Hospital AT Home
USERS GROUP

May 15, 2024

Paul B. Masi
Executive Director
The Medicare Payment Advisory Commission
425 I Street NW
Suite 701
Washington, DC 20001

RE: MedPAC March 8, 2023, Public Meeting – Medicare's Acute Hospital Care at Home Program

Dear Executive Director Masi,

We thank you for the ongoing analysis of Medicare's Acute Hospital Care at Home (AHCaH) waiver program. We appreciate MedPAC's interest in Hospital-at-Home (HaH) and that research continues in the forthcoming June MedPAC chapter.

In the March 8 meeting, we heard high levels of support for HaH from a majority of MedPAC Commissioners. Several Commissioners raised specific questions regarding the breadth and depth of HaH-related research conducted in the United States.

Below, we review the detailed data and references from our comment letter to MedPAC on September 22, 2023, and provide additional data on the robust US-focused HaH evidence base. The research appendix at the end of the letter provides specific research addressing the commissioner's concerns and questions.

We note that the US-based HaH research builds on robust international literature, including dozens of randomized controlled trials, multiple systematic reviews, and meta-analyses. While there are differences between various health care delivery systems across countries, this international literature provides strong evidence of HaH safety, quality, effectiveness, and ability to reduce overall health care expenditures.

Hospital-at-Home has an Established History Pre-Dating the CMS Waiver
Initial work on HaH in the U.S. began at Johns Hopkins in 1994 (Studies in Europe began in the 1970s). The Hopkins team developed the underlying theory of the HaH model, determined conditions to treat, developed eligibility criteria for treatment, and performed the first clinical pilot, demonstrating that HaH care was feasible and safe.

Hopkins investigators then led a National Demonstration and Evaluation study of HaH in several Medicare Advantage plans and a Veterans Affairs Medical Center, as there was no payment mechanism for HaH in traditional fee-for-service Medicare. Also, ***investigators were expressly forbidden by the Centers for Medicare and Medicaid Services to conduct a randomized controlled trial*** due to regulatory prohibitions in randomizing a Medicare benefit in the context of Medicare Advantage. In a rigorous, quasi-experiment, intent-to-treat approach, the study demonstrated high uptake of HaH by patients and family caregivers and, compared to traditional hospital care, excellent clinical outcomes, including

substantial reductions in adverse events such as delirium and mortality, better patient and family experience, lower caregiver stress, better functional outcomes, shorter length of stay, high provider satisfaction, and lower costs of care.

The next major US study of HaH was the Centers for Medicare and Medicaid Innovations (CMMI) Demonstration of HaH conducted at the Icahn School of Medicine at Mount Sinai, beginning in 2014. Compared to usual hospital care, HaH was associated with shorter lengths of stay, lower rates of readmission, lower rates of discharge to a skilled nursing facility, higher patient care ratings, and lower adjusted costs for the acute hospitalization phase and for the acute hospitalization plus 30-day post-acute period. MedPAC staff noted the challenges in using claims to perform studies of HaH. In this CMMI Demonstration, controls were identified in real-time, not in claims to address this issue.

Additionally, a randomized controlled trial of HaH at Brigham and Women's Hospital compared to usual hospital care demonstrated high levels of safety and care quality, improved levels of physical activity during care, lower 30-day hospital readmission, and lower costs of care. Qualitative work from this study demonstrated improved locus of control and experience among patients and similar caregiver burden between groups. Based on this work, Mass General Brigham plans to expand their HaH to 250 beds, obviating the need to build new hospital beds, saving approximately $500 million in hospital capital construction costs (assuming a conservative estimate of $2M cost to capitalize a hospital bed).

Most recently, outside the context of the AHCaH Waiver, several hospitals and health systems have begun to publish outcomes data. Kaiser Permanente reported on 1005 patients cared for in HaH with excellent clinical results. Atrium Health also recently reported on 9,400 patients cared for in HaH since 2020 and has saved more than 33,000 traditional hospital bed days for its patients. The Mayo Clinic has conducted a randomized controlled trial of its HaH program with over 1000 patients—which is being prepared for manuscript submission. Additionally, there were some concerns from Commissioners about the extent of rural HaH access and results. Randomized controlled trials of HaH have been conducted recently in rural settings, with a successful pilot in Utah, and the results of a multi-site randomized controlled trial are being prepared for submission.

During the March MedPAC session, reference was made to the systematic review of HaH included in the Chapter. Comments suggested that Commissioners may have thought this was the only systematic review of HaH. In fact, there have been multiple systematic reviews and meta-analyses of HaH. The most recent meta-analysis by the Cochrane Group in March 2024 on HaH substitution (i.e., patients transferred directly from the emergency department to HaH care) included 20 randomized controlled trials and concluded that HaH "may provide an effective alternative to inpatient care…"

Challenges with Evaluating the Hospital-at-Home Waiver Program

MedPAC acknowledged several challenges in evaluating the hospital-at-home waiver program. We agree that national programs and policies are often challenging to evaluate in the absence of a counterfactual; HaH is no different than other national evaluations. Nonetheless, we would like to provide additional research and resources for consideration while writing the June MedPAC chapter. The issues raised include:

- Evidence base and patient selection issues
- HaH's ability to respond to the urgent needs of patients -

- Quality measures for HaH
- Caregiver Issues
- HaH uptake issues

Evidence base and patient selection issues

As noted above, the evidence base for HaH is robust. The issue of patient selection was raised during the session. CMS reported on the first 11,159 patients treated under the AHCaH waiver. They noted that the outstanding clinical outcomes observed were likely the result of *appropriate* patient selection. All patients had to meet inpatient leveling criteria. This aligns with the comment from Commissioner Jaffery, who noted that difference in severity is a feature of the HaH, not a bug. Further, we note that over time, as logistics and technology improve, higher acuity levels will be able to be cared for in HaH. Recently, a national sampling of providers by a supplemental medical review contractor noted a very high rate of appropriately leveled patients, providing evidence that HaH admissions are subject to the same utilization management procedures that hospitals are subject to in the context of determining the appropriateness of admission. Nationwide randomized controlled trials of HaH are not feasible. CMS and investigators could and should conduct high-quality observational studies employing advanced analytic techniques (e.g., propensity scoring methods) to analyze AHCaH results.

HaH's ability to respond to the urgent needs of patients

Data from the AHCaH waiver suggest that patients in the AHCaH waiver have similar acuity to those in the inpatient setting. Data also show equitable care delivery, with patients with a disability, dual-eligibility, or black and latine race/ethnicity having very similar outcomes as the inverse. Additionally, appropriate escalation rates suggest safe practice, especially in the context of very low rates of unexpected mortality, as described in CMS's initial description of their AHCaH experience.

Quality Measures and Patient Safety for HaH

HaH patients are subject to all hospital quality measures. Under the AHCaH waiver, *additional* quality measures were implemented. CMS specifically requires a safety committee to meet and review all safety issues, as expected for the traditional hospital. We agree that HaH should be enveloped in hospital quality and safety reporting systems and the STARs rating system. Regarding the need for more data to better evaluate AHCaH, we agree that additional data could be useful to detect finer signals on quality and costs. This argues for an extension of the AHCaH waiver. We understand that approximately 11,000 patients have been treated under the waiver to date. Having data on 100,000 or 200,000 patients will be useful in this regard.

Caregiver Issues

The HaH literature strongly suggests that family members have equal or superior experience in HaH compared with traditional hospital care. The Hospital at Home Users Group is conducting additional qualitative and quantitative research on this issue to better clarify this data and create technical assistance tools to support family caregivers in HaH.

Hospital-at-Home Uptake Issues

Changing care delivery models is challenging for health systems. As Commissioner Jaffery noted, it is difficult to establish new HaH programs, and like anything new, it takes time. The uncertainty of continued payment for HaH is a "big deal" and a disincentive for new programs. Commissioner Casalino

noted that scale cannot be achieved in a short period of time. In our conversations with health system leaders, we know that many hospitals that have obtained the AHCaH waiver are moving slowly in implementation due to uncertainty in the longevity of payment.

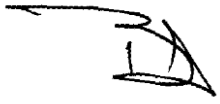
Important Paradigm Shifts Suggested by Several Commissioners
Commissioners Sarran and Ryu suggested that *MedPAC should view HaH as a clinical model and NOT as a payment model*. They noted that payment in fee-for-service needs to be enabled to scale and improve uptake in Medicare Advantage. Further, as Commissioner Poulsen noted, HaH challenges the boundaries between models, which will disappear in prepaid or total cost-of-care payment models.

Next Steps for Hospital-at-Home and the Importance of Medicare Leading These Efforts
We appreciate the challenges of crafting health care payment policy and MedPAC's role in the policy sphere. We suggest that whatever policy option is developed and implemented for HaH, it applies to the broad population that can benefit from HaH care, regardless of payer. This would provide a strong signal to non-governmental payers and ultimately help to create operational efficiencies to create scale and equity in the provision of HaH.

We thank you for the opportunity to provide input on the Hospital-at-Home program and provide our ideas for the future of the program. We look forward to working with MedPAC to ensure any additional data or input necessary for evaluating the program is provided. If you have any questions regarding this letter, please contact Bruce Leff, MD: bleff@jhmi.edu

Respectfully submitted,

Linda DeCherrie, MD
Vice President, Clinical Strategy and Implementation
Medically Home Group
Clinical Professor of Geriatrics and Palliative Medicine
Icahn School of Medicine at Mount Sinai
Co-Lead, Hospital at Home Users Group
ldecherrie@medicallyhome.com



Bruce Leff, MD
Professor of Medicine
Director, Center for Transformative Geriatric Research
Division of Geriatric Medicine
Johns Hopkins University School of Medicine
Co-Lead, Hospital at Home Users Group
bleff@jhmi.edu

David M. Levine, MD, MPH, MA
Associate Professor of Medicine
Brigham and Women's Hospital
Harvard Medical School
Clinical Director, Research and Development, Health Care at Home
Mass General Brigham
Co-Lead, Hospital at Home Users Group
dmlevine@bwh.harvard.edu

Al Siu

Al Siu, MD
Professor of Medicine
Past-Chair, Department of Geriatric Medicine
Icahn School of Medicine at Mount Sinai
Co-Lead, Hospital at Home Users Group
albert.siu@mssm.edu

Hospital-at-Home Research Appendix

About the Hospital-at-Home Users Group

The Hospital at Home Users Group was developed in 2019 as a collaborative of HaH programs around the United States, supported by The John A. Hartford Foundation of New York, which has funded initiatives in geriatric care for the last 40 years. The Hospital at Home Users Group is an open-source Group that actively shares technical assistance resources and best practices (for free), working together to expand the reach of HaH programs and develop the program and policy standards to inform regulatory and reimbursement policies necessary to enable the spread of high-quality HaH throughout the US. Our leadership team comprises experts from academic medical centers and industries who have led development, evaluation, dissemination, and policy work in Hospital at Home over the last three decades. Currently, the Users Group is comprised of 113 health systems that have operational HaH programs.

Controlled, quasi-experiment, intent-to-treat studies

- Leff B, Burton L, Mader SL, Naughton B, Burl J, Inouye SK, Greenough WB 3rd, Guido S, Langston C, Frick KD, Steinwachs D, Burton JR. Hospital at home: feasibility and outcomes of a program to provide hospital-level care at home for acutely ill older patients. Ann Intern Med. 2005 Dec 6;143(11):798-808. doi: 10.7326/0003-4819-143-11-200512060-00008. PMID: 16330791.
- Leff B, Burton L, Mader SL, Naughton B, Burl J, Greenough WB 3rd, Guido S, Steinwachs D. Comparison of functional outcomes associated with hospital at home care and traditional acute hospital care. J Am Geriatr Soc. 2009 Feb;57(2):273-8. doi: 10.1111/j.1532-5415.2008.02103.x. Epub 2008 Dec 11. PMID: 19170781.
- Leff B, Burton L, Mader S, Naughton B, Burl J, Clark R, Greenough WB 3rd, Guido S, Steinwachs D, Burton JR. Satisfaction with hospital at home care. J Am Geriatr Soc. 2006 Sep;54(9):1355-63. doi: 10.1111/j.1532-5415.2006.00855.x. PMID: 16970642.
- Frick KD, Burton LC, Clark R, Mader SI, Naughton WB, Burl JB, Greenough WB, Steinwachs DM, Leff B. Substitutive Hospital at Home for older persons: effects on costs. Am J Manag Care. 2009 Jan;15(1):49-56. PMID: 19146364.
- Marsteller JA, Burton L, Mader SL, Naughton B, Burl J, Guido S, Greenough WB 3rd, Steinwachs D, Clark R, Leff B. Health care provider evaluation of a substitutive model of hospital at home. Med Care. 2009 Sep;47(9):979-85. doi: 10.1097/MLR.0b013e31819c93fc. PMID: 19704355.

Ability to meet emergency needs of HaH Patients

- Clarke DV. Newsam J, Olson DP, Anams D, Wolfe AJ, Fleisher LA. Acute hospital care at home: the CMS waiver experience. NEJM Catalyst, December 7, 2021. https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0338

Clinical Safety & Feasibility of HaH

- Leff B, Burton L, Guido S, Greenough WB, Steinwachs D, Burton JR. Home hospital program: a pilot study. J Am Geriatr Soc. 1999 Jun;47(6):697-702. doi: 10.1111/j.1532-5415.1999.tb01592.x. PMID: 10366169.

Caregiver issues

- Leff B, Burton L, Mader S, Naughton B, Burl J, Clark R, Greenough WB 3rd, Guido S, Steinwachs D, Burton JR. Satisfaction with hospital at home care. J Am Geriatr Soc. 2006 Sep;54(9):1355-63. doi: 10.1111/j.1532-5415.2006.00855.x. PMID: 16970642.
- Leff B, Burton L, Mader SL, Naughton B, Burl J, Koehn D, Clark R, Greenough WB 3rd, Guido S, Steinwachs D, Burton JR. Comparison of stress experienced by family members of patients treated in hospital at home with that of those receiving traditional acute hospital care. J Am Geriatr Soc. 2008 Jan;56(1):117-23. doi: 10.1111/j.1532-5415.2007.01459.x. Epub 2007 Nov 2. PMID: 17979955.
- Mäkelä P, Stott D, Godfrey M, Ellis G, Schiff R, Shepperd S. The work of older people and their informal caregivers in managing an acute health event in a hospital at home or hospital inpatient setting. Age Ageing. 2020 Aug 24;49(5):856-864. doi: 10.1093/ageing/afaa085. PMID: 32428202; PMCID: PMC7444665.
- Moss CT, Schnipper JL, Levine DM. Caregiver burden in a home hospital versus traditional hospital: A secondary analysis of a randomized controlled trial. J Am Geriatr Soc. 2023. *In press.*

HaH Key Metrics – Shorter Lengths of Stay and Lower Rates of Re-Admission

- Federman AD, Soones T, DeCherrie LV, Leff B, Siu AL. Association of a Bundled Hospital-at-Home and 30-Day Postacute Transitional Care Program With Clinical Outcomes and Patient Experiences. JAMA Intern Med. 2018 Aug 1;178(8):1033-1040. doi: 10.1001/jamainternmed.2018.2562. PMID: 29946693; PMCID: PMC6143103.
- Saenger PM, Ornstein KA, Garrido MM, Lubetsky S, Bollens-Lund E, DeCherrie LV, Leff B, Siu AL, Federman AD. Cost of home hospitalization versus inpatient hospitalization inclusive of a 30-day post-acute period. J Am Geriatr Soc. 2022 May;70(5):1374-1383. doi: 10.1111/jgs.17706. Epub 2022 Feb 25. PMID: 35212391; PMCID: PMC9307069.

Research delineating the facilitators and barriers to HaH implementation

- Brody AA, Arbaje AI, DeCherrie LV, Federman AD, Leff B, Siu AL. Starting Up a Hospital at Home Program: Facilitators and Barriers to Implementation. J Am Geriatr Soc. 2019 Mar;67(3):588-595. doi: 10.1111/jgs.15782. Epub 2019 Feb 8. PMID: 30735244.
- Gorbenko K, Baim-Lance A, Franzosa E, Wurtz H, Schiller G, Masse S, Ornstein KA, Federman A, Levine DM, DeCherrie LV, Leff B, Siu A. A national qualitative study of Hospital-at-Home implementation under the CMS Acute Hospital Care at Home waiver. J Am Geriatr Soc. 2023 Jan;71(1):245-258. doi: 10.1111/jgs.18071. Epub 2022 Oct 5. PMID: 36197021.
- Siu AL, Zimbroff RM, Federman AD, DeCherrie LV, Garrido M, Morano B, Lubetsky S, Catalan E, Leff B. The effect of adapting Hospital at Home to facilitate implementation and sustainment on program drift or voltage drop. BMC Health Serv Res. 2019 Apr 29;19(1):264. doi: 10.1186/s12913-019-4063-8. PMID: 31035973; PMCID: PMC6489357.

- DeCherrie LV, Leff B, Levine DM, Siu A. Hospital at Home: Setting a Regulatory Course to Ensure Safe, High-Quality Care. Jt Comm J Qual Patient Saf. 2022 Mar;48(3):180-184. doi: 10.1016/j.jcjq.2021.12.003. Epub 2021 Dec 22. PMID: 35058159.

Hospital-Home as a Medicare Advantage Model

- Cryer L, Shannon SB, Van Amsterdam M, Leff B. Costs for 'hospital at home' patients were 19 percent lower, with equal or better outcomes compared to similar inpatients. Health Aff (Millwood). 2012 Jun;31(6):1237-43. doi: 10.1377/hlthaff.2011.1132. PMID: 22665835.
- Kaiser Permanente expanding access to hospital care at home: https://about.kaiserpermanente.org/news/expanding-access-to-hospital-care-at-home. Additional data on the Kaiser Permanente HaH experience will be published in the American Journal of Managed Care in December 2023.
- Cryer L, Shannon SB, Van Amsterdam M, Leff B. Costs for 'hospital at home' patients were 19 percent lower, with equal or better outcomes compared to similar inpatients. Health Aff (Millwood). 2012 Jun;31(6):1237-43. doi: 10.1377/hlthaff.2011.1132. PMID: 22665835.
- Kawasaki L, May T, Powell F, McMillan L. The evolution of the Southeast Louisiana Veterans Health System Hospital at Home program. Federal Practitioner. September 2012, 20-25.

Long-Term Outcomes and the Future of Medicine

- DeCherrie LV, Wajnberg A, Soones T, Escobar C, Catalan E, Lubetsky S, Leff B, Federman A, Siu A. Hospital at Home-Plus: A Platform of Facility-Based Care. J Am Geriatr Soc. 2019 Mar;67(3):596-602. doi: 10.1111/jgs.15653. Epub 2018 Nov 27. PMID: 30481382.
- Ritchie C, Leff B. Home-Based Care Reimagined: A Full-Fledged Health Care Delivery Ecosystem Without Walls. Health Aff (Millwood). 2022 May;41(5):689-695. doi: 10.1377/hlthaff.2021.01011. PMID: 35500180.

Acceptability of HaH Care by Patients

- Leff B, Burton L, Bynum JW, Harper M, Greenough WB, Steinwachs D, Burton JR. Prospective evaluation of clinical criteria to select older persons with acute medical illness for care in a hypothetical home hospital. J Am Geriatr Soc. 1997 Sep;45(9):1066-73. doi: 10.1111/j.1532-5415.1997.tb05968.x. PMID: 9288013.
- Burton LC, Leff B, Harper M, Ghoshtagore I, Steinwachs DA, Greenough WB 3rd, Burton JR. Acceptability to patients of a home hospital. J Am Geriatr Soc. 1998 May;46(5):605-9. doi: 10.1111/j.1532-5415.1998.tb01077.x. PMID: 9588374.

State Hospital-at-Home Issues

- https://www.hahusersgroup.org/event/hah-medicaid-and-equity-lessonsfromthreestates/

The ability of HaH to provide a window on a patient's social determinants of health (SDOH)

- Siu AL, Zhao D, Bollens-Lund E, Lubetsky S, Schiller G, Saenger P, Ornstein KA, Federman AD, DeCherrie LV, Leff B. Health equity in Hospital at Home: Outcomes for economically disadvantaged and non-disadvantaged patients. J Am Geriatr Soc. 2022 Jul;70(7):2153-2156. Doi: 10.1111/jgs.17759. Epub 2022 Apr 1. PMID: 35363372; PMCID: PMC9283257.

- Outcomes of HaH care didn't vary between patients with and without high levels of social support. Augustine MR, Siu AL, Boockvar KS, DeCherrie LV, Leff BA, Federman AD. Outcomes of Hospital at Home for Older Adults with and without High Levels of Social Support. Home Healthc Now. 2021 Sep-Oct 01;39(5):261-270. Doi: 10.1097/NHH.0000000000000980. PMID: 34473114; PMCID: PMC8425599.
- Liu, Tsai-Ling, Shih-Hsiung Chou, Stephanie Murphy, Marc Kowalkowski, Yhenneko J. Taylor, Colleen Hole, Kranthi Sitammagari, Jennifer S. Priem, and Andrew McWilliams. "Evaluating racial/ethnic differences in care escalation among COVID-19 patients in a home-based hospital." *Journal of Racial and Ethnic Health Disparities* 10, no. 2 (2023): 817-825.
- Chou, Shih-Hsiung, Andrew McWilliams, Stephanie Murphy, Kranthi Sitammagari, Tsai-Ling Liu, Colleen Hole, and Marc Kowalkowski. "Factors associated with risk for care escalation among patients with COVID-19 receiving home-based hospital care." *Annals of Internal Medicine* 174, no. 8 (2021): 1188-1191.