

The Commonwealth of Massachusetts

HEALTH POLICY COMMISSION

50 MILK STREET, 8TH FLOOR
BOSTON, MASSACHUSETTS 02109
(617) 979-1400

STUART H. ALTMAN
CHAIR

DAVID M. SELTZ
EXECUTIVE DIRECTOR

September 27, 2016

Nora Mann, Director
Determination of Need Program
Massachusetts Department of Public Health
99 Chauncy Street
Boston, MA 02111

Re: *Boston Children's Hospital Determination of Need Project Number 4-3C47*

Dear Attorney Mann:

Pursuant to MASS. GEN. LAWS ch.111, § 25C(g) and (i) and the Department of Public Health's (DPH) regulations at 105 CMR 100.155, the Health Policy Commission (HPC) submits the following comment regarding the above-referenced matter for consideration by DPH and the applicant, Boston Children's Hospital (Children's).

The HPC is an independent state agency established in the Commonwealth's landmark health care cost containment law, "*An Act Improving the Quality of Health Care and Reducing Costs through Increased Transparency, Efficiency, and Innovation*," Chapter 224 of the Acts of 2012 (Chapter 224). Chapter 224 established a benchmark for a sustainable rate of health care cost growth and created the HPC to monitor the health care delivery and payment systems in the Commonwealth. The HPC is charged with developing policies to reduce overall cost growth while improving quality, including efforts to foster the continued development of a competitive, value-based health care market.

Because health care costs may be influenced by changes in the delivery system, Chapter 224 directs the HPC to monitor changes in our health care market; to provide objective, data-driven analyses of changes that have the potential to significantly impact health care costs or market functioning; and to thus increase public transparency and accountability for market changes that may impact health care costs, quality, and access.¹ For provider changes that require the filing of a determination of need (DoN) application, Chapter 224 provides that the HPC may comment on any such application. DPH regulations further provide that the HPC is a "party of

¹ Examples of the HPC's market oversight authority include its authority to require specific written and oral testimony in connection with the HPC's annual cost trends hearings (MASS. GEN. LAWS c. 6D, § 8), to receive notices of material changes to provider organizations and evaluate the impact of such changes on health care costs and market functioning (c. 6D, § 13), and to potentially require a performance improvement plan or conduct a cost and market impact review if a party is identified by CHIA as having excessive health care cost growth (c. 6D, § 10).



record” to all DoN applications, that any independent cost analysis (ICA) requested of a DoN applicant must “demonstrate that the application is consistent with the health care cost-containment goals of Massachusetts and the Health Policy Commission,” and that the HPC may recommend that DPH request an ICA and may comment on any such analysis.

Consistent with the HPC’s role of providing objective, data-driven analyses of changes to the health care delivery system, the HPC has elected to exercise its authority to comment into the DoN process for the first time based on (1) results of HPC analyses showing that the above-referenced application is likely to impact Massachusetts health care spending and (2) the HPC’s determination that it can provide analyses of these impacts that may aid DPH in its review and that have not been part of the public record regarding this application to date.

Recognizing the role envisioned for the HPC in Chapter 224 and the thorough review of the application being conducted by DoN staff regarding all relevant factors for approval, the following comment summarizes certain key information and the results of HPC analyses only to the extent they relate to the project’s impact on health care spending and alignment with Massachusetts’ and the HPC’s cost containment goals.²

SUMMARY OF HPC ANALYSES

Boston Children’s Hospital is one of the largest pediatric medical centers in the United States, with a stated commitment to being a worldwide leader in the advancement of children’s health. Children’s currently has 404 beds and approximately 800 pediatric specialists on staff, spanning 41 different board-certified specialties in pediatrics and 150 pediatric subspecialty services. The organization operates inpatient and outpatient facilities in a number of different locations in the Greater Boston region, including its main Longwood campus, Waltham, Lexington, and Peabody. The hospital treats some of the most complex pediatric cases in Massachusetts and nationally.³

The Children’s DoN application (DoN Application) proposes three primary expansions: (1) construction of a new 11-floor clinical tower on its Longwood campus, (2) redevelopment of a property in Brookline to create an ambulatory care facility, and (3) renovation of existing buildings on its Longwood campus. These facilities will include an expansion and reorganization of Children’s cardiovascular program (the “Heart Center”), an expanded and modernized neonatal intensive care unit (NICU), additional pediatric ICU (PICU) beds, and renovation to convert double-bed rooms into single-bed rooms. In total, the expansion will add 71 new beds (61 PICU, 6 NICU, and 4 psychiatric), 4 operating rooms (ORs), and two magnetic resonance imaging machines (MRIs) to Children’s facilities, bringing the totals to 475 beds, 28 ORs, and 6 MRIs. Children’s projects the expansion will cost an estimated \$1.068 billion and will increase annual operating expenses by approximately \$137.5 million. Children’s indicates that the need for increased capacity is driven by growing numbers of out-of-state patients and increasing

² For example, we do not extensively address topics such as the need for the proposed expansion or the quality of Children’s compared to other pediatric providers in the state.

³ An estimated 30% of Children’s discharges in 2015 were in the top 50% of diagnoses by severity.

complexity of care and states that it will see no increase in inpatient care for Massachusetts residents as a result of the proposed project.

Based on the HPC's review of all materials submitted to date as part of the DoN Application, including the ICA dated August 5, 2016, and analyses of data collected by the HPC, other state and federal agencies, and certain proprietary sources, the HPC concludes that there is a likelihood that the expansion will lead to increased Massachusetts health care spending. The results of the HPC's review and analyses are summarized below.

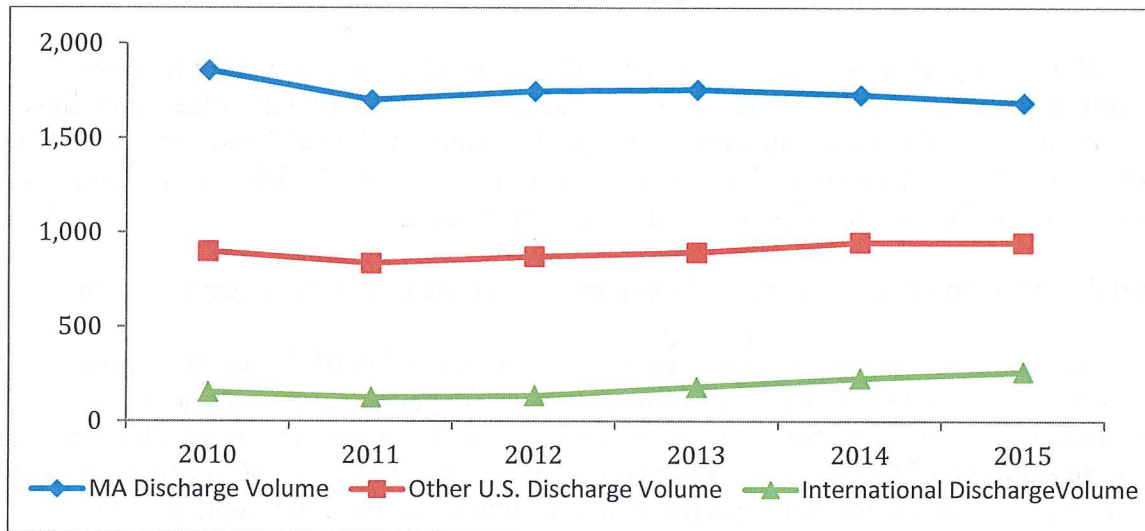
Potential shifts in inpatient care are likely to increase Massachusetts health care spending

Children's expects an increase in patient volume as a result of the proposed project, but projects all of that volume would result from an increase in patients from outside of Massachusetts.⁴ Specifically, the addition of 61 PICU beds is projected to allow Children's to provide an additional 3,696 discharges per year, while the addition of 6 NICU beds is projected to result in an additional 98 discharges per year, presumably all for out-of-state patients. However, the HPC concludes that the projection that Children's additional inpatient capacity will be filled entirely by non-Massachusetts discharges is unlikely based on the information in the DoN Application and ICA, Children's current activities in the market, and Children's historic trends.

The DoN Application and ICA include only minimal quantitative data to substantiate Children's projection that out-of-state patients will make up 100% of new inpatients. In 2015, 72% of Children's pediatric discharges and 58% of discharges for patients needing special care services, including intensive care, were Massachusetts residents. While out-of-state and international volume at Children's does appear to be growing, the rate of increase does not appear to be sufficient to fill all of the proposed new ICU capacity with out-of-state and international patients, as shown below.

⁴ See ICA at 12 (projecting a decrease in inpatient utilization for Massachusetts patients and increases for other patients) and 26 ("The assumptions underlying the project's volume and financial analysis do not include market share changes related to Massachusetts residents. There are no expected increases in utilization").

Children's Patient Origins for Patients with Special Care Charges⁵ (Proxy for ICU Use) (2010-2015)



Source: HPC analysis of CHIA hospital discharge data for patients one week through 17 years old

Children's current market activities, including extensive and ongoing efforts to extend its Massachusetts referral network, are likely to increase Massachusetts referrals (and thereby Massachusetts volume) to Boston Children's Hospital over time. Over the last two years, the HPC has received six notices of material change that involve new or formalized provider relationships with Children's, including one contracting affiliation and five clinical affiliations which made Children's the preferred referral partner for some of the largest provider systems in the state.

Utilizing the best available data regarding the origin of Children's inpatients over the past seven years,⁶ the HPC modeled eight different potential trend lines for the geographic origin of Children's pediatric inpatients over the next 10 years using logarithmic and exponential best fit models. Even making the conservative assumption that Children's ratio of commercial discharges to Medicaid discharges will remain at the current level, and assuming exponential growth in out-of-state patients, our analyses indicate that Children's would potentially receive at least 1,256 additional commercial discharges from Massachusetts patients annually by 2025 to achieve their expected post-expansion utilization levels. On the other hand, if out-of-state and international trends flatten out over time such that Children's maintains its current mix of Massachusetts patients, we project that Children's would receive as many as 2,650 new

⁵ CHIA defines special care accommodations for the purpose of hospital discharge data submission as care in any type of ICU, burn units, coronary and pulmonary care, myocardial infarction care, and heart transplant services. See CTR. FOR HEALTH INFO. & ANALYSIS, HOSPITAL INPATIENT DISCHARGE DATA FILE SUBMISSION GUIDE 105-107 (Apr. 2014), available at <http://www.chiamass.gov/assets/docs/g/chia-regs/inpatient-specss-submission-guide.pdf>.

⁶ The HPC used CHIA hospital discharge data for 2009 through 2015 to identify the geographic origin of pediatric patients at Children's and assess trends in the number of these patients from Massachusetts, from the rest of the United States, and from outside of the United States.

commercially insured discharges annually from Massachusetts patients to achieve their expected utilization levels post-expansion.⁷

Because Children's has among the highest commercial and Medicaid MCO prices in the state for hospital care,⁸ shifts of patients from any other Massachusetts hospital to Children's would be cost-increasing. Based on the range of potential shifts in inpatient discharges described above, we estimate that the proposed inpatient expansion could increase spending by \$8.5 to \$18.1 million annually for commercial payers in Massachusetts.⁹ These spending impacts only account for the movement of commercial patients.¹⁰

The proposed expansion could also increase Children's already substantial market share (46% of statewide commercial pediatric discharges in 2015, more than three and a half times that of its nearest competitor). Even if Massachusetts volume amounts to only 1,256 new commercial discharges annually at Children's, Children's commercial inpatient pediatric market share would reach over 55% statewide. Children's market share would be even higher (up to 65.9%) if the share of new patient volume from Massachusetts were comparable to current levels.

Finally, the projected shifts in commercial volume could also destabilize competing local pediatric care programs. If the loss of commercial volume were to cause other pediatric providers to close, the spending implications would be greater than those summarized here. For example, in our models we anticipate that some major providers of pediatric hospital care could lose 24% to 44% of their current commercial pediatric discharge volume. If these providers found that

⁷ HPC analysis of CHIA 2015 hospital discharge data and Navigant estimations of new inpatient bed capacity, occupancy and length of stay. We used a multinomial logit hospital choice model to estimate the likelihood that particular patients would choose Children's. The data used in the estimation account for patient factors, including place of residence, demographic information (age, gender, race), and clinical information (diagnosis, disease category, number of diagnoses, and number of procedures). These data were combined with data on hospital characteristics (including location, staffing, and service offerings including neonatal and pediatric intensive care units) to allow for an econometric analysis of the factors that, on average, lead particular types of patients to choose a given hospital (in this case Children's). Next, we used estimates from the hospital choice model to identify the Massachusetts hospitals from which Children's would draw additional patients if (1) it meets its post-expansion utilization targets and (2) the future composition of in-state, out-of-state, and international patients follows current trends. We conducted such calculations separately for PICU and NICU patients; the results discussed combine the two projections.

⁸ For example, the HPC found that Children's received prices for case-mix adjusted pediatric discharges that were 50% higher than Massachusetts General Hospital and 69% higher than Tufts Medical Center for one major payer in 2012 based on analysis of the CHIA all-payer claims database. *See also* CTR. FOR HEALTH INFO. & ANALYSIS, PROVIDER PRICE VARIATION IN THE MASSACHUSETTS HEALTH CARE MARKET (CALENDAR YEAR 2014 DATA) (Feb. 2016), available at <http://www.chiamass.gov/assets/docs/r/pubs/16/relative-price-databook-2014.xlsx>.

⁹ Using the choice estimations we conducted for new patients of the proposed additional PICU and NICU beds, described in note 7, *supra*, we compared how much revenue Children's receives per patient (based on 2014 price levels) to how much revenue other hospitals receive per patient, adjusting for the case mix of the shifting patients. The spending impacts shown represent the combination of expected impacts of all projected shifts in patients to Children's due to expanded PICU and NICU capacity. These figures are conservative; they assume that all current pediatric providers would be able to maintain their pediatric services, that Children's high mix of commercial patients (59% commercial among all Massachusetts discharges) would not further increase, and that Children's higher prices would increase no faster than the rest of the market. We note that Children's financial plan appears to assume annual rate increases for both commercial and Medicaid payers. ICA at 28.

¹⁰ If patients in Medicaid MCO plans also shift to Children's, the difference in prices between Children's and other hospitals for these payers may result in additional spending increases.

operating a pediatric program was no longer sustainable without this volume, we would expect additional shifts of patients to Children's with potentially significant impacts on spending and the competitive market.

Potential shifts in outpatient care are also likely increase Massachusetts health care spending

The DoN Application also includes a proposal to expand outpatient services on Children's Longwood campus and Brookline Place site, at a cost of \$56.4 million and \$140.7 million respectively. The project will renovate existing clinical and office space, move certain existing services, and add nearly 768,000 square feet of new space. Children's states that the expansion "will increase the system's overall ambulatory volume" and will "lay the groundwork for modest hospital clinical program growth" at the Brookline Place location. However, the DoN Application does not provide a summary of expectations for overall outpatient volume growth.

As with inpatient services, the HPC anticipates that Massachusetts patients will likely make up some of the additional volume Children's expects as a result of the proposed expansions. Such volume would likely come mostly from lower-priced providers since, as with inpatient prices, Children's generally has higher outpatient prices than all but a few hospitals.¹¹ Therefore, increases in Children's outpatient volume as a result of the proposed project would likely result in increases in total health care spending for Massachusetts. Initial HPC modeling suggests that, for every 1% of additional in-state, commercial outpatient volume that Children's receives as a result of its outpatient expansion, there would be a potential annual impact of \$850,000 for commercial payers.¹² As with inpatient volume shifts, this spending impact only accounts for the movement of commercial patients.¹³

¹¹ See CTR. FOR HEALTH INFO. & ANALYSIS, PROVIDER PRICE VARIATION IN THE MASSACHUSETTS HEALTH CARE MARKET (CALENDAR YEAR 2014 DATA) (Feb. 2016), available at <http://www.chiamass.gov/assets/docs/r/pubs/16/relative-price-databook-2014.xlsx>. (Children's outpatient relative prices are lower than those of Nantucket Cottage Hospital and Martha's Vineyard Hospital for Blue Cross Blue Shield of Massachusetts; Nantucket, Martha's Vineyard, and Falmouth Hospital for Tufts Health Plan; and Dana Farber Cancer Institute for Harvard Pilgrim Health Care).

¹² The DoN projects volume increases for certain services that could be provided at least in part on an outpatient basis (e.g., an increase of 13.8% for emergency department visits, diagnostic radiology, physical therapy, occupational therapy, and speech therapy; an increase of 5.9% in psychology clinic visits; and an increase of 8.4% in dental visits), but it is unclear what proportion of outpatient volume would be provided to Massachusetts residents.

¹³ If patients in Medicaid MCO plans also shift to Children's, the difference in prices between Children's and other hospitals for these payers may result in additional spending increases.

For all of these reasons, the HPC concludes that there is a likelihood that the expansion will lead to increased Massachusetts health care spending. We hope that this comment provides important and relevant factual context for the consideration of DPH and Boston Children's Hospital in this process.

Sincerely,

A handwritten signature in black ink, appearing to read "Stuart Altman", with a long horizontal line extending to the right.

Dr. Stuart Altman
Chair