	Time Period Covered
Dangerous object left in patient's body	0.074	0.382	0.021	0.000	MHCC	10/01/2015 - 06/30/2017
Air or gas bubble in the blood	0.000	0.045	0.001	0.000	MHCC	10/01/2015 - 06/30/2017
Patient falls	0.368	1.747	0.434	0.000	MHCC	10/01/2015 - 06/30/2017
Infection in the blood	0.334	2.935	0.789	0.000	2018 Leapfrog Hospital Survey	01/01/2017 - 12/31/2017
Infection in the urinary tract	0.282	3.163	0.874	0.000	2018 Leapfrog Hospital Survey	01/01/2017 - 12/31/2017
Surgical site infection after colon surgery	0.842	3.273	0.859	0.000	2018 Leapfrog Hospital Survey	01/01/2017 - 12/31/2017
MRSA Infection	2.326	3.383	0.881	0.000	2018 Leapfrog Hospital Survey	01/01/2017 - 12/31/2017
C. diff. Infection	1.040	1.988	0.793	0.000	2018 Leapfrog Hospital Survey	01/01/2017 - 12/31/2017
Dangerous bed sores	0.32	1.91	0.38	0.02	MHCC	10/01/2015 - 06/30/2017
Death from treatable serious complications	172.46	204.76	161.65	96.82	MHCC	10/01/2015 - 06/30/2017
Collapsed lung	0.37	0.47	0.29	0.11	MHCC	10/01/2015 - 06/30/2017
Serious breathing problem	6.65	17.91	8.23	1.71	MHCC	10/01/2015 - 06/30/2017
Dangerous blood clot	3.31	7.32	3.84	1.21	MHCC	10/01/2015 - 06/30/2017
Surgical wound splits open	0.53	1.90	0.85	0.32	MHCC	10/01/2015 -

						06/30/2017
Accidental cuts and tears	0.87	2.15	1.29	0.57	MHCC	10/01/2015 - 06/30/2017

Process measures include the management structures and procedures a hospital has in place to protect patients from errors, accidents, and injuries.

Measure	The Hospital's Score	Worst Performing Hospital	Avg. Performing Hospital	Best Performing Hospital	Data Source	Time Period Covered
Doctors order medications through a computer	100	5	69.80	100	2018 Leapfrog Hospital Survey	2018
Safe medication administration	100	5	68.26	100	2018 Leapfrog Hospital Survey	2018
Specially trained doctors care for ICU patients	100	5	49.17	100	2018 Leapfrog Hospital Survey	2018
Effective leadership to prevent errors	120.00	0.00	117.14	120.00	2018 Leapfrog Hospital Survey	2018
Staff work together to prevent errors	120.00	0.00	114.54	120.00	2018 Leapfrog Hospital Survey	2018
Track and reduce risks to patients	100.00	0.00	96.93	100.00	2018 Leapfrog Hospital Survey	2018
Enough qualified nurses	100.00	29.41	97.68	100.00	2018 Leapfrog Hospital Survey	2018
Handwashing	60.00	6.00	57.63	60.00	2018 Leapfrog Hospital Survey	2018
Communication with nurses	90	78	90.95	96	CMS	10/01/2016 - 09/30/2017
Communication with doctors	90	82	91.16	96	CMS	10/01/2016 - 09/30/2017
Responsiveness of hospital staff	82	63	84.20	94	CMS	10/01/2016 - 09/30/2017
Communication about medicines	76	61	77.96	89	CMS	10/01/2016 - 09/30/2017
Communication about discharge	87	69	86.88	96	CMS	10/01/2016 - 09/30/2017

EXHIBIT 4

Outcome Profile - Facility CareScience -- Sepsis Data

Report Limits:

Page by:
Risk Calc Mode: Standard

Month:
OCTOBER 2017, NOVEMBER 2017, DECEMBER 2017, JANUARY 2018, FEBRUARY 2018, MARCH 2018, APRIL 2018, MAY 2018, JUNE 2018, JULY 2018, AUGUST 2018, SEPTEMBER 2018
Inpatient/Outpatient:Inpatient:

Outcomes DESC	Outcome Cases	Observed	Expected	Variation	O/E	SS
Mortality	566	17.14%	18.96%	-1.82%	0.90	
Complications	587	26.92%	32.23%	-5.31%	0.84	***
30-Day Readmissions (PRA v2.1)	452	11.50%	16.80%	-5.30%	0.68	***
Hospital-Wide 30-Day Readmissions (PRA v4.0)	450	11.78%	17.06%	-5.28%	0.69	***
All-Cause 30-Day Readmissions - All Inpatients	452	13.50%	20.87%	-7.37%	0.65	***
Geometric LOS	574	6.70	6.69	0.00	1.00	
Geometric Charge/case	566	$24,549	$68,369	-$43,820	0.36	***
Geometric Cost/case	566	$22,467	$15,873	$6,594	1.42	***
Arithmetic LOS	574	10.17	8.34	1.83	1.22	***
Arithmetic Charge/case	566	$37,130	$88,615	-$51,485	0.42	***
Arithmetic Cost/case	566	$34,437	$21,342	$13,095	1.61	***

Disclosure: Data may not be finalized and all patients may not be included for (APR18, MAY18, JUN18, JUL18, AUG18, SEP18)

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Neighborhood Socioeconomic Disadvantage and 30 Day Rehospitalizations: An Analysis of Medicare Data

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Analysis and interpretation of data: Kind, Jencks, Brock, Yu, Bartels, Ehlenbach, Greenberg, Smith
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Abstract

Background—Measures of socioeconomic disadvantage may enable improved targeting of programs to prevent rehospitalizations, but obtaining such information directly from patients can be difficult. Measures of US neighborhood socioeconomic disadvantage are more readily available, although rarely employed clinically.

Objective—To evaluate the association between neighborhood socioeconomic disadvantage at the census block-group level, as measured by Singh's validated Area Deprivation Index (ADI), and 30-day rehospitalization.

Design—Retrospective cohort study

Setting—United States

Patients—Random 5% national sample of fee-for-service Medicare patients discharged with congestive heart failure, pneumonia or myocardial infarction, 2004–2009 (N = 255,744)

Measurements—30-day rehospitalizations. Medicare data were linked to 2000 Census data to construct an ADI for each patient's census block-group, which were then sorted into percentiles by increasing ADI. Relationships between neighborhood ADI grouping and rehospitalization were evaluated using multivariate logistic regression models, controlling for patient sociodemographics, comorbidities/severity, and index hospital characteristics.

Results—The 30-day rehospitalization rate did not vary significantly across the least disadvantaged 85% of neighborhoods, which had an average rehospitalization rate=21%. However, within the most disadvantaged 15% of neighborhoods, rehospitalization rates rose from 22% to 27% with worsening ADI. This relationship persisted after full adjustment, with the most disadvantaged neighborhoods having a rehospitalization risk (adjusted risk ratio = 1.09, confidence interval 1.05–1.12) similar to that of chronic pulmonary disease (1.06, 1.04–1.08) and greater than that of diabetes (0.95, 0.94–0.97).

Limitations—No direct markers of care quality, access

Conclusions—Residence within a disadvantaged US neighborhood is a rehospitalization predictor of magnitude similar to chronic pulmonary disease. Measures of neighborhood disadvantage, like the ADI, could potentially be used to inform policy and post-hospital care.

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INTRODUCTION

Thirty-day rehospitalizations affect 1 in 5 hospitalized Medicare patients, cost over $17 billion annually, and result in hospital-based Medicare payment penalties for congestive

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heart failure, pneumonia and acute myocardial infarction rehospitalizations (1). Most believe that all hospitals can prevent at least some rehospitalizations by using a spectrum of programs to better support vulnerable patients during the high-risk post hospital period (1–3). Yet, the targeting of these programs has proven challenging, potentially because important factors contributing to rehospitalizations are not well measured—like socioeconomic disadvantage (4, 5).

Socioeconomic disadvantage is a complex theoretical concept, which describes the state of being challenged by low income, limited education and substandard living conditions for both the individual and their neighborhood or social network (6, 7). Detailed assessment of an individual patient's socioeconomic status is a time-consuming and potentially uncomfortable task to add to a clinical encounter, and since such information is rarely available in the patient's medical record, clinical teams often overlook socioeconomic factors when creating individualized post-hospital care plans (8). Alternatively, measures of neighborhood socioeconomic disadvantage, such as concentration of poverty in the neighborhood surrounding the patient's residence, could be more easily accessed and assigned as a risk factor at the point of patient admission by using the patient's address. However, the association between neighborhood disadvantage and rehospitalization risk has not yet been established.

It is plausible that neighborhood socioeconomic disadvantage would influence rehospitalization risk, because vulnerable patients depend on neighborhood supports for stability generally (9–12), and these needs are likely to be increased in the period after hospital discharge (3). US safety-net hospitals, which serve socioeconomically disadvantaged areas, are more apt to be financially penalized for their rehospitalization rates (13–16). Living in a socioeconomically disadvantaged neighborhood has been associated with health behaviors (17), access to food (18, 19) and safety (20), and with outcomes such as mortality (10, 12–17), birth weight (21), and rehospitalization risk for heart failure (22). Additionally, important health indicators improve with moving people to areas of less concentrated poverty (23, 24).

In 2003, Singh created a composite measure of neighborhood socioeconomic disadvantage for the US -- the Area Deprivation Index (ADI) -- based on similar measures used in many other countries for resource planning and health policy development (25–29). The ADI is a factor-based index which uses 17 US Census poverty, education, housing and employment indicators to characterize census-based regions (25, 27–29), and has been correlated with a number of health outcomes including all-cause, cardiovascular, cancer and childhood mortality, and cervical cancer prevalence (25, 27–32). Socioeconomic disadvantage based on neighborhood risk through a Zip code-linked ADI does not require a potentially lengthy and intrusive discussion with patients and families, and could be easily made available to clinical teams and policymakers.

Our objective was to determine whether or not neighborhood socioeconomic disadvantage could be useful to clinical planning by examining its relevance in a population likely to be targeted by clinical improvement activities designed to reduce readmission risk. We analyzed the association between ADI, defined at the census block group level, and 30-day

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rehospitalizations for patients discharged with congestive heart failure, pneumonia or acute myocardial infarction, the clinical conditions used for the current calculation of Medicare's rehospitalization penalties.

METHODS

Data Sources, Study Population

We used 2004–2009 data from the Chronic Condition Data Warehouse (33), including Medicare claims and enrollment files pre-linked to annual Medicare provider of service files for a 5% random national sample of Medicare beneficiaries. Beneficiaries who received railroad retirement benefits or were in a health maintenance organization were excluded because these groups have incomplete data. We identified 307,827 patients >65 years of age hospitalized with congestive heart failure, acute myocardial infarction or pneumonia using Medicare readmission measure definitions (34–36). We used the Zip+4 code listed for the patient's residence within Medicare data to link to the census block group with the same Zip +4 area in 2000 US Census data for the 50 US States and District of Columbia. Each census block group covers an area of 600–3,000 people, averaging 1,500 people (37). We excluded 52,083 patients without a Zip+4 code in their Medicare data (n=9,741) or whose documented Zip+4 code did not exist in the 2000 Census data (n=42,342). Patients in this latter category may include those who designate a post office box as their primary residence, or reside in post-year 2000 new Zip+4 areas, US Territories or institutions like prisons. Hand-checking of a small random sampling of these patients' Zip+4 codes suggests that most were assigned to a post office box. The final sample size was 255,744 patients. These patients originated from 4,802 unique hospitals (average 53.3 patients per hospital; range 1–743). The University of Wisconsin (UW) Institutional Review Board approved this study.

Variables

Census Block Group-Level Variables—We calculated ADI scores for each US Census block group using Singh's methodology (14, 16–18). This involved summing Singh's 17 Census indicators weighted by Singh's factor score coefficients for each indicator (25) (Table 1). See Appendix 1 for more detail on constructing the ADI. We examined the distribution of ADI values and sorted neighborhoods into percentiles by increasing ADI.

Patient-Level Variables—We constructed all-cause rehospitalization within 30 days of discharge from Medicare claims (34–36). Other variables drawn from Medicare files, included patient age, gender, race, Medicaid status, initial Medicare enrollment due to disability, index hospitalization length of stay and discharge to a skilled nursing facility. Race was categorized into 'White', 'Black', and 'Other' based upon the beneficiary race code. Each patient's Centers for Medicare and Medicaid Services hierarchical condition category (HCC) score, calculated from all outpatient and inpatient claims over the 12 months prior to the index hospitalization, was included as a risk adjustment measure (38). Comorbid conditions were identified using Elixhauser methods, incorporating data from the index hospitalization and from all hospitalizations and physician claims during the year prior to the index hospitalization (39). Of the comorbidities identified using this approach, 17 had frequencies of greater than 5% in the sample and were included as indicators. Comorbidities

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occurring less often were compiled into an 'other comorbidity' indicator and included alcohol/drug abuse, rheumatoid arthritis/collagen vascular disease, chronic blood loss anemia, liver disease, lymphoma, metastatic cancer, solid tumor without metastases, paralysis, psychoses and peptic ulcer disease. We assessed rurality of each patient's zip code of residence using the US Department of Agriculture's Rural/Urban Commuting Area (RUCA) Codes, grouped into categories of "urban core areas," "suburban areas," "large town areas," and "small town/isolated rural areas" (40, 41). Index hospital characteristics, including Medicare geographic region, for-profit status and medical school affiliation, were drawn from the Medicare provider of services file corresponding to the patient's index hospitalization date (42). We estimated annual Medicare discharge volume for each hospital by multiplying the number of claims from each hospital in the 5% national sample, by 20. We then grouped hospitals into low, middle and high volume tertiles. About one percent of our sample was missing race data (n=291), and less than 3% were missing hospital medical school affiliation (n=777) and for-profit status (n=777). There were no missing data for other patient-level variables.

Statistical Analysis

We examined the unadjusted relationship between ADI percentile and 30-day rehospitalization, overall and by primary disease. Based upon the empiric ADI data, the most disadvantaged neighborhoods made up the top 15% of the distribution. To better assess for within-group differences, we divided this most disadvantaged 15% into three equally sized 5% groupings representing the third-most, the second-most and the most disadvantaged 5% of neighborhoods. The remainder of neighborhoods (85%) were grouped into a comparator category. We examined frequencies of patient and index hospital characteristics for each grouping.

We used logistic regression to assess the relationship between ADI grouping and 30-day rehospitalization. Next, to assess the full spectrum of ADI impact, we divided the distribution into 20 equally-sized neighborhood groupings of increasing ADI (5% each), and used logistic regression to assess the relationship between ADI grouping and rehospitalization. To investigate the within-hospital ADI effects (43), we employed conditional (44) and random effects logistic regression (45, 46). To assess for differences in disease grouping and rural-urban effects, the relationship was assessed using logistic regression models stratified by disease grouping and RUCA code. Patient numbers in stratified analyses were smaller, so we analyzed the most disadvantaged 15% of neighborhoods as a single group.

Control variables were drawn from theoretical models of rehospitalization (47) and included patient HCC score tertile, comorbidities, length of stay, discharge to skilled nursing facility, age, gender, race, Medicaid status, disability status and RUCA code of primary residence; and index hospital medical school affiliation, for-profit status and discharge volume tertile. We calculated adjusted risk ratios, predicted probabilities, and 95% confidence intervals from these models on the basis of marginal standardization, as per methods by Kleinman and Norton (48) and by Localio (49). All models were estimated twice—once accounting for hospital-level and patient-level clustering, and again using robust estimates of the variance.

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Since no differences were noted, we present the more conservative robust estimates. All analyses were performed using SAS 9.3 (SAS Institute. SAS Statistical Software. 9.3 ed. Cary, NC: SAS Institute; 2011) and STATA 12 (StataCorp. *Stata Statistical Software*. 12.0 ed. College Station, TX: StataCorp LP; 2011).

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RESULTS

Neighborhood and Patient Characteristics by ADI Grouping

Patients in the most disadvantaged 15% of neighborhoods were more apt to be Black, on Medicaid, and to have higher rates of comorbidities, especially congestive heart failure, chronic pulmonary disease, and hypertension than patients from the other 85% of neighborhoods (Table 2). They were also more likely to have been hospitalized in a for-profit hospital. The majority of patients in the most disadvantaged 5% of neighborhoods lived in urban core areas. Those in the second- and third- most disadvantaged 5% groups were most likely to live in rural or large town areas.

30 Day Rehospitalization and Patient Neighborhood ADI

When compared to the other 85% of neighborhoods, residence within the most disadvantaged 15% of neighborhoods was associated with an increased risk of 30-day rehospitalization. The 30-day rehospitalization rate did not vary significantly across the least disadvantaged 85% of neighborhoods with an average rate of 21%. However, within the most disadvantaged 15% of neighborhoods, rehospitalization rates rose from 22% to 27% with worsening ADI (Figure 1). This pattern was maintained in all three primary diagnoses.

After adjustment, residence within the most disadvantaged 15% of neighborhoods continued to be associated with increased rehospitalization risk, with the most disadvantaged 5% having the greatest risk (Table 3; Appendix Tables 1 and 2). The adjusted rehospitalization risk ratios associated with residence within the most disadvantaged 15% of neighborhoods were similar to those of chronic pulmonary disease and peripheral vascular disease, and greater than those associated with having diabetes or being on Medicaid (Appendix Table 1). This association was noted across all primary diagnoses (Appendix Table 3). Sensitivity analyses, including conditional logistic regression models with control for hospital, also suggest that when comparing two patients, otherwise the same, who differ by reason of neighborhood deprivation index and arrive at the same hospital, the association of deprivation and readmission remains (Appendix Table 4).

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Geographic Distribution

The prevalence of the most disadvantaged neighborhoods varied by Medicare geographic region (Table 4). Certain regions, like the Dallas, Atlanta, Chicago and Philadelphia regions, had a higher proportion of Medicare patients with the penalty-eligible conditions of congestive heart failure, pneumonia or acute myocardial infarction residing in the most disadvantaged US neighborhoods, than other regions. Some regions, like the Seattle region, had less than 5% of all eligible patients living in such neighborhoods. Figure 2 shows the locations of the most disadvantaged US patient neighborhoods (i.e., census block groups) in this study.

The distribution of the most disadvantaged neighborhoods also varied by rural-urban status. Nearly one-third of eligible patients residing in rural areas lived in neighborhoods that were among the most disadvantaged (Appendix Table 5). However, residence in the 15% most disadvantaged neighborhoods was a rehospitalization risk regardless of rural-urban area type.

DISCUSSION

Living in a severely disadvantaged neighborhood predicts rehospitalization as powerfully as does the presence of illnesses such as peripheral vascular disease or chronic pulmonary disease, and more powerfully than being on Medicaid or having diabetes. This effect holds after accounting for other patient- and hospital-level factors known to influence risk of rehospitalization, including race. Overall, patients from disadvantaged neighborhoods are at higher risk for rehospitalization regardless of their treating hospital.

Our findings suggest that neighborhood disadvantage is associated with a threshold effect, with strong and increasing risk of rehospitalization for residents of the most disadvantaged 15%. This threshold effect conforms with fundamental theories of social disadvantage (50) which indicate that there is generally some point beyond which individuals can no longer compensate and additional disadvantage leads to increasingly adverse outcomes (51). A wealth of social science research demonstrates that 'areas of concentrated poverty' (52, 53) place additional burdens on poor families that live within them, beyond the effect of the families' individual circumstances (54). It is clear that social support and a patient's environment can influence clinical outcomes, including rehospitalizations.

Although most clinicians would agree with our findings, in practice issues of socioeconomic disadvantage are often overlooked (8) for three reasons: 1) we do not agree on how to measure disadvantage, 2) we lack time and hesitate to ask for highly personal data, and 3) we do not always know what to do about disadvantage when we find it. These barriers have diminished recently. The ADI, which is widely studied and predicts rehospitalization, provides a useful measure that is usable right now, although better measures may be developed in the future. Because the ADI relies entirely on publicly-available census data, and (as of publication) will be available free on-line through the University of Wisconsin Health Innovation Program (www.HIPxChange.org) in the form of a Zip+4 code-ADI file as well as an individual look-up tool requiring only the patient's Zip+4 code to query, it avoids both the time burden and the intrusiveness of collecting sensitive data from the patient.

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Based on patient address alone, clinicians and health systems could, at the point of first contact, use the ADI to screen for patients returning to the most challenging environments; supporting early targeting of more intensive transitional care services, prompting discussion of socioeconomic environment and need, and activating additional community resources for these patients. Transitional care interventions decrease rehospitalizations by employing a series of interactions designed to empower patients, monitor for early signs of disease worsening, and ensure medical plans and follow-up are in place. The targeting of transitional care programs can sometimes be challenging, especially in low-resource health settings. We offer the ADI as a potential way to refine such targeting. Placing a look-up table in a hospital's admission-processing system to supply this high-risk screener to the clinical team should be a very modest technical challenge.

Some European countries use composite measures of neighborhood socioeconomic disadvantage similar to the ADI to monitor population health and to allocate services and funding to ensure increased support in high-risk regions (25, 26). It could be used similarly in the US to refine characterizations of hospital service regions. Health systems and other health-related institutions could also use the ADI to identify neighborhoods that would most benefit from additional outreach and services. Policymakers could test innovative strategies for improving living conditions for older adults in severely disadvantaged areas (55). Finally, ADI scores could be used to direct funding towards community-based initiatives designed to lower unwanted rehospitalizations (56, 57).

Medicare hospital readmissions penalties fall more heavily on hospitals serving disadvantaged neighborhoods than on other hospitals (13–16). Adjusting for the socioeconomic status of individuals served (34–36) might level the playing field, but so far the debate has centered on the role of personal socioeconomic disadvantage in readmission risk, which remains unclear (4), and evidence that personal indicators of disadvantage are not ideally reliable or valid for elderly populations (58). Using the ADI to identify patients from the most severely disadvantaged neighborhoods could be explored as an adjuster for the current Medicare readmissions measures; one that might avoid the limitations of personal socioeconomic indicators and better screen for readmission risk.

A number of factors should be considered when interpreting these findings. To be included in our analyses a patient had to have a zip code of residence included within 2000 Census data. Therefore, the results of this analysis may not apply to patients without zip codes, such as the homeless, and those with zip codes absent in 2000 Census data. Although many of these latter patients list a post office box with Medicare, hospitals would have ample opportunity to gather residential Zip+4 codes directly. Census data collected in 2000 may not fully reflect neighborhood characteristics in the between-Census years of 2004–2009 used in this study. Next, patient-level analyses of any geographic-based measure, including the ADI, can introduce an ecological fallacy in which a region's aggregate traits are inappropriately attributed to a particular individual. However, our suggested use of the ADI as a clinical screener, which could trigger clinical teams to more fully assess for post-discharge need, should avoid this problem. Finally, the administrative data on which we relied does not contain direct markers of care quality or access that may affect rehospitalization risk. It is possible that hospitals that serve predominantly disadvantaged

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neighborhoods provide different quality of care than hospitals that serve predominantly non-disadvantaged neighborhoods and this had an influence on our findings (43). The available data do not allow for a definitive conclusion in this regard but there is no clear evidence that safety-net hospitals, in general, differ from non-safety-net hospitals in their quality of care (59). Our analytic models provide evidence that the patients' neighborhood remains a strong predictor of rehospitalization regardless of other hospital-level factors. More robust data should be utilized to study these across-hospital effects in the future.

The effects associated with neighborhood disadvantage may result from person-level socioeconomic disadvantage for which community data are a proxy (10–12). In studies of child health and mental health outcomes, neighborhood disadvantage has been demonstrated to be an additional risk factor beyond personal disadvantage, with worse health and social outcomes for individuals who live in both poor families and poor neighborhoods than for individuals living in poor families in less poor neighborhoods (23, 60). Our main aim was to produce a meaningful estimate of disadvantage that could be easily used by clinicians and discharge planners. The relative importance of individual and community disadvantage cannot be determined from our data. Clarifying these associations deserves further study.

We chose the ADI for this analysis because it is a well-established US census-based measure which provides a composite view of socioeconomic disadvantage for all areas of the US and which can be used to reliably 'drill-down' to a relatively small geographic region (25). Others have explored using single income-related component measures as socioeconomic markers (5, 61, 62), but single construct approaches likely miss issues critical to post-hospital planning, such as education and living conditions. This may be why income alone shows mixed results as a rehospitalization predictor in studies to date (61, 62).

In conclusion, residence within a disadvantaged US neighborhood is a rehospitalization predictor of magnitude similar to important chronic diseases. Measures of neighborhood disadvantage, like the ADI, are easily created using data already routinely collected by the US government and freely available to the public, and may be useful in targeting patient- and community-based initiatives designed to lower unwanted rehospitalization.

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Appendix 1

CALCULATING THE SINGH AREA DEPRIVATION INDEX (ADI)

Introduction

In their analysis and monitoring of health, Great Britain, Sweden, Australia, New Zealand and many other nations use area-based composite deprivation indices; scores created by compiling measures of socioeconomic resources within a particular geographic area (25, 26). In 2003, Singh created a similar Area Deprivation Index (ADI) for the US (25, 27–29).

The ADI is a validated, factor-based deprivation index which uses 17 poverty, education, housing and employment indicators drawn from US Census data to create a measure of socioeconomic context for a particular census-based region (25, 27–29). The ADI has previously been used to document a number of socioeconomic-health associations, including the direct relationship between area deprivation and all-cause, cardiovascular, cancer and childhood mortality, and between area deprivation and cervical cancer prevalence (25, 27–32).

In the manuscript associated with this appendix, we calculated Area Deprivation Index (ADI) scores for each block group/neighborhood using methods proposed by Singh (25, 27–29) as a way to assess the socioeconomic context of a patient's neighborhood. This appendix provides interested readers with a more detailed account of how we calculated the ADI using Singh's methods.

Detailed Methods for Creating the ADI

Singh's ADI uses 17 US Census variables in its construction. We calculated these for each geographic unit, in this case a census-block group, using publically available 2000 US Census data. The US Census variables are as follows:

- Percent of population aged >= 25 years with < 9 years of education
- Percent of population aged >= 25 years with < a high school diploma
- Percent of employed persons >=16 years of age in white-collar occupations
- Median family income
- Income disparity (Defined by Singh as the log of 100 * the ratio of the number of households with <$10,000 in income to the number of households with $50,000 or more in income.) (25)
- Median home value

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- Median gross rent
- Median monthly mortgage
- Percent owner-occupied housing units (home ownership rate)
- Percent of civilian labor force population >= 16 years of age unemployed (unemployment rate)
- Percent of families below the poverty level
- Percent of population below 150% of the poverty threshold
- Percent of single-parent households with children < 18 years of age
- Percent of households without a motor vehicle
- Percent of households without a telephone
- Percent of occupied housing units without complete plumbing
- Percent of households with more than one person per room (crowding).

Using Singh's methods, these 17 indicators are weighted using factor score coefficients (see Table 1 of the accompanying manuscript). Using these Singh factors score coefficients, poverty, income and education have the largest relative weights amongst all of the 17 variables. These 17 US Census variables are multiplied by their factor weights and then summed for each geographic unit. The result is then transformed into a standardized index (the ADI) by arbitrarily setting the index mean at 100 and standard deviation at 20 (25). Using this approach, neighborhoods with higher ADI scores have higher levels of deprivation (25).

Typically, the ADI has been used to break geographic units into quintiles, deciles or other relatively ranked groupings by ADI score. To our knowledge, it has not been used as a predictor in its continuous, indexed form. For this study, we initially examined the distribution of ADI values and sorted neighborhoods into percentiles by increasing ADI.

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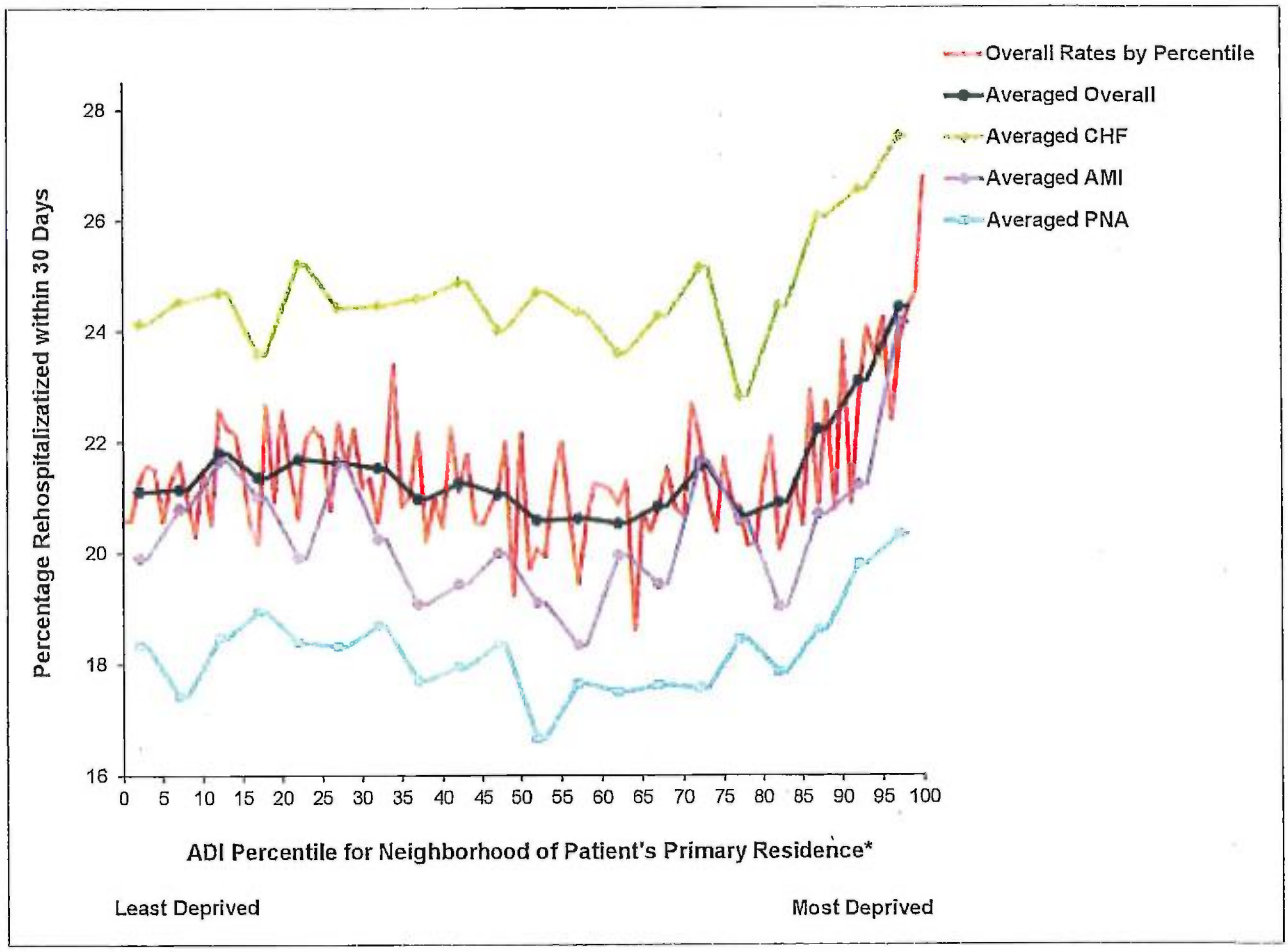

Figure 1. Unadjusted Relationship Between Area Deprivation Index (ADI) Percentile of a Medicare Patient's Neighborhood and 30 Day Rehospitalization

*On the ADI percentile range shown, 0 is the least socioeconomically disadvantaged group of neighborhoods ranging sequentially by equally sized neighborhood groupings up to 100 as the most disadvantaged group of neighborhoods. 'Average' lines represent the averaged relationship over each 5 ADI percentiles.

†Abbreviation: CHF = Congestive Heart Failure; AMI = Acute Myocardial Infarction; PNA = Pneumonia

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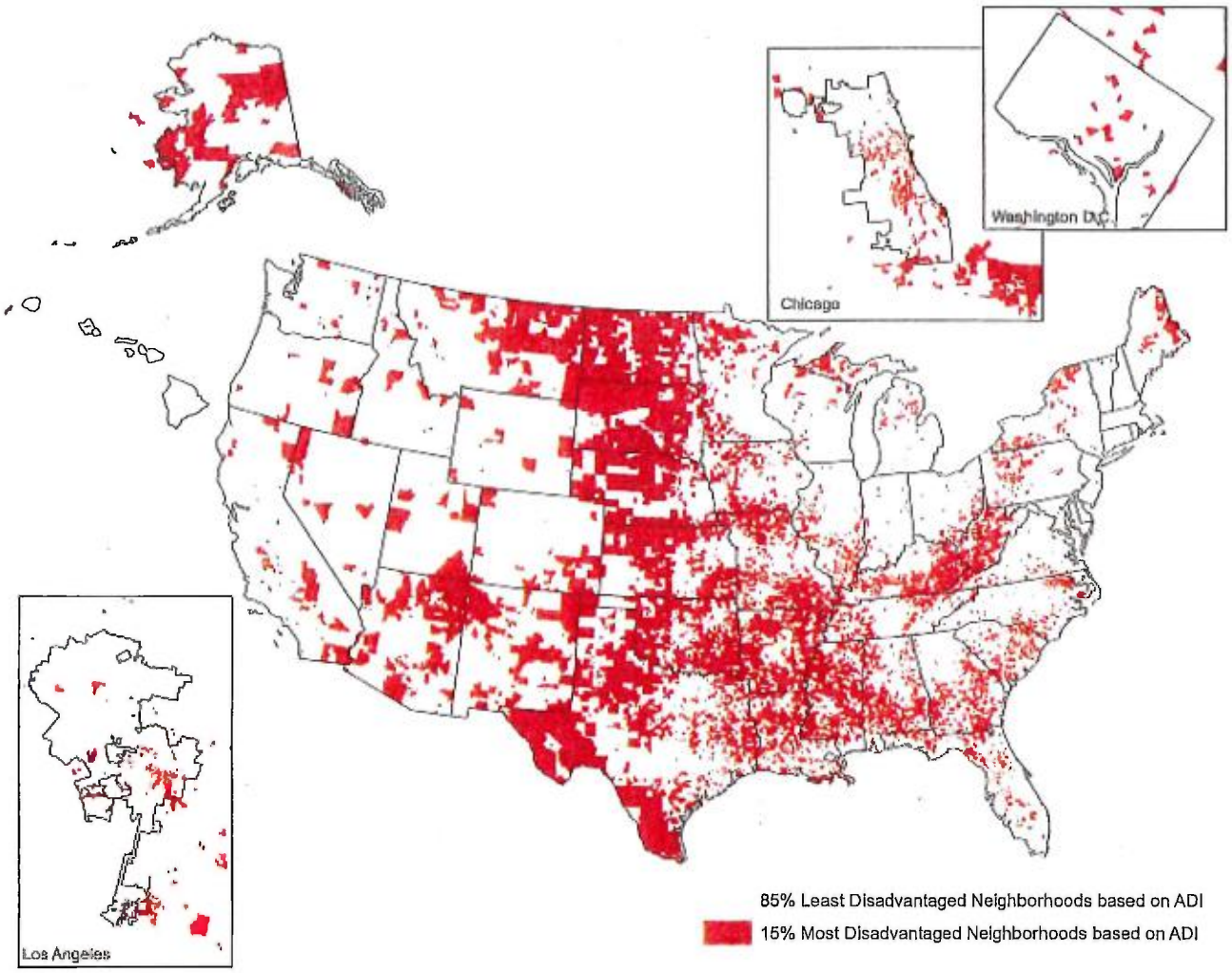

Figure 2. Locations of the 15% Most Disadvantaged Neighborhoods Based on Census Block Group Area Deprivation Index (ADI) Score

*Urban block groups/neighborhoods must be viewed at higher magnification within this figure, because they comprise smaller geographic areas than their rural counterparts. Enlargements of sample urban areas are offered to demonstrate.

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Table 1

Census Data Block Group Components and Factor Score Coefficients in Singh's Area Deprivation Index (ADI)*

Census Block Group Components	Factor Score Coefficients
Percent of the block group's population aged ≥ 25 years with < 9 years of education	0.0849
Percent aged ≥ 25 years with greater than or equal to a high school diploma	−0.0970
Percent of employed persons ≥16 years of age in white-collar occupations	−0.0874
Median family income	−0.0977
Income disparity†	0.0936
Median home value	−0.0688
Median gross rent	−0.0781
Median monthly mortgage	−0.0770
Percent owner-occupied housing units (home ownership rate)	−0.0615
Percent of civilian labor force population ≥ 16 years of age unemployed (unemployment rate)	0.0806
Percent of families below the poverty level	0.0977
Percent of population below 150% of the poverty threshold	0.1037
Percent of single-parent households with children < 18 years of age	0.0719
Percent of occupied housing units without a motor vehicle	0.0694
Percent of occupied housing units without a telephone	0.0877
Percent of occupied housing units without complete plumbing (log)	0.0510
Percent of occupied housing units with more than one person per room (crowding)	0.0556

*Components and factor score coefficients drawn from reference 28. All coefficients are multiplied by −1 to ease interpretation (higher ADI = higher disadvantage).

†Income disparity defined by Singh as the log of 100*ratio of number of households with <$10,000 income to number of households with $50,000+ income.

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Table 2

Key Characteristics of Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia, Overall and by Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence, 2004–2009 (N=255,744)*

		Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence			
	Overall (N=255,744)	Least Disadvantaged 85% (N= 12,813)	Third-Most Disadvantaged 5% (N=12,798)	Second-Most Disadvantaged 5% (N=12,779)	Most Disadvantaged 5% (N=12,772)
Key Characteristics	%	%	%	%	%
Patient Characteristics					
Average Age in Years (SD)	80.6 (8)	80.8 (8)	79.7 (8)	79.3 (8)	79.2 (8)
65–69 years	10	10	13	13	14
70–74 years	15	14	17	18	18
75–79 years	19	19	20	21	20
80–84 years	22	23	21	21	21
>=85 years	34	34	30	28	28
Gender:					
Male	39	39	37	37	36
Female	61	61	63	63	64
Race:					
White	87	90	82	76	58
Black	9	7	15	20	33
Other	4	4	3	4	9
Medicaid:					
No	78	81	67	64	53
Yes	22	19	33	36	47
Disabled:					
No	98	98	98	97	97
Yes	2	2	2	3	3
Rural Urban Commuting Area Code for Patient Residence:					
Urban Core Area	66	69	42	45	64
Suburban Area	8	9	6	4	2

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		Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence			
	Overall (N=255,744)	Least Disadvantaged 85% (N= 12,813)	Third-Most Disadvantaged 5% (N=12,798)	Second-Most Disadvantaged 5% (N=12,779)	Most Disadvantaged 5% (N=12,772)
Key Characteristics	%	%	%	%	%
Large Town Area	14	12	21	21	18
Small Town and Isolated Rural Area	12	9.3	31	30	17
Average HCC Score Prior to Index Hospitalization Date (SD)	2.89 (1.85)	2.87 (1.85)	2.86 (1.77)	2.95 (1.84)	3.13 (1.97)
Comorbidities:					
Hypertension	57	56	59	61	62
Congestive Heart Failure	48	47	51	53	54
Fluid and Electrolyte Disorders	39	38	40	42	43
Chronic Pulmonary Disease	38	37	30	43	42
Deficiency Anemias	29	29	30	32	35
Valvular Disease	22	23	20	20	21
Renal Failure	21	20	21	24	25
Diabetes, Uncomplicated	17	17	19	19	20
Hypothyroidism	16	17	17	16	14
Peripheral Vascular Disease	16	16	17	19	19
Depression	12	12	14	13	12
Other Neurological Disorders	12	12	12	14	12
Diabetes, Complicated	11	11	12	15	15
Pulmonary Circulation Disease	9	9	9	10	10
Obesity	7	7	8	9	9
Coagulopathy	6	6	6	6	7
Weight Loss	6	6	6	8	8
Other Comorbidity	26	26	26	26	27
Primary Diagnosis of Index Hospitalization:					
Congestive Heart Failure	44	43	44	46	49
Acute Myocardial Infarction	17	18	16	15	15

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		Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence			
	Overall (N=255,744)	Least Disadvantaged 85% (N= 12,813)	Third-Most Disadvantaged 5% (N=12,798)	Second-Most Disadvantaged 5% (N=12,779)	Most Disadvantaged 5% (N=12,772)
Key Characteristics	%	%	%	%	%
Pneumonia	39	39	40	39	36
Average Length of Stay of Index Hospitalization in Days (SD)	5.6 (4.8)	5.6 (4.8)	5.5 (4.6)	5.5 (4.4)	5.8 (5.5)
2 Or Fewer Days	18	19	18	17	17
3–4 Days	33	33	34	35	32
5–6 Days	21	21	21	21	21
7 Or More Days	28	28	27	27	30
Discharged to a Skilled Nursing Facility:					
No	77	76	78	78	80
Yes	23	24	22	22	20
Index Hospital Characteristics					
Medical School Affiliation:					
None	58	58	66	63	50
Minor	22	22	21	21	23
Major	20	20	14	16	27
Hospital Type:					
Non-Profit/Public	87	88	84	83	83
For Profit	13	12	16	17	17
Average Annual Total Discharge Volume (SD)	6920 (5423)	7053 (5406)	5677 (4967)	5839 (5155)	6984 (6092)
Highest Tertile (12,576 Average Annual Discharges)	35	36	27	28	33
Middle Tertile (5,541 Average Annual Discharges)	34	35	30	30	32
Lowest Tertile (1,950 Average Annual Discharges)	30	29	43	42	35
30 Day Patient Outcomes					
Rehospitalization	21	21	22	23	24
Death	16	16	15	15	13

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* Values represent percentages unless otherwise specified

Abbreviation: SD= Standard Deviation; HCC=Hierarchical Condition Category Score created through the Centers for Medicare and Medicaid Services

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Table 3

Risk of Rehospitalization Within 30 Days for Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia by Area Deprivation Index (ADI) Ranking of the Patient's Neighborhood of Residence, 2004–2009 (N=255,744)*

Characteristic	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted† Risk Ratio (95% CI)	P-Value	Predicted† Probability (95% CI)
Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence					
Least Disadvantaged 85% (Baseline Group), ADI Range = −52.63–113.44	1.00	REF	1.00	REF	0.21 (0.21, 0.21)
Third-Most Disadvantaged 5%, ADI Range = 113.45–115.12	1.05 (1.02, 1.09)	0.003	1.05 (1.01, 1.08)	0.01	0.22 (0.22, 0.23)
Second-Most Disadvantaged 5%, ADI Range = 115.13–117.46	1.09 (1.06, 1.13)	<0.001	1.07 (1.03, 1.1)	<0.001	0.23 (0.22, 0.23)
Most Disadvantaged 5%, ADI Range = 117.47–129.10	1.16 (1.12, 1.19)	<0.001	1.09 (1.05, 1.12)	<0.001	0.23 (0.22, 0.24)

*All models employ multivariate logistic regression methods to assess the relationship between ADI grouping and 30- day rehospitalization to produce risk ratios (using the methods of Kleinman and Norton (48)) and predicted probabilities.

†All models adjusted for: Hierarchical Condition Category Score; indicator variables denoting the presence of comorbidities including hypertension, fluid and electrolyte disorders, congestive heart failure, chronic pulmonary disease, deficiency anemias, uncomplicated diabetes, complicated diabetes, valvular disease, hypothyroidism, peripheral vascular disease, coagulopathy, depression, other neurological disorders, obesity, pulmonary circulation disease, renal failure, weight loss and other comorbidity; length of stay of the index hospitalization; and an indicator variable for whether a patient was discharged to a skilled nursing facility; patient demographics including age, gender and race (White, Black or other), Medicaid status, disability status, Rural Urban Commuting Area (RUCA) for patient residence and index hospital characteristics including medical school affiliation, for-profit status and total discharge volume tertile. Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

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Table 4

Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia, 2004–2009, and Residing in the 15% Most Disadvantaged Neighborhoods, by Medicare Region of Index Hospital (N=255,744)

Centers for Medicare and Medicaid Services Region	Number of Eligible Congestive Heart Failure, Acute Myocardial Infarction and Pneumonia Medicare Patients	Eligible Patients Residing in the 15% Most Disadvantaged Neighborhoods by ADI %(N)
Boston Region (I)	15566	4 (584)
New York Region (II)	26362	10 (2744)
Philadelphia Region (III)	26557	13 (3530)
Atlanta Region (IV)	54867	18 (9846)
Chicago Region (V)	54748	11 (6273)
Dallas Region (VI)	28559	35 (9904)
Kansas City Region (VII)	15395	23 (3486)
Denver Region (VIII)	5676	13 (754)
San Francisco Region (IX)	20937	5 (943)
Seattle Region (X)	6301	3 (212)

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Appendix Table 1

Risk of Rehospitalization Within 30 Days for Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia by Area Deprivation Index (ADI) Ranking of the Patient's Neighborhood of Residence, 2004–2009 (N=255,744)*‡

Characteristic	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted† Risk Ratio (95% CI)	P-Value	Predicted† Probability (95% CI)
Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence					
Least Disadvantaged 85% (Baseline Group), ADI Range = −52.63–113.44	1.00	REF	1.00	REF	0.21 (0.21, 0.21)
Third-Most Disadvantaged 5%, ADI Range = 113.45–115.12	1.05 (1.02, 1.09)	0.003	1.05 (1.01, 1.08)	0.01	0.22 (0.22, 0.23)
Second-Most Disadvantaged 5%, ADI Range = 115.13–117.46	1.09 (1.06, 1.13)	<0.001	1.07 (1.03, 1.1)	<0.001	0.23 (0.22, 0.23)
Most Disadvantaged 5%, ADI Range = 117.47–129.10	1.16 (1.12, 1.19)	<0.001	1.09 (1.05, 1.12)	<0.001	0.23 (0.22, 0.24)
Patient Comorbidity/Severity					
HCC Score Prior to Index Hospitalization Date			1.12 (1.11, 1.13)	<0.001	
Comorbidities:					
Hypertension			0.92 (0.9, 0.93)	<0.001	
Fluid and Electrolyte Disorders			1.08 (1.06, 1.1)	<0.001	
Congestive Heart Failure			1.16 (1.14, 1.18)	<0.001	
Chronic Pulmonary Disease			1.06 (1.04, 1.08)	<0.001	
Deficiency Anemias			1.09 (1.07, 1.11)	<0.001	
Diabetes, Uncomplicated			0.95 (0.94, 0.97)	<0.001	
Diabetes, Complicated			1.03 (1, 1.05)	0.02	
Valvular Disease			1.08 (1.06, 1.1)	<0.001	
Hypothyroidism			1.03 (1.01, 1.05)	0.01	
Peripheral Vascular Disease			1.07 (1.05, 1.09)	<0.001	
Coagulopathy			1 (0.97, 1.03)	0.85	
Depression			1.05 (1.02, 1.07)	<0.001	
Other Neurological Disorders			0.98 (0.96, 1)	0.09	
Obesity			1.02 (0.99, 1.05)	0.22	
Pulmonary Circulation Disease			1.05 (1.02, 1.07)	<0.001	

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Characteristic	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted† Risk Ratio (95% CI)	P-Value	Predicted† Probability (95% CI)
Renal Failure			1.11 (1.09, 1.14)	<0.001	
Weight Loss			0.96 (0.93, 0.99)	0.01	
Other Comorbidity			1.03 (1.01, 1.05)	<0.001	
Length of Stay of Index Hospitalization:					
2 Or Fewer Days			Ref		
3–4 Days			1.07 (1.04, 1.09)	<0.001	
5–6 Days			1.16 (1.13, 1.19)	<0.001	
7 Or More Days			1.34 (1.31, 1.37)	<0.001	
Discharged to a Skilled Nursing Facility:					
No			Ref		
Yes			1.13 (1.11, 1.15)	<0.001	
Patient Demographics					
Age:					
65–69 years			Ref		
70–74 years			1.01 (0.98, 1.05)	0.38	
75–79 years			1.01 (0.98, 1.04)	0.50	
80–84 years			1.01 (0.98, 1.05)	0.36	
>=85 years			0.99 (0.96, 1.02)	0.42	
Gender:					
Male			Ref		
Female			0.99 (0.97, 1)	0.11	
Race:					
White			Ref		
Black			1.06 (1.04, 1.09)	<0.001	
Other			1 (0.96, 1.04)	0.99	
Medicaid:					
No			Ref		
Yes			1 (0.98, 1.02)	0.82	
Disability:					
No			Ref		

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Characteristic	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted† Risk Ratio (95% CI)	P-Value	Predicted† Probability (95% CI)
Yes			1.06 (1, 1.12)	0.03	
Rural Urban Commuting Area (RUCA) for Patient Residence:					
Urban Core Area			Ref		
Suburban Area			1 (0.97, 1.03)	0.91	
Large Town Area			0.96 (0.94, 0.99)	0.00	
Small Town and Isolated Rural Area			1 (0.97, 1.03)	0.97	
Index Hospital Characteristics					
Medical School Affiliation:					
None			Ref		
Minor			1 (0.98, 1.02)	0.73	
Major			1.02 (1, 1.05)	0.02	
Hospital Type:					
Non-Profit/Public			Ref		
For Profit			1.01 (0.99, 1.03)	0.34	
Average Annual Total Discharge Volume:					
Highest Tertile (12,576 Average Annual Discharges)			Ref		
Middle Tertile (5,541 Average Annual Discharges)			0.99 (0.97, 1.01)	0.16	
Lowest Tertile (1,950 Average Annual Discharges)			0.97 (0.95, 0.99)	0.00	

*All models employ multivariate logistic regression methods to assess the relationship between ADI grouping and 30- day rehospitalization to produce risk ratios (using the methods of Kleinman and Norton (48)) and predicted probabilities.

†Adjusted for all variables listed.

‡Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

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Appendix Table 2

Risk of Rehospitalization Within 30 Days for Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia by Area Deprivation Index (ADI) Ranking of the Patient's Neighborhood of Residence, 2004–2009 (N=255,744) *

Characteristic	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted† Risk Ratio (95% CI)	P-Value	Predicted† Probability (95% CI)
Area Deprivation Index (ADI) 5% of the Patient's Neighborhood of Residence					
Group 1, ADI Range = −52.63–69.49 (Least Disadvantaged 5%)	1.00	REF	1.00	REF	0.21 (0.21, 0.22)
Group 2, ADI Range = 69.50–81.36	1 (0.95, 1.05)	0.93	0.99 (0.94, 1.03)	0.59	0.21 (0.2, 0.22)
Group 3, ADI Range = 81.37–87.69	1.03 (0.98, 1.08)	0.18	1.02 (0.97, 1.06)	0.52	0.22 (0.21, 0.22)
Group 4, ADI Range = 87.00–91.75	1.01 (0.96, 1.06)	0.63	1 (0.95, 1.04)	0.91	0.21 (0.2, 0.22)
Group 5, ADI Range = 91.76–94.81	1.03 (0.98, 1.08)	0.26	1.02 (0.97, 1.06)	0.48	0.22 (0.21, 0.22)
Group 6, ADI Range = 94.82–97.16	1.02 (0.98, 1.07)	0.32	1.01 (0.97, 1.06)	0.59	0.22 (0.21, 0.22)
Group 7, ADI Range = 97.17–99.31	1.02 (0.97, 1.07)	0.42	1.02 (0.97, 1.07)	0.44	0.22 (0.21, 0.22)
Group 8, ADI Range = 99.32–101.18	0.99 (0.95, 1.04)	0.78	1 (0.95, 1.05)	0.96	0.21 (0.21, 0.22)
Group 9, ADI Range = 101.19–102.91	1.01 (0.96, 1.05)	0.79	1.01 (0.96, 1.06)	0.70	0.21 (0.21, 0.22)
Group 10, ADI Range = 102.92–104.46	1 (0.95, 1.05)	0.93	1.01 (0.96, 1.05)	0.80	0.21 (0.21, 0.22)
Group 11, ADI Range = 104.47–105.86	0.98 (0.93, 1.02)	0.31	0.98 (0.94, 1.03)	0.51	0.21 (0.2, 0.22)
Group 12, ADI Range = 105.87–107.15	0.98 (0.93, 1.02)	0.34	0.98 (0.93, 1.03)	0.37	0.21 (0.2, 0.22)
Group 13, ADI Range = 107.16–108.36	0.97 (0.93, 1.02)	0.25	0.98 (0.93, 1.02)	0.31	0.21 (0.2, 0.21)
Group 14, ADI Range = 108.37–109.55	0.99 (0.94, 1.03)	0.60	0.99 (0.94, 1.04)	0.68	0.21 (0.2, 0.22)
Group 15, ADI Range = 109.56–110.75	1.02 (0.97, 1.07)	0.38	1.02 (0.97, 1.07)	0.46	0.22 (0.21, 0.22)
Group 16, ADI Range = 110.76–112.02	0.98 (0.93, 1.03)	0.39	0.99 (0.94, 1.04)	0.61	0.21 (0.2, 0.22)
Group 17, ADI Range = 112.03–113.44	0.99 (0.94, 1.04)	0.69	0.99 (0.94, 1.04)	0.74	0.21 (0.2, 0.22)
Group 18, ADI Range = 113.45–115.12 (Third-Most Disadvantaged 5%)	**1.05 (1, 1.1)**	**0.03**	**1.05 (1, 1.1)**	**0.06**	**0.22 (0.22, 0.23)**
Group 19, ADI Range = 115.13–117.46 (Second-Most Disadvantaged 5%)	**1.09 (1.04, 1.14)**	**<0.001**	**1.06 (1.01, 1.11)**	**0.01**	**0.23 (0.22, 0.23)**
Group 20, ADI Range = 117.47–129.10 (Most Disadvantaged 5%)	**1.16 (1.1, 1.21)**	**<0.001**	**1.08 (1.03, 1.13)**	**0.001**	**0.23 (0.22, 0.24)**

* All models employ multivariate logistic regression methods to assess the relationship between ADI grouping and 30- day rehospitalization to produce risk ratios (using the methods of Kleinman and Norton (48)) and predicted probabilities.

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[†]All models adjusted for: Hierarchical Condition Category Score; indicator variables denoting the presence of comorbidities including hypertension, fluid and electrolyte disorders, congestive heart failure, chronic pulmonary disease, deficiency anemias, uncomplicated diabetes, complicated diabetes, valvular disease, hypothyroidism, peripheral vascular disease, coagulopathy, depression, other neurological disorders, obesity, pulmonary circulation disease, renal failure, weight loss and other comorbidity; length of stay of the index hospitalization; and an indicator variable for whether a patient was discharged to a skilled nursing facility; patient demographics including age, gender and race (White, Black or other), Medicaid status, disability status, Rural Urban Commuting Area (RUCA) for patient residence and index hospital characteristics including medical school affiliation, for-profit status and total discharge volume tertile. Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

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Appendix Table 3

Risk of Rehospitalization Within 30 Days for Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia, 2004–2009, by Area Deprivation Index (ADI) Ranking of the Patient's Neighborhood of Residence and Primary Discharge Diagnosis (N=255,744)*

	Congestive Heart Failure (N=112,192)		Acute Myocardial Infarction (N=44,582)		Pneumonia (N=98,970)	
Characteristic	**Adjusted† Risk Ratio (95% CI)**	**P-Value**	**Adjusted† Risk Ratio (95% CI)**	**P-Value**	**Adjusted† Risk Ratio (95% CI)**	**P-Value**
Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence						
Least Disadvantaged 85% (Baseline Group), ADI Range = −52.63–113.44	1.00	REF	1.00	REF	1.00	REF
Third-Most Disadvantaged 5%, ADI Range = 113.45–115.12	1.06 (1.02, 1.11)	0.008	1.02 (0.94, 1.11)	0.595	1.03 (0.97, 1.09)	0.310
Second-Most Disadvantaged 5%, ADI Range = 115.13–117.46	1.06 (1.01, 1.11)	0.011	1.03 (0.94, 1.12)	0.569	1.09 (1.02, 1.15)	0.006
Most Disadvantaged 5%, ADI Range = 117.47–129.10	1.08 (1.03, 1.13)	0.001	1.09 (1, 1.19)	0.046	1.08 (1.01, 1.14)	0.020

*All models employ multivariate logistic regression methods to assess the relationship between ADI grouping and 30- day rehospitalization to produce adjusted risk ratios for each diagnosis by using the methods of Kleinman and Norton (48).

†All models adjusted for: Hierarchical Condition Category Score; indicator variables denoting the presence of comorbidities including hypertension, fluid and electrolyte disorders, congestive heart failure, chronic pulmonary disease, deficiency anemias, uncomplicated diabetes, complicated diabetes, valvular disease, hypothyroidism, peripheral vascular disease, coagulopathy, depression, other neurological disorders, obesity, pulmonary circulation disease, renal failure, weight loss and other comorbidity; length of stay of the index hospitalization; and an indicator variable for whether a patient was discharged to a skilled nursing facility; patient demographics including age, gender and race (White, Black or other), Medicaid status, disability status, Rural Urban Commuting Area (RUCA) for patient residence and index hospital characteristics including medical school affiliation, for-profit status and total discharge volume tertile. Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

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Appendix Table 4

Unadjusted and Adjusted Results from Conditional Logistic Regression (N=252,155)[†]

Characteristic	Unadjusted Odds Ratio (95% CI)	P-Value	Adjusted[*] Odds Ratio (95% CI)	P-Value
Area Deprivation Index (ADI) Grouping of the Patient's Neighborhood of Residence				
Least Disadvantaged 85% (Baseline Group), ADI Range = --52.63--113.44	1.00	REF	1.00	REF
Third-Most Disadvantaged 5%, ADI Range = 113.45--115.12	1.06 (1.01, 1.11)	0.011	1.04 (0.99, 1.09)	0.131
Second-Most Disadvantaged 5%, ADI Range = 115.13--117.46	1.14 (1.08, 1.19)	<0.001	1.09 (1.04, 1.14)	0.001
Most Disadvantaged 5%, ADI Range = 117.47--129.10	1.14 (1.09, 1.19)	<0.001	1.08 (1.03, 1.14)	0.001

[*]All models adjusted for: Hierarchical Condition Category Score; indicator variables denoting the presence of comorbidities including hypertension, fluid and electrolyte disorders, congestive heart failure, chronic pulmonary disease, deficiency anemias, uncomplicated diabetes, complicated diabetes, valvular disease, hypothyroidism, peripheral vascular disease, coagulopathy, depression, other neurological disorders, obesity, pulmonary circulation disease, renal failure, weight loss and other comorbidity; length of stay of the index hospitalization; and an indicator variable for whether a patient was discharged to a skilled nursing facility; patient demographics including age, gender and race (White, Black or other), Medicaid status, disability status, Rural Urban Commuting Area (RUCA) for patient residence and index hospital characteristics including medical school affiliation, for-profit status and total discharge volume tertile. Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

[†]2523 patients (642 hospitals) dropped from analysis because of all positive or all negative outcomes within group.

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Appendix Table 5

Medicare Patients Discharged with Primary Diagnoses of Congestive Heart Failure, Acute Myocardial Infarction, and Pneumonia, 2004–2009, and Residing in the 15% Most Disadvantaged Neighborhoods, by Rural Urban Commuting Area (RUCA) Code of Patient Residence (N=255,744)[†]

			Risk of Rehospitalization within 30 Days for Patients Residing in the 15% Most Disadvantaged Neighborhoods Stratified by RUCA Code[*]			
Rural Urban Commuting Area (RUCA) of Patient Residence	Number of Eligible Congestive Heart Failure, Acute Myocardial Infarction and Pneumonia Medicare Patients	Eligible Patients Residing in the 15% Most Disadvantaged Neighborhoods by ADI %(N)	Unadjusted Risk Ratio (95% CI)	P-Value	Adjusted[‡] Risk Ratio (95% CI)	P-Value
Urban Core Area	195323	12 (23895)	1.11 (1.08, 1.13)	<0.001	1.05 (1.03, 1.08)	<0.001
Sub-Urban Area	6839	8 (534)	1.17 (0.99, 1.35)	0.052	1.1 (0.92, 1.28)	0.27
Large Town Area	33723	23 (7770)	1.11 (1.06, 1.17)	<0.001	1.06 (1.01, 1.11)	0.03
Small Town and Isolated Rural Area	19042	32 (6071)	1.16 (1.1, 1.23)	<0.001	1.14 (1.07, 1.21)	<0.001

[*] As compared to eligible patients not residing in the 15% most disadvantaged neighborhoods

[†] All models employ multivariate logistic regression methods to assess the relationship between ADI grouping and 30- day rehospitalization to produce adjusted risk ratios for each diagnosis by using the methods of Kleinman and Norton (48).

[‡] All models adjusted for: Hierarchical Condition Category Score; indicator variables denoting the presence of comorbidities including hypertension, fluid and electrolyte disorders, congestive heart failure, chronic pulmonary disease, deficiency anemias, uncomplicated diabetes, complicated diabetes, valvular disease, hypothyroidism, peripheral vascular disease, coagulopathy, depression, other neurological disorders, obesity, pulmonary circulation disease, renal failure, weight loss and other comorbidity; length of stay of the index hospitalization; and an indicator variable for whether a patient was discharged to a skilled nursing facility; patient demographics including age, gender and race (White, Black or other), Medicaid status, disability status, and index hospital characteristics including medical school affiliation, for-profit status and total discharge volume tertile. Race data were missing for 291 patients. Index hospital medical school affiliation and for-profit status were missing for 777 patients.

EXHIBIT 6

Johns Hopkins Bayview Medical Center

patient handbook

JOHNS HOPKINS
MEDICINE

JOHNS HOPKINS
BAYVIEW MEDICAL CENTER

Table of Contents

Welcome

- Our Mission
- Our Vision
- Our Core Values
- You're Special To Us
- Our Privacy Practices
- Patient Bill of Rights and Responsibilities
- Your Responsibilities

Your Health and Safety

- Working Together Around the Clock
- Speak Up
- Hand Hygiene
- Our Partnership Pledge
- Your Health Care Team
- Preventing Falls
- Preventing Infections
- Keeping You Safe
- Understanding and Treating Your Pain
- Medication Safety
- Nutrition
- Room Service
- Smoking

Your Experience

- Advance Directives
- Medical Orders for Life-Sustaining Treatment (MOLST)
- Admitting and Registration
- Room Assignment
- Cashier's Office
- Mail Delivery
- Telephone
- Television
- Cell Phone
- Personal Items and Valuables
- Guide Dogs and Other Service Animals
- Visitation
- Parking
- Food and Snacks
- Safety and Security
- Fire Drill
- Flowers and Mail
- Gift Shop
- JHGuestnet

Patient- and Family-Centered Care

- Office of Patient Experience
- Spiritual Care and Chaplaincy Services
- Community Health Library
- Ethics Committee
- Interpreters
- Labyrinth
- Organ and Tissue Donation
- Palliative Care
- Patient and Family Advisory Council
- Volunteers
- Your Experience

Medical Records/Bills and Insurance

- MyChart
- Medical Records
- About Your Bill
- Patient Billing and Financial Assistance Information
- Health Information Exchange

Going Home

- Discharge
- Discharge Instructions
- Pharmacy
- Safe Practices
- Called to Care
- Bridge to Home and Health Buddy Program

From the President

Our Commitment to Patient- and Family-Centered Care

We promise to care for you, and about you, in a manner that places you and your family at the center of everything we do.

We recognize you as an individual with individual needs and expectations. We recognize the importance of your family in your healing process.

Our commitment to patient- and family-centered care includes the exchange of relevant, timely and accurate communication; multidisciplinary collaboration and teamwork; continuity throughout your transitions of care; and coordination of care that meets your needs and preferences for health care, all in a culture that values caring and service.

Warm regards,

Richard Bennett, M.D., President

Welcome

Our Mission

Johns Hopkins Bayview Medical Center, a member of Johns Hopkins Medicine, provides compassionate health care that is focused on the uniqueness and dignity of each person we serve. We offer this care in an environment that promotes, embraces and honors the diversity of our global community. With a rich and long tradition of medical care, education and research, we are dedicated to providing and advancing medicine that is respectful and nurturing of the lives of those we touch.

Our Vision

Johns Hopkins Bayview Medical Center is widely recognized for innovation and excellence in clinical education and research in medicine. As a leading academic medical center, we will provide an enriching environment for our employees and an exceptional health care experience for our patients and their families.

Our Core Values

- Excellence & Discovery *(Be the best)*
- Leadership & Integrity *(Be a role model)*
- Diversity & Inclusion *(Be open)*
- Respect & Collegiality *(Be kind)*

You're Special To Us

Our patient care teams value the individuality of each patient. Everyone is committed to meeting your needs and helping you heal. We recognize that you and your family play important roles in your care and healing process, and it helps us to know how we can meet your needs. Please talk to your health care provider if you want to learn more about or request services, such as:

- Interpreters
- Spiritual care
- Dietary preferences
- Cultural needs
- Pain management

When your patient care team is aware of your needs and preferences, we can work with you and your family to ensure your safety and comfort. This patient information handbook is filled with information about the special services we offer, patient rights and responsibilities, and patient safety and security measures.

We value the diversity of our patients and strive to provide culturally competent care to everyone.

Our Privacy Practices

Privacy and Confidentiality

We are committed to protecting your medical information. We create a record of the care and services you receive for use in your care and treatment. We are required by law to make sure that your medical information is protected. We also are required to give you notice describing your legal duties and privacy practices with respect to your medical information. Our privacy practices are described in the Johns Hopkins Notice of Privacy Practices, a booklet that explains how this obligation will be followed by all health care professionals, trainees, students, staff, volunteers and business associates of the Johns Hopkins organizations. To obtain a copy of this booklet, call the Admitting Office at 410-550-0830.

If you have a patient privacy concern, please call the Johns Hopkins Privacy Officer at 410-735-6509, Monday through Friday between 8:30 a.m. and 5 p.m.

Patient Rights and Responsibilities

To promote patient safety, we encourage you to speak openly with your health care team, be well informed, and take part in care decisions and treatment choices. Join us as active members of your health care team by reviewing the rights and responsibilities listed below for patients and patient representatives.

YOU OR YOUR DESIGNEE HAVE THE RIGHT TO:

Respectful and Safe Care

1. Be given considerate, respectful and compassionate care.
2. Have a family member/friend and your doctor notified when you are admitted to the hospital.
3. Be given care in a safe environment, free from abuse and neglect (verbal, mental, physical or sexual).
4. Have a medical screening exam and be provided stabilizing treatment for emergency medical conditions and labor.
5. Be free from restraints and seclusion unless needed for safety.
6. Know the names and jobs of the people who care for you.
7. Know when students, residents or other trainees are involved in your care.
8. Have your culture and personal values, beliefs and wishes respected.
9. Have access to spiritual services.
10. Have conversations with the Ethics Service about issues related to your care.
11. Be treated without discrimination based on race, color, national origin, age, gender, sexual orientation, gender identity or expression, physical or mental disability, religion, ethnicity, language or ability to pay.
12. Be given a list of protective and advocacy services, when needed. These services help certain patients (e.g., children, elderly, disabled) exercise their rights and protect them from abuse and neglect.
13. Ask for an estimate of hospital charges before care is provided.

Effective Communication and Participation in Your Care

14. Get information in a way you can understand. This includes sign language and foreign language interpreters and vision, speech and hearing aids provided free of charge.
15. Get information from your doctor/provider about:
    - your diagnosis
    - your test results
    - outcomes of care
    - unanticipated outcomes of care
16. Be involved in your plan of care and discharge plan or request a discharge plan evaluation at any time.
17. Involve your family in decisions about care.
18. Ask questions and get a timely response to your questions or requests.
19. Have your pain managed.
20. Refuse care.
21. Have someone with you for emotional support, unless that person interferes with your or others' rights, safety or health.
22. Ask for a chaperone to be with you during exams, tests or procedures.
23. Choose your support person and visitors and change your mind about who may visit.
24. Select someone to make health care decisions for you if at some point you are unable to make those decisions (and have all patient rights apply to that person).

End of Life Decisions

25. Create or change an advance directive (also known a a living will or durable power of attorney for health care).
26. Have your organ donation wishes known and honored, if possible.

Informed Consent

27. Give permission (informed consent) before any non-emergency care is provided, including:
    - risks and benefits of your treatment
    - alternatives to that treatment
    - risks and benefits of those alternatives
28. Agree or refuse to be part of a research study without affecting your care.
29. Agree or refuse to allow pictures for purposes other than your care.

Privacy and Confidentiality

30. Have privacy and confidential treatment and communication about your care.
31. Be given a copy of the HIPAA Notice of Privacy Practices.

Complaints and Grievances

32. Complain and have your complaint reviewed without affecting your care. If you have a problem or complaint, you may talk to your doctor, nurse manager or a department manager.
33. You may also contact the Office of Patient Experience at 410-550-0626.
34. If your issue is not resolved to your satisfaction, other external groups you may contact include:
    - **Hospital's Quality Improvement Organization (QIO) for coverage decisions or to appeal a premature discharge:**

      KEPRO
      Organization for Beneficiary Family Centered Care
      (BFCC-QIO)
      5201 West Kennedy Blvd.,
      Suite 900
      Tampa, FL 33069
      1-844-455-8708

    - **State Agency:**

      Maryland Department of Health & Mental Hygiene
      Office of Health Care Quality Hospital Complaint Unit
      Spring Grove Hospital Center
      Bland Bryant Building
      55 Wade Avenue
      Catonsville, Maryland 21228
      Toll free: 1-877-402-8218

    - **Accreditation Agency:**

      The Joint Commission Office of Quality and Patient Safety
      One Renaissance Blvd.
      Oakbrook Terrace, IL 60181
      1-800-994-6610
      patientsafetyreport@jointcommission.org

    - **To address discrimination concerns, you may also file a civil rights complaint with the U.S. Department of Health and Human Services:**

      Office for Civil Rights
      200 Independence Ave., SW
      Room 509F, HHH Building
      Washington, DC 20201
      1-800-368-1019, 1-800-537-7697 (TDD)
      OCRMail@hhs.gov
      Complaint forms are available at:
      http://www.hhs.gov/ocr/office/file/index.html

You Have the Responsibility to:

1. Provide accurate and complete information about your health, address, telephone number, date of birth, insurance carrier and employer.
2. Call if you cannot keep your appointment.
3. Be respectful of your hospital team, from the doctors, nurses and technicians to the people who deliver your meals and the cleaning crews.
4. Be considerate in language and conduct of other people and property, including being mindful of noise levels, privacy and number of visitors.
5. Be in control of your behavior if feeling angry.
6. Give us a copy of your advance directive.
7. Ask questions if there is anything you do not understand.
8. Report unexpected changes in your health.
9. Follow hospital rules.
10. Take responsibility for the consequences of refusing care or not following instructions.
11. Leave valuables at home.
12. Keep all information about hospital staff or other patients private.
13. Do not take pictures, videos or recordings without permission from hospital staff.
14. Pay your bills or work with us to find funding to meet your financial obligations

Your Health and Safety

Our health care partnership begins with our commitment to your safety. Patients who are involved with their care in the hospital tend to do better. By working together with your health care team, you can lower your risk of injury and make your stay safer.

Working Together Around the Clock

- **Hourly Rounding**

  At Johns Hopkins Bayview, our goal is to visit you (round) every hour to check on you and address any needs you may have such as pain and personal comfort.

- **Bedside Shift Report**

  To promote good communications between your nurses, and you and your family, we want you to join with your nurses in Bedside Shift Report. At this time your nurse who is going off duty shares important information about you with the nurse coming on duty–at your bedside. Bedside Shift Report helps make sure you get high-quality care. If you have questions or concerns about your care, Bedside Shift Report provides a good time to raise them. Ask your nurse if you have questions about the report.

- **Communication Board**

  You have a communication board in your room. On it, your health care team will write the names of staff who will be working with you each day. You can review your communication board with your health care team during the bedside shift report.

Speak Up!

Speak up if you have any questions or concerns.

Pay attention to the care you are receiving.

Educate yourself so you fully understand your diagnosis and treatment.

Ask a trusted family member or friend to be your advocate.

Know about your medicine. Medicine errors are the most common health care mistakes.

Use an accredited health care facility, like Johns Hopkins Bayview, that has completed rigorous inspections to ensure safety and quality.

Participate in all decisions about your treatment plan.

Hand Hygiene

Hand hygiene is our top priority and the number one intervention to prevent health care-associated infections. We perform surveillance for hand hygiene compliance using a "secret shopper" methodology. Unknown observers monitor hand hygiene practices on all of our units using standardized definitions and data collection procedures. There also is a direct feedback program with known monitors who address, educate and take the name of staff at the moment they are observed not appropriately performing hand hygiene. We monitor hand hygiene compliance upon each entry to and exit from a patient care room or area.

Our Partnership Pledge

We take a team approach to your safety.

We pledge to:

- Coordinate your care.
- Explain your care and treatment.
- Listen to your questions or concerns.
- Ask if you have safety concerns and take steps to address them.
- Ask about your pain often and keep you as comfortable as possible.
- Check your identification before any medication, treatment or procedure is given.
- Label all lab samples in your presence.
- Clean our hands often.

We ask you or a loved one to:

- Ask questions.
- Speak up if you are concerned about a test, procedure or medicine.
- Check the information on your ID bracelet for accuracy.
- Be clear and complete about your medical history, including current medications.
- Please wear your ID bracelet throughout your stay.
- Clean your hands often and remind visitors to do the same.
- Remind us if we do not carry out our pledge to you.

Your Health Care Team

While you receive treatment, you are likely to have a team of health care professionals involved in your care. This well-rounded team enhances your care.

The members include:

- Attending Physician – doctor that supervises your treatment
- Residents/Interns/Fellows – doctors specializing in a selected field of medicine who create your treatment plan
- Nurse Practitioners/Physician Assistants – licensed professionals who work closely with the attending physician in planning your care
- Registered Nurses – nurses will plan and evaluate your daily care, administer medications and treatments, and provide education for discharge
- Pharmacists – a pharmacist will review your medication orders and work with your doctor and nurse to ensure safe and accurate medication therapy

Others who may be involved in your care:

- Clinical Dietitians
- Nursing Support Staff
- Social Workers/Case Managers
- Rehabilitation Specialists (Physical Therapists, Occupational Therapists and Speech Language Pathologists)
- Chaplain/Spiritual Care
- Nursing/Medical Students
- Your caregiver

Preventing Falls

In the hospital, people can be at a higher risk for falls. Illness, surgery and medicines can weaken or affect your balance and judgment. Also, medical equipment and the unfamiliar environment can make movement more difficult. We are committed to keeping you safe from injury during your stay.

During your stay we will:

- Assess you for your risk of falling upon admission and as your condition changes.
- Determine what preventive measures should be taken to try to prevent a fall while you are in the hospital, and share this information with other staff involved in your care.
- Show you how to use your call bell and remind you when to call for help.
- Respond to your calls for assistance in a timely manner.
- Assist you with getting in and out of bed and using the restroom as needed.
- Visit you (round) every hour to check on you.

- Provide you with safe footwear and any recommended equipment (such as a walker or bedside commode) that will make it safer for you to move about.
- Make sure the items you need are within reach before staff leaves your room.

We ask you or a loved one to:

- Tell the nurse if you have a history of falls.
- Ask your nurse about your assessed risk for falling and what prevention measures are being taken to reduce that risk.
- Use the call bell before attempting to get out of bed and wait for staff to come and help you.
- Wear non-skid footwear and use equipment that has been provided for your safety.
- Call your nurse if you feel dizzy or lightheaded.
- Use your glasses, walker or cane.
- Sit on the side of the bed for a few minutes before getting up.
- Use caution when walking around with wires, oxygen or other tubing.

You can prevent falls at home by:

- Getting your vision checked regularly.
- Wearing your glasses or contacts.
- Using walking aids, such as a cane or walker.
- Checking your home for hazards, including clutter, loose carpets, poor lighting and extension cords.
- Using non-slip carpets.
- Installing a grab bar in your shower or tub, and if necessary, using a shower seat.
- Telling your doctor if you feel dizzy, "off balance," or have trouble walking.
- Wearing sturdy shoes or slippers that fit well and have a non-skid sole and keeping your shoes laced and tied.
- Keeping an up-to-date record of your medications, both prescription and over-the-counter.
- Staying as active as you can and participating in an exercise program.

Preventing Infections

You Are Part of the Health Care Team

Clean your hands and remind others to clean their hands. Either use hand gel or wash your hands after using the bathroom, before eating, or after touching something that is soiled.

The health care team is required to wash or sanitize their hands before entering and after leaving your room. They should wear gloves when they perform tasks, such as drawing blood or touching wounds or body fluids. Staff will welcome your reminder to clean their hands or wear gloves.

Preventing spread of respiratory infections

Cover your mouth and nose when sneezing or coughing by using tissues or the bend of your elbow. Both tissues and masks are available upon request. Please use these if you have a runny nose, sneeze or cough. Please remember to wash your hands, especially after you sneeze, cough or use a tissue.

Visitors

If your visitors are sick, you should ask them not to visit.

Vaccinations

When you are admitted to the hospital, you may be asked about your desire to have a flu or pneumococcal vaccination. They are very effective at reducing the spread of disease.

Additional Preventive Measures

There are some bacteria that require special measures to prevent the spread of infection–Methicillin Resistant Staphylococcus Aureus (MRSA), Vancomycin Resistant Enterococci (VRE) or Clostridium Difficile 9 (C-diff). These infections can be spread by contact with clothing, hands, personal items or health care equipment. If you have one of these conditions you will be placed in "isolation" to prevent the spread of infection to others. A sign will be posted on the room door, and both staff and visitors will be required to wear protective gowns and gloves, and in some cases, a mask. Hand hygiene is very important in preventing the spread of these conditions. If you are in isolation, speak to your care provider before leaving your room.

Keeping You Safe

There are steps the hospital takes to keep you safe. As a patient, you can make your care safer by being an active, involved and informed member of your health care team.

- You will be asked to sign an Informed Consent form before any surgery or procedure. Read it carefully and make sure it has your correct identification information, as well as the kind of surgery/procedure you will have.
- You will be asked to bring in a list of the medications you are currently taking. This helps assure you are taking the proper medications while in the hospital, prevents duplication of medications and may prevent any drug-drug or drug-disease interactions.
- When you are admitted for your surgery/procedure, the staff will ask your name and birth date, and confirm your specific surgery procedure and the side of the body to be operated on. The doctor may mark that site on your body.
- Before the surgery/procedure, the team will perform a "time out" to assure, among other things, they are doing the right surgery on the right body part on the right person.
- Patients and families are encouraged to notify hospital staff when the patient's condition worsens (both inpatient and outpatient). Anyone who has a concern about patient care and safety in the hospital is encouraged to contact the hospital's safety line at 410-550-HARM, from an outside line) or 0-4276 (from inside the hospital).

Understanding and Treating Your Pain

There are many different causes and kinds of pain. Treating pain is the responsibility of your doctor, nurse and other members of your health care team. You can help them by asking questions and finding out more about how to relieve your pain.

Managing your pain:

- Most pain can be controlled.
- Communication with your health care team about your pain is important.
- You and your health care team can work together to manage your pain.

Questions your health care team will ask you about your pain:

- "Where do you feel pain?"
- "How long have you had the pain?"
- "How does the pain feel: is it dull, tender, aching, cramping, shooting, burning, radiating, throbbing, stabbing, tingling, gnawing, squeezing?"
- "What makes the pain worse? What makes the pain better?"

Questions to ask your health care team:

- What pain medicine is being ordered or given to me?
- Can you explain the doses and times that I should take this medicine?
- How often will I need to take the pain medicine?
- How long will I need to take the pain medicine?
- Can I take the pain medicine with food?
- Can I take the pain medicine with other medicines?
- Should I avoid drinking alcohol while taking the pain medicine?
- Are there any side effects of the pain medicine?
- What should I do if the medicine makes me sick to my stomach?
- What can I do if the pain medicine doesn't work?
- What else can I do to treat my pain?

Only you know how much pain you feel. Your pain can be measured. You will be asked to rate your pain using a scale like one of these. Choose a number from 0-10 that best describes your pain, with 10 being the worst.

Remember: Your health care team will not know how much pain you have unless you tell them. The key to successful pain management is communication.

Medication Safety

While you are in the hospital, it is important to talk to your health care team about your medicines. Bring a list of medications you take at home, including:

Prescription medicines
Over-the-counter medicines ***(like aspirin and cough medicine)***
Vitamins
Herbal products
Diet supplements
Natural remedies
Amount of alcohol you drink each week
Recreational drugs

- Make sure your ID bracelet is visible and accurate.
- Let your health care team know if you have allergies to foods or drugs or have ever had a bad reaction to any drug, food or latex product.
- Ask your health care team about your medicines – what they are, what they look like, what they do, at what time they are given and what side effects you should expect or report.
- Look at all medicines before you take them. If you do not recognize a medicine, let your nurse know.
- Do not take medicines that you brought to the hospital from home unless your health care team tells you it is okay. You should give your personal supply of medications to your nurse until you leave the hospital or give them to someone to take home for you.

Nutrition

Your nutrition care and recovery are very important to us. Your physician and a registered dietitian evaluate your medical status and prescribe a diet appropriate for your medical condition. This is why we ask that family members not bring you food from home.

If, for religious or cultural reasons, you are unable to select from your menu, please advise your nutrition representative so we may accommodate your needs. If you have questions about your meal service, please call 410-550-0635 between 5 a.m. and 7:30 p.m., or if you have questions about special dietary concerns, you can reach a nutrition services representative by calling 410-550-1549. Meal delivery times vary by patient unit. The staff on your unit will know what the delivery times are for that particular unit. We request that you eat in your room, unless you have the written consent of your physician. If possible, please assist us by clearing your over-bed table at meal times. Please notify the nursing staff and/or patient advocate in advance if you wish to purchase a meal tray for a guest.

Room Service

Admitted patients may have access to a menu with more selection and customization, including build-your-own sandwiches and made-to-order omelets and pizzas. Room service is available from 6:30 a.m. to 6:30 p.m. each day.

No Smoking

To protect the health of our patients, visitors and staff, smoking is prohibited (including the use of electronic cigarettes) in all areas of the hospital and is limited to the assigned smoking areas on the campus. If you are interested in smoking cessation, ask your health care provider about resources or call 1-800-QUIT NOW to be connected to the quit line in your state.

Studies suggest that everyone can quit smoking. Your situation or condition can give you a special reason to quit.

- Pregnant women/new mothers: By quitting, you protect your baby's health and your own.
- Hospitalized patients: By quitting, you reduce health problems and help healing.
- Heart attack patients: By quitting, you reduce your chance of a second heart attack.
- Lung, head and neck cancer patients: By quitting, you reduce your chance of a second cancer.
- Parents of children and adolescents: By quitting, you protect your children and adolescents from illnesses caused by second-hand smoke.

Your Experience

Advance Directives

Advance directives are documents you create to describe the extent of medical treatment you do or do not want to receive if you are unable to communicate your wishes. You have the right to make an advance directive, such as a living will or durable power of attorney for health care, and to appoint someone to make health care decisions for you if you are unable. Upon your admission, your health care team will ask you if you have an advance directive. We recommend that you discuss advance directives with your family members, doctors, nurses and clergy while you are alert and feeling well. Bring any advance directives you may already have to the hospital with you.

For information about advance directives or to obtain the necessary forms, call Patient Support at 410-550-0627.

Medical Orders for Life-Sustaining Treatment (MOLST)

A physician, physician assistant or nurse practitioner may ask you about a Medical Orders for Life-Sustaining Treatment form, or MOLST. This form gives you options for cardiopulmonary resuscitation and other life-sustaining treatments that 911 emergency services will follow, as well as any Maryland hospital or health care facility. The medical orders may instruct 911 responders to provide comfort care instead of resuscitation if that is your wish. Be sure to keep extra copies available. You can find more information at http://marylandmolst.org/pages/consumers.htm.

If you have any questions about MOLST, please ask your health care team.

Admitting and Registration

The registration process is in place to update current information and correct changes. By checking your address, birth date and other information, we are making sure that your medical record and bills are handled smoothly and accurately.

Room Assignment

Upon admission, the nursing staff will show you the features of your room, including your bed controls and the nurse-call system.

Cashier's Office

The cashier's office, located on the main level of the Francis Scott Key Pavilion, provides a safe to secure your personal valuables, if needed, and accepts payments for your hospital bills. The office is open Monday through Friday from 8 a.m. to 4 p.m.

Mail Delivery

Mail is picked up from the mailroom once daily. The nursing staff will bring your mail to your room. Stamped outgoing mail may be left with the nursing unit secretary for mailing. Mail collection boxes are located at the entrances to the Pavilion (red awning) and the John R. Burton Pavilion.

Telephone

There will be a daily charge for use of the telephone with a one-time activation fee. The daily charge for this service can be billed to your home phone number. Your service will end upon discharge. To stop service at any time during your stay or for more information about charges or billing, please call 1-800-775-8352.

Television

We are pleased to offer free TV service during your stay.

This includes access to:

- Your favorite TV channels.
- On-demand patient education videos. Choose from a wide range of topics to learn about your illness, treatment or ways to stay healthy.
- The Care Channel and In Room Symphony. Tune in to these stations for pretty scenery and soothing music.

Cell Phones

The use of cell phones is prohibited where critical medical equipment is in operation. Please read and follow all posted signs about the use of cell phones, and use only in approved areas.

If you must use your cell phone, please speak in a low voice so as not to disturb the privacy and comfort of other patients and visitors.

Personal Items and Valuables

You are encouraged to bring only essential items to the hospital such as sleepwear and toiletries. Large sums of money, keys, jewelry, personal papers and other valuables should be left at home. For safety reasons, do not bring radios, hair dryers, fans, heaters or other electric devices. Personal equipment with two-pronged plugs is not permitted. The hospital is not responsible for lost or stolen items, such as laptops, portable music players, cell phones, money or jewelry.

To keep your personal items secure you should:

- Keep eyeglasses and hearing aids in a case in the top drawer of your bedside table when you are not using them.
- Keep dentures in a denture cup in the top drawer of your bedside table. Do not place dentures on your food tray, in a disposable cup, on the bed linen or in a tissue.
- Place clothing in your room closet, bedside table or suitcase.

Guide Dogs and Other Service Animals

Service animals are those animals trained to help patients and visitors with activities of daily living. They are welcome in any area of the hospital that is unrestricted to patients and visitors, provided that the presence of the service animal does not alter the policies, practices or procedures of Johns Hopkins Bayview Medical Center. For information, call the Office of Patient Experience at 410-550-0626.

Visitation

We acknowledge the positive impact that visitation has on the healing process. The Medical Center supports open visitation according to the preferences of the patients we serve.

Visitation is a right that is given fully and equally to those visitors chosen by the patient (or his/her representative) regardless of race, color, national origin, religion, sex, sexual orientation, gender identity or disability.

Visitors may be restricted at the discretion of the Medical Center if the comfort or safety of any patient, staff or other visitor is determined to be a risk or if the operation of the facility will be impeded significantly as a result of the visitation (i.e. interferes with a patient care team's ability to practice safely, disrupts the delivery of patient care or creates a hostile or intimidating environment). The Medical Center also reserves the right to request visitor identification.

For your child's health and the comfort of our patients, we request children under 12 not visit. Children without authorization to visit will remain at the entrance waiting area and must be supervised by an adult at all times.

It is expected that visitors will:

- Not visit if they are sick.
- Maintain a quiet environment and avoid unnecessary noise.
- Wash with hand gel before entering the room and exiting the room.
- Comply with any infection control practices that may be important to the patient's condition (e.g. wear isolation gown, mask and/or gloves).
- Comply with safety and security procedures.
- Act in a respectful manner.
- Wear and display visitor wristbands at all times while on hospital property.
- Not take photographs or videos without prior patient and hospital authorization.
- Dress appropriately–shirt and shoes must be worn while in the Medical Center.

In response to a visitor who has displayed unacceptable behaviors of any kind, security measures including visitor restriction and or legal action will be taken. Unacceptable behaviors include but are not limited to:

- Unreasonable interference with a patient's plan of care.
- Harassment of any kind, including inappropriate telephone calls to a staff member.
- Use of loud, threatening, abusive or obscene language.
- Offensive remarks of a racial or sexual nature.
- Use of physical violence or acting in a threatening manner toward staff.
- Coming on hospital property under the influence of drugs or alcohol.
- Damage of hospital property.
- Theft.
- Possession of weapons or firearms.
- Retaliation against any person who addresses or reports unacceptable behavior.
- Excessive noise that is distracting to others in the vicinity.

Parking

Parking is available in the Medical Center parking garage and visitor parking lots at a reasonable hourly and daily rate. A number of spaces are available for people with disability. If you visit the Medical Center often, ask at the parking garage office (located in the garage) about purchasing a coupon book at a discounted rate. For more information about parking, call 410-550-0168.

Food and Snacks

Bayview Cafe
Visitors are welcome to dine in the Bayview Cafe, located on the main level of the Pavilion near the Red Awning.

The daily hours are:

Breakfast	6:30 to 9:30 a.m.
Lunch	11:30 a.m. to 2 p.m.
Snack	2:30 to 4:30 p.m.
Dinner	4:30 to 7 p.m.

Vending Machines
For your convenience, vending machines are adjacent to the Bayview Cafe.

Other Food and Snack Retail Outlets

- 301 Building Lobby, 7 a.m. to 4 p.m.
- Alpha Commons Building Lobby, 7 a.m. to 4 p.m.
- Bayview Medical Office Building, located by the Blue Awning, 7 a.m. to 2 p.m.

Safety and Security

Security staff are available at all times to provide escort to any location on the campus, assist with car trouble and provide information on lost and found items. Call 410-550-0333 for assistance.

Fire Drill

For your protection, the hospital regularly conducts fire and disaster drills. These drills are announced over the speaker system. If a drill occurs while you are here, please remain in your room and do not be alarmed. The staff is trained to ensure safety.

Flowers and Mail

Flowers and cards may be sent to you in your room.*
Your mailing address while you are in the hospital is:

Your Name
Room Number
Johns Hopkins Bayview Medical Center
4940 Eastern Avenue
Baltimore, MD 21224-2780

**Live plants, flowers and fruit baskets are not permitted in the intensive care areas or the Johns Hopkins Burn Center.*

Gift Shop

The gift shop is located in the Francis Scott Key Pavilion. A variety of snacks, drinks, gifts, toys, cards and toiletries are available. We offer convenient day and evening hours. Call 410-550-0266 for more information.

JHGuestnet

JHGuestnet allows you to access the wireless network during your visit as a valued guest. We are pleased to provide this service to you.

Requirements - A notebook computer running a Windows or Macintosh operating system with a wireless interface card is required to access JHGuestnet. Your computer should be running a commercial anti-virus product.

Connecting - Open your wireless network configuration page, and select the JHGuestnet network.

- You may receive notification that information sent over the network is not encrypted. Select "connect anyway" in order to proceed. Once connected, please read and accept the terms and conditions of use. Your default home page will not be displayed.

NOTE:
JHGuestnet is not available in all areas of the Medical Center. Some websites may be blocked, however, access to corporate and personal email accounts should function properly. If you feel a website was blocked in error, contact the Johns Hopkins Support Center at 410-955-HELP.

Patient- and Family-Centered Care

Office of Patient Experience

Quality health care is our goal for every patient. Your care team is specially trained to take care of your needs. In some cases, you may want to talk with a patient representative about a special concern or to recognize our faculty or staff. Patient representatives can help and, if necessary, act as your direct contact with administration.

For assistance, call 410-550-0626 or the operator at 410-550-0100.

Spiritual Care and Chaplaincy

Spiritual Care and Chaplaincy is available to patients and families of all faith traditions. Our chaplains provide spiritual and emotional support and comfort to patients and their loved ones during their hospital experience. Chaplains may provide religious and sacramental services, listening and support, as well as assistance with faith-specific needs, such as prayer or advice about a spiritual practice. Chaplains are available 24/7 and can be reached by asking your nurse or calling the operator at 410-550-0100. You also may want to call your own clergy or spiritual support person to let them know you are in the hospital. The meditation chapel, located on the main floor of the Medical Center, is available to patients and families of all beliefs. A prayer book is available in the chapel for writing down specific prayers. These prayers are collected and each one is prayed aloud at the beginning of the day by the chaplains. Spiritual Care and Chaplaincy can be reached by calling 410-550-7569.

Community Health Library

We invite outpatients, families, friends and neighbors to visit our Community Health Library. Located on the main floor of the Francis Scott Key Pavilion, it offers a variety of information on health and wellness issues. The library provides access to reliable medical resources through print and online resources. There is a library staff member available to assist you with all of your research needs. The library is open from 9 a.m. to noon and 1 to 4 p.m. on weekdays. Please call 410-550-0681 for more information.

Ethics Committee

The Ethics Committee is committed to serving the needs of the Medical Center with respect to ethical concerns that may arise in the course of patient care. The Ethics Committee provides an ethics consultation service for patients, family members and staff faced with difficult treatment decisions. The committee includes physicians, nurses, administrators, social workers, clergy and community representatives. To request a consult, call Patient Support at 410-550-7097, Monday through Friday, 8:30 a.m. to 5 p.m. After hours and on weekends, call the paging operator at 410-550-0100.

Interpreters

Foreign language interpreters are available. For Spanish and Greek interpreters, your health care team can assist you, or you can call Patient Support at 410-550-0627.

For telephonic interpretation, the Cyracom foreign language phones are available on every patient unit. Your nurse can assist you.

For sign language interpreters or to arrange for a TTY (text telephone), your nurse can assist you, or you can call Patient Support at 410-550-0627.

Labyrinth

The labyrinth provides community members, patients, visitors and employees with a peaceful, meditative and healing space. This spiral walking course, which leads into the center and back out, helps people find physical and mental relaxation. The labyrinth is located on Mason Lord Drive.

Organ and Tissue Donation

Organ and tissue donations provide new hope to seriously ill or injured persons. We participate with The Living Legacy Foundation to manage organ and tissue donations. If you already have a donor card, it is important that your family is fully informed of your wishes. We comply with state and federal laws and offer the option of organ and tissue donation to all families when it is appropriate. Please ask the Medical Center staff for information about your option to donate or call the Living Legacy Foundation of Maryland at 1-800-641-HERO (4376).

Palliative Care

The Palliative Care team helps patients and families dealing with serious illnesses. The team addresses physical, psychological, social and spiritual needs and can help patients cope with the pain and anxiety that comes with serious health problems.

The team consists of a physician, nurse practitioner, social worker and chaplain who can visit you in your hospital room. Any person with a serious or chronic illness, or who is suffering from uncomfortable symptoms, or who has family members who are experiencing stress related to their loved one being in the hospital, could benefit from a visit from the Palliative Care team. If you would like someone from the Palliative Care team to meet with you, ask your doctor to make the referral.

Patient and Family Advisory Council

Your health care experience can help improve the health of our communities. We are looking for patients and families who are willing to share their experience and become a vital part of our Patient and Family Advisory Council (PFAC).

Your participation can:

- Promote improved relationships between families and hospital staff.
- Shape change throughout the Medical Center and improve patient safety.
- Provide a venue for patients and families to assist in providing input on the delivery of services to patients.
- Give others the chance to hear the voice of the patient.

To learn more, or to apply as a PFAC volunteer, please call 410-550-0627.

Volunteers

We have many volunteers who donate their time and talent to enhance your stay. Volunteers are available in departments throughout the Medical Center. Many of them enjoy visiting at the bedside, talking with patients, and performing clerical and other services. If you would like more information, please call Volunteer Services at 410-550-0627.

Your Experience

After you return home, you may receive a survey in the mail asking you to tell us about your experiences at. Your feedback is very important to us, so please take the time to complete the survey.

Medical Records/ Bills and Insurance

MyChart

Your medical records are available in your online MyChart account at no charge. MyChart is a secure website that lets you access important information from your hospital record. It includes most test results, diagnosis and medications. When you leave the hospital, the last page of your After Visit Summary (AVS) has an activation code and other information to help you set up your account. If your personal physician is affiliated with Johns Hopkins Medicine, you may have already set up your account. For more information, view our Frequently Asked Questions at mychart.hopkinsmedicine.org.

Medical Records

You have the right to obtain a copy of your medical records and to request that your records be provided to someone else (subject to certain limitations). In order to protect your privacy, we must have your written permission before releasing the records. You can contact Health Information Management Monday through Friday, 8:30 a.m. to 5 p.m., at 410-550-0688, or email the department at jhbmchim@jhmi.edu.

When completing the health record release form:

- Be sure to fill it out completely, including signing and dating it.
- No information can be released unless the form is properly signed and dated. Incomplete forms may be returned to you for completion.
- If you are the health care agent or court appointed representative, please bring proof of your authority to act on behalf of the patient.

Return the completed form (and any attachments) via fax, in person or by mail:

Fax # 410-550-3409

Mailing address:
Johns Hopkins Bayview Medical Center,
4940 Eastern Avenue, Baltimore, MD, 21224
Attention: Health Information Management

About Your Bill

Maryland's Health Services Cost Review Commission sets and approves rates and charges for Johns Hopkins Bayview Medical Center. The commission's purpose is to protect patients from unjust and unfair costs and control hospitals' charges.

Before admission, all non-emergency patients will be asked for evidence of adequate hospital and medical insurance. Many insurance carriers require us to contact them for approval before admission.

A representative from the pre-billing office will contact you for financial information and explain our policies. Please have all of your insurance information available (insurance company's name, contract number, group number). As a convenience to you, we will bill your insurance company.

If you do not have health insurance, have difficulty paying your bill, believe you are entitled to Medical Assistance or if you have questions about your account before or during your stay, contact your Certified Application Counselor/Financial Counselor at 410-550-0830 or 410-550-3505. Unless arrangements have been made, payment in full for service is due on receipt of your final bill. We accept MasterCard, VISA, Discover and American Express. Insurance carriers, Medicare and Medicaid require separate billing for professional fees from physicians and hospital charges. The bills are outlined in the section that follow.

Your Johns Hopkins Bayview Medical Center Bill

Your Medical Center bill includes room and associated charges, X-rays, laboratory work, medicines and other medical supplies. If you have both inpatient (overnight stays) and outpatient (same-day or office visit) services, these may be billed separately.

Your Doctor's Bill

Your doctor's bill includes fees for examinations, care and interpretation of diagnostic tests. You may receive several bills if more than one physician is involved in your care. Bills should be paid according to arrangements made during the admission process.

Physician charges are not included in hospital bills and are billed separately.

Patient Billing and Financial Assistance Information

Billing Rights and Obligations

Not all medical costs are covered by insurance. The hospital makes every effort to see that you are billed correctly. It is up to you to provide complete and accurate information about your health insurance coverage when you are brought into the hospital or visit an outpatient clinic. This will help make sure that your insurance company is billed on time. Some insurance companies require that bills be sent in soon after you receive treatment or they may not pay the bill. Your final bill will reflect the actual cost of care minus any insurance payment received and/or payment made at the time of your visit. All charges not covered by your insurance are your responsibility.

Financial Assistance

If you are unable to pay for medical care, you may qualify for free or reduced-cost medically necessary care if you:

- Are a U.S. citizen or permanent resident living in the U.S. for a minimum of one year.
- Have no other insurance options.
- Have been denied medical assistance or fail to meet all eligibility requirements.
- Meet specific financial criteria.

If you do not qualify for Maryland Medical Assistance or financial assistance, you may be eligible for an extended payment plan for your medical bill. You can call 443-997-0200 or 1-877-361-8702 with questions concerning:

- Your hospital bill.
- Your rights and obligations with regard to your hospital bill.
- How to apply for free and reduced cost care.
- How to apply for Maryland Medical Assistance or other programs that may help pay your medical bills.

For more information about Maryland Medical Assistance, contact your local department of social services at 1-800-332-6347, TTY 1-800-925-4434 or visit www.dhr.state.md.us.

If you need health insurance, you can contact the Maryland Health Connection at 1-855-642-8572, TTY 1-855-642-8573 or marylandhealthconnection.gov.

Health Information Exchange

As permitted by law, we may share information that we obtain or create about you with other health care providers through the Chesapeake Regional Information System for our Patients, Inc. (CRISP), Maryland's internet-based health information exchange (HIE). HIE is a way of instantly sharing health information among doctors' offices, hospitals, labs and radiology centers, and will assist your doctors in making decisions about your care.

You may choose to "opt out" of CRISP. "Opting out" means that doctors will be unable to access your health information through the CRISP HIE. However, opting out of the HIE will not prevent your doctor from being able to use the HIE to view the results of tests ordered by your doctor. You may "opt out" by contacting CRISP at www.crisphealth.org or calling 1-877-952-7477. You may change your decision at any time by contacting CRISP.

Going Home

Discharge

Once your doctor has completed your discharge forms, you may leave the Medical Center. You may want to make arrangements with a family member or friend to help you when it is time to go home. If you arrange for someone to take you home, there are several 30-minute parking spaces available for your driver at the main entrance. Please take an extra minute to ensure you have all of your belongings.

Discharge Instructions

Before you leave, your nurse provides instructions, prescriptions and return appointment slips. Please make certain you ask questions if you do not understand your discharge plan or prescribed medication.

Pharmacy

Discharged patients, as well as those who visit the clinics on a follow-up basis, may have their prescriptions filled at our outpatient pharmacy.

As part of our effort to ensure comprehensive and consistent care, we offer patients a full-service pharmacy located in the Bayview Medical Offices. The pharmacy can fill your prescription(s) and over-the-counter medication needs.

Hours are Monday through Friday, 8 a.m. to 7 p.m., Saturday 10 a.m. to 4 p.m. and Sunday 10 a.m. to 2 p.m. Most prescriptions can be filled while you wait.

The pharmacy can provide a consultation to patients and their physicians regarding patient education, drug information and medication administration aids. The pharmacy can also help you obtain home-based infusion therapy, medical equipment and respiratory equipment. For the pharmacy at the Medical Center, call 410-550-0961 or FAX 410-550-5566. The main referral line for home care pharmaceutical needs is 410-288-8100.

Safe Practices

As a partner in your health care, continue safe practices at home:

- Assign a Health Buddy.
- Talk with your doctors and pharmacist. Ask questions and write down what they say.
- Obtain bedside rails at home if you need them.
- Keep a phone or bell near your bed so you can alert someone when you need help.
- Never smoke in bed.
- Maintain safe practices at home if you have oxygen equipment. Oxygen is highly flammable.
- Use a grounded or three-prong connector for medical equipment. Do not use extension cords.

Called to Care

Called to Care is a program that prepares and supports individuals caring for loved ones with health-related needs or limitations. The program, which is funded in part by the Weinberg Foundation, offers assistance in several ways: supportive services, education, and partnerships with community organizations and agencies. For more information, call 410-550-8018.

Bridge to Home and Health Buddy Program

Being discharged from the hospital or seeing your health care provider can be overwhelming. Identifying a friend or family member to provide extra support when you leave the hospital or visit your health care provider can help you manage your health care in a variety of ways. Here are a few examples of how your Health Buddy can help you: by being present at the hospital when discharge instructions are reviewed, scheduling health care appointments, getting your prescriptions filled and helping to organize your medications. Your Health Buddy will be your partner in health. For additional information, please talk to your health care provider.

Notes and Questions

Johns Hopkins Bayview
Medical Center

4940 Eastern Avenue
Baltimore, MD 21224-2780

EXHIBIT 7

HOW CAN I PAY?

Paying your Johns Hopkins bill is about to get easier. You may pay your bill anytime 24/7 online, by mail or by phone.

To pay easily and securely online, view your test results, access your health record, make appointments, and enroll in electronic statements, sign up for MyChart at:
https://mychart.hopkinsmedicine.org

All Johns Hopkins Medicine healthcare provider locations accept MasterCard, Visa, American Express and Discover credit cards. To pay by phone please call **1(855)-662-3017 and select Option 1.** You can also pay by mail using the coupon at the bottom of your statement.

INTERNATIONAL AND SPECIAL SERVICES

International patients and their physicians or representatives should contact Johns Hopkins Medicine International at +1-410-955-8032 to schedule medical appointments, coordinate admitting and registration, and get assistance with language interpretation, transportation and airport pick-up, lodging and consolidated billing.

Patient coordinators and interpreters fluent in more than 25 languages are on site to assist patients in all aspects of care 24 hours a day.

International patients are those who are not citizens of the United States even if they speak English and do not require interpretation. If you are uncertain about whether you qualify as an international patient at Johns Hopkins Hospital or Bayview Medical Center, please contact International Finance at **+1-410-955-5939.**

WHY CAN'T MY SPOUSE GET INFORMATION ABOUT MY BILL?

Medical information is confidential, so we are not able to discuss your bill with anyone else but you. *(There are some exceptions such as cases involving patients who are minors or have legal guardians.)* You can authorize us to discuss your bill with someone else by filling out a HIPAA compliant authorization. Contact us for a HIPAA form to complete and return.

INTERPRETING SERVICES

Foreign Language Interpreting

+1-410-614-INTL (4685)

Sign Language Interpreting

Deaf and hearing-impaired patients can arrange for sign language interpreters or the use of a TTY by calling the following numbers:

410-955-2273 *(The Johns Hopkins Hospital)*
410-550-0626 *(Johns Hopkins Bayview Medical Center)*
410-740-7770 *(Howard County General Hospital)*
301-896-3100 *(Suburban Hospital)*
202-537-4070 *(Sibley Memorial Hospital)*

To contact other Hopkins Medicine care providers, please call Maryland Relay 7-1-1:
1-800-735-2258.

I HAVE A QUESTION ABOUT MY BILL, WHOM DO I CALL?

If you have questions about any bill you receive from Johns Hopkins Medicine, please contact us at the appropriate number listed below.

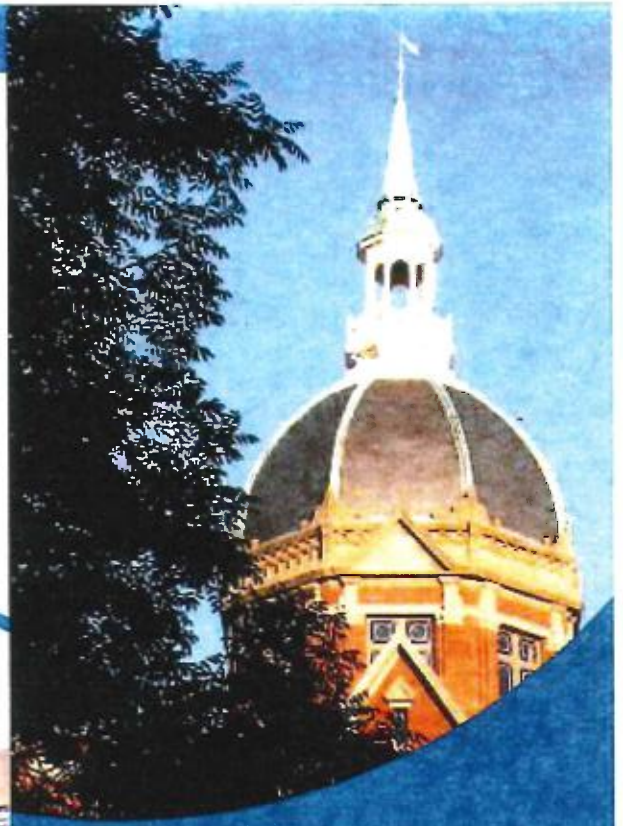
The Johns Hopkins Hospital
Johns Hopkins Bayview Medical Center
Howard County General Hospital
Suburban Hospital
Sibley Memorial Hospital
Office of Johns Hopkins Physicians
443-997-3370 *(local)*
1-855-662-3017 *(toll free)*
Monday – Friday 8:30 am – 4:30 pm EST
pfscs@jhmi.edu

Johns Hopkins Bayview Care Center
443-997-0229

Johns Hopkins Home Care Group
410-288-8000
1-800-288-2838 *(toll free)*

On the Web

For more information, go to
www.hopkinsmedicine.org



Understanding your medical bills

A guide to paying your Johns Hopkins Medicine bills

JOHNS HOPKINS

This guide will help you understand your financial responsibility and the complex process involved in paying medical bills. Take time to read this brochure carefully. Keep it with your other financial or health records. It will be a handy resource when questions arise.

WHAT DO I NEED BEFORE MY APPOINTMENT?

For each visit, remember to bring the following:

1. Health insurance card.
2. Picture identification.
3. Referral and/or authorization forms.

Please become familiar with your insurance plan(s) before your appointment. If you are unsure what service is covered, contact your insurance company's member services office directly.

In order to provide you with the most complete and accurate billing services, be sure to arrive early for your appointment.

- For clinic or outpatient visits, arrive 15 to 30 minutes before your appointment to allow for registration.
- For inpatient procedures, arrive by the specific time requested by our admitting staff or your physician's office.

Your Bill: There are many different types of bills depending on the location of the services you received and the billing cycle, as a result you may receive more than one bill, but you will not be billed more than once for the same service.

JOHNS HOPKINS IS SIMPLIFYING OUR BILLING STATEMENT!

For services after July 23, 2018, you will receive **one bill** for your care at Johns Hopkins Health System.

However, you may still receive multiple bills for services received prior to July 23, 2018, until those balances are paid from hospital-based physicians like anesthesiologists, pathologists, as well as from private community physicians.

We are also consolidating our call centers so that you have one place to call for questions about your bills. Our Customer Service department can be reached at 1-855-662-3017 and select 0.

This new bill was designed with you in mind to help you better understand your financial responsibility.

Inpatient Hospital Bill

Patients admitted to the hospital (inpatients), will receive multiple bills. A hospital bill will include charges for your room, food, medical supplies & services, and any tests or procedures that you undergo, including X-rays.

Outpatient Hospital Bill

Patients seen in a clinic or outpatient setting may receive multiple bills. Your clinic or outpatient bill will include charges for the use of the hospital facility and any tests or procedures done at the time of your appointment. For scheduling reasons, some tests may be performed later and will be billed separately.

Home Care Bill

Home care patients will receive a bill for services and/or products provided in the home. This bill may include charges for a visit from a nurse, home health and/or include items like IV therapy and home medical equipment.

WHEN SHOULD I PAY?

Before your admission, appointment or procedure please provide your insurance information. You may be required to pay for part of the service not covered by insurance. It is our policy to collect all amounts owed before services are rendered. For non-emergency visits or admissions, your treatment may be denied or delayed if your financial obligation is not met before the service date.

WHY DID I GET ANOTHER BILL?

Depending on your insurance benefits, the amount collected at your visit may be based on *estimated* charges. Fees associated with admission and outpatient surgeries are estimates based on previous services provided by Johns Hopkins Medicine healthcare providers. Your admission or procedure may require more or less services than initially estimated.

As a rule, you should contact your insurance payer before any hospital, clinic or physician office visit to find out what is and is not covered under your plan and whether you will be responsible for any part of the payment. Some insurance companies require a Co-pay for both hospital charges and physicians fees.

HOW CAN I GET FINANCIAL ASSISTANCE?

If you are unable to pay for your necessary medical care, you may qualify for financial assistance. If you need assistance, or would like additional information, please contact any of the billing offices listed on the back of this brochure. Financial Assistance will be based on the following factors:

- U.S. citizen or in the U.S. legally.
- Have exhausted all insurance options.
- Have been denied Medical Assistance.
- Other criteria regarding income, assets and outstanding debt.

EXHIBIT 8

Financial Assistance Policy

If unable to pay for medical care, you may qualify for financial assistance if you:

- Exhausted all insurance options
- Were denied medical assistance through all other available means
- Meet other criteria for financial assistance

For help, more information or to apply for financial assistance, please call

443-997-0200 or 1-877-361-8702

Or visit
hopkinsmedicine.org/homc/patient_assistance

If you feel you have been improperly denied free or reduced charged care, call the Compliance Office
1-877-WE COMPLY
(1-877-932-6731)

Si usted es incapaz de pagar por sus servicios médicos, se puede calificar para asistencia financiera:

- Si ha agotado todas las opciones de los seguros
- Si le ha sido negado ayuda médica a través de todas las formas disponibles
- Si puede cumplir con criterio para asistencia financiera

- Si usted necesita ayuda, o desea información adicional o un formato para aplicar para asistencia financiera, por favor comuníquese con

443-997-0200 or 1-877-361-8702

Or visit
hopkinsmedicine.org/homc/patient_assistance

Si usted siente que le han sido negado los cargos gratuitos o los costos reducidos llame Oficina de Conformidad
1-877-WE COMPLY (1-877-932-6731)

EXHIBIT 9

Johns Hopkins Bayview Medical Center

Summary of UCC

FY 2014 - FY 2019 (Projected)

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018 (Estimated)
A	UCC in Rates[1]	6.84%	6.15%	5.25%	4.72%	4.49%
B	UCC Pool (Payment)/Receipt	0.91%	0.83%	1.73%	1.37%	0.51%
C (A+B)	**Total[1]**	**7.75%**	**6.98%**	**6.98%**	**6.09%**	**5.01%**
D	Actual UCC[2][6]	8.82%	6.49%	5.10%	4.11%	5.40%
E (C-D)	**Over/(Under) Funding**	**(1.07%)**	**0.49%**	**1.87%**	**1.98%**	**(0.39%)**
F	Estimated GBR Revenue[3][4]	$581,415,284	$595,773,424	$610,423,590	$620,440,469	$647,476,458
G (E x F)	**Over/(Under) Funding $**	**($6,216,939)**	**$2,925,564**	**$11,427,989**	**$12,297,368**	**($2,537,127)**

Notes:

[1] Source: HSCRC Statewide Calculation of UCC; based on 50/50 blend of predictive UCC- 2 year actual UCC average

[2] Source: Annual Filings FY2014 - FY2017

[3] Source: PAU Shared Savings Permanent Revenue

[4] FY2014 and FY2015 permanent revenue unavailable; calculated off of FY2016

[5] FY2019 permanent revenue unavailable; calculated as FY2018 revenue inflated by 2.49%

[6] FY2018 'Actual UCC' from FY2018 YTD (June) FSA Schedules; FY2019 Actual UCC estimated at FY2018 level

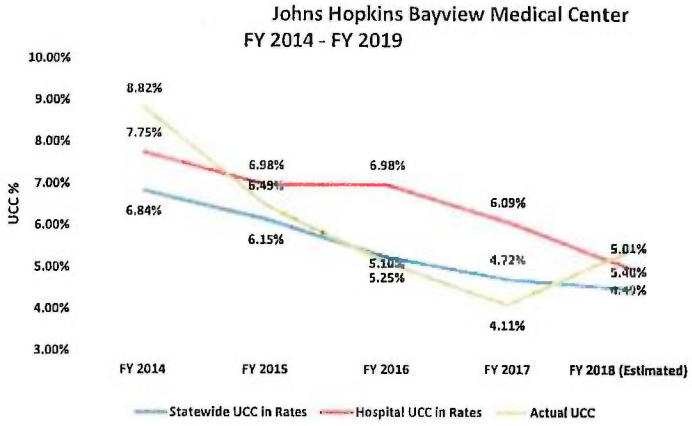


EXHIBIT 10

JHHS Maryland Hospital Volumes: Inpatient Dishcarge, OP Visits
Volume by Fiscal Year

	Encounters by Fiscal Year		
	2016	2017	2018
Bayview Medical Center	418,127	413,876	407,981
Howard County General Hospital	137,157	130,000	117,274
Suburban Hospital	67,895	70,482	67,960
Johns Hopkins Hospital	890,750	848,770	843,816
Total JHHS Maryland Hospitals	1,513,929	1,463,128	1,437,031

	Unique Patients by Fiscal Year		
	2016	2017	2018
Bayview Medical Center	118,198	121,975	120,549
Howard County General Hospital	83,923	81,793	77,445
Suburban Hospital	48,729	50,587	50,126
Johns Hopkins Hospital	271,442	271,418	267,562
Total JHHS Maryland Hospitals	522,292	525,773	515,682

	Debt Collection Lawsuits by CY		
	2016	2017	2018
Bayview Medical Center	487	237	395
Howard County General Hospital	489	319	411
Suburban Hospital	192	119	223
Johns Hopkins Hospital	535	338	428
Total JHHS Maryland Hospitals	1,703	1,013	1,457

	Debt Collection Lawsuits by CY		
	2016	2017	2018
Bayview Medical Center	487	237	395
Howard County General Hospital	489	319	411
Suburban Hospital	192	119	223
Johns Hopkins Hospital	535	338	428
Total JHHS Maryland Hospitals	1,703	1,013	1,457

	% Of Encounters Resulting in a Lawsuit		
	2016	2017	2018
Bayview Medical Center	0.12%	0.06%	0.10%
Howard County General Hospital	0.36%	0.25%	0.35%
Suburban Hospital	0.28%	0.17%	0.33%
Johns Hopkins Hospital	0.06%	0.04%	0.05%
Total JHHS Maryland Hospitals	0.11%	0.07%	0.10%

	% Of Unique Patients Sued		
	2016	2017	2018
Bayview Medical Center	0.41%	0.19%	0.33%
Howard County General Hospital	0.58%	0.39%	0.53%
Suburban Hospital	0.39%	0.24%	0.44%
Johns Hopkins Hospital	0.20%	0.12%	0.16%
Total JHHS Maryland Hospitals	0.33%	0.19%	0.28%

EXHIBIT 11

JHBMC MSGA Primary and Secondary Service Area
Discharges per Zip Code
Discharges defined by Age 15+, and APR DRG
CY2016

Zip Code	Total Discharges	Cumulative %
21222	3,823	22.1%
21224	2,445	36.2%
21206	786	40.8%
21221	762	45.2%
21213	568	48.4%
21219	542	51.6%
21205	462	54.2%
21220	417	56.6%
21234	287	58.3%
21237	268	59.9%
21236	243	61.3%
21218	205	62.4%
21231	205	63.6%
21215	154	64.5%
21202	151	65.4%
21217	142	66.2%
21223	125	66.9%
21225	109	67.6%
21207	108	68.2%
21214	102	68.8%
21216	100	69.4%
21229	98	69.9%
21040	91	70.4%
21122	91	71.0%
21212	84	71.5%
21230	80	71.9%
21239	80	72.4%
21014	75	72.8%
21061	75	73.2%
21001	74	73.7%
21085	72	74.1%
21009	64	74.5%
21208	63	74.8%
21227	63	75.2%
21015	62	75.5%
21078	61	75.9%
21128	61	76.2%
21228	60	76.6%
21044	53	76.9%
21201	53	77.2%
21117	52	77.5%
21060	51	77.8%
21042	47	78.1%
21144	47	78.3%
21045	42	78.6%
21093	39	78.8%
21157	39	79.0%
21050	38	79.3%
21030	37	79.5%

21043	37	79.7%
21133	36	79.9%
21784	36	80.1%
21211	35	80.3%
20707	32	80.5%
21244	32	80.7%
21204	31	80.9%
21146	30	81.0%
21209	30	81.2%
21047	29	81.4%
21162	29	81.5%
21287	29	81.7%
20715	27	81.9%
21075	27	82.0%
21090	27	82.2%
21210	27	82.3%
21401	26	82.5%
21113	25	82.6%
21286	24	82.8%
21403	24	82.9%
21017	23	83.0%
21076	23	83.2%
21136	23	83.3%
21226	23	83.4%
21921	23	83.6%
21084	22	83.7%
21108	22	83.8%
21502	21	83.9%
21702	21	84.1%
21740	20	84.2%
20904	19	84.3%
21087	19	84.4%
21771	19	84.5%
21801	19	84.6%
21037	18	84.7%
21046	18	84.8%
21052	18	84.9%
20706	17	85.0%
Subtotal	14,717	
All Other	2,592	
Grand Total	17,309	