Emergency Room Public Health Literature Review: usage, costs and options.

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Issue / Question	Answer / proposal / Solution

What is the level of ER usage?
By all measures, the use of the ER has increased dramatically over the past 18 years
	• Between 2001 and 2008, use of hospital ERs grew at 2x the rate of population growth (Kharbanda et al 2013[1]).
	• *"Use of hospital emergency departments is growing faster than the use of other parts of the American medical system,"* Dr. Art Kellermann, the study's senior author and senior researcher at RAND, said in a press release.[2]
	• Now, nearly half of all US medical care is delivered by emergency departments, according to a new study by researchers at the University of Maryland School of Medicine. ERs contributed an average of 47.7% of the hospital-associated medical care delivered in the United States, and this percentage *increased* steadily over the 14-year study period. The study found that there were nearly 130 million emergency department visit annually, compared with almost 101 million outpatient visits and nearly 39 million inpatient visits.[3]
	• ER physicians are the decision maker for ½ of US admissions - and admissions are responsible for 31% of healthcare spending and also generate the majority of facility revenue for hospitals.
	• [4]Key stats from 2015:[5]
	  ◦ Number of visits: 136.9 million
	  ◦ Number of injury-related visits: 39.0 million
	  ◦ Number of visits per 100 persons: 43.3
	  ◦ Number of emergency department visits resulting in hospital admission: 12.3 million
	  ◦ Number of emergency department visits resulting in admission to critical care unit: 1.5 million
	  ◦ Percent of visits with patient seen in fewer than 15 minutes: 35.4%
	  ◦ Percent of visits resulting in hospital admission: 9.0%

[1] Kharbanda AB, Hall M, Shah SS, et al: Variation in resource utilization across a national sample of pediatric emergency departments. J Pediatr. 2013 Jul;163(1):230-6.

[2] Morganti KG, Sebastian B, Blanchard JC, et al: RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.

[3] David Marcozzi, Brendan Carr, Alisha Liferidge, Nicole Baehr, Brian Browne. Trends in the Contribution of Emergency Departments to the Provision of Health Care in the USA. *International Journal of Health Services*, 2017; 002073141773449 DOI: 10.1177/0020731417734498

[4] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.

[5] National Hospital Ambulatory Medical Care Survey: 2015 Emergency Department Summary Tables, tables 1, 4, 15, 25, 26

	● Percent of visits resulting in transfer to a different (psychiatric or other) hospital: 2.2% ● **ER visit rates reached a 10-year high for all age groups in 2015, with patients aged 45-64 years having the largest percentage increase from 2006 to 2015.** For patients aged 18-44 years, the ED visit rate per 100,000 population was the second highest of all age groups each year. It increased by 9 percent, from 43,252 in 2006 to 47,022 in 2015.[6]
Who is using the ER the most?	Commercial, MediCaid, Medicare, and uninsured: ● Medicaid beneficiaries use the ER at an almost two-fold higher rate than the privately insured.[7] ● ERs are disproportionately used by low-income and uninsured patients who cannot reliably get care in other settings. In fact, America's ERs manage 28 percent of all acute care visits in the United States, half of all the acute care provided to Medicaid and CHIP beneficiaries, and two-thirds of the acute care provided to the uninsured. [8] [9] ● Insured and uninsured adults use the ER at very similar rates and in very similar circumstances — but one must separate out publicly insured from commercially insured. When we do that, researchers find that the uninsured use the ED substantially *less* than the publicly insured population (especially the Medicaid insured). Second, while the uninsured do not use the ED more than the insured, they do use other types of care much less than the insurance.[10] ● The Oregon Health Insurance Experiment - a randomized controlled evaluation of the impact of expanding Medicaid to cover uninsured working-age adults - found that Medicaid coverage increased ER use across a broad range of visit types, conditions, and subpopulations and that this increase persisted over the two years of the study.[11] ● There is a surprising similarly high rate of visits to the ER for both the insured and the uninsured for conditions that are likely nonemergent (roughly one-fifth) or potentially amenable to being treated in other settings (another third).[12]

[6] https://www.hcup-us.ahrq.gov/reports/statbriefs/sb238-Emergency-Department-Age-Payer-2006-2015.jsp

[7] **Garcia et al.** 2010. Emergency Department Visitors and Visits: Who Used the Emergency Room in 2007? CDC, NCHS Data Brief No 38. (NOTE: The percentages of Medicaid vs. privately insured enrollees with at least one emergency room visit in 2007 were: children under 17 years (27% vs. 17%); adults 18-44 years (38% vs. 17%); adults 45-64 years (39% vs. 16%.) . **Sommers et al.** 2012. Dispelling Myths About Emergency Department Use: Majority of Medicaid Visits Are for Urgent or More Serious Symptoms. Center for Studying Health Systems Change.

[8] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.

[9] Pitts, S. R., Carrier, E. R., Rich, E. C., & Kellermann, A. L. (2010). Where Americans get acute care: increasingly, it's not at their doctor's office. Health Aff (Millwood), 29(9), 1620- 1629. doi: 10.1377/hlthaff.2009.102629/9/1620 [pii]

[10] Zhou RA, Baicker K, Taubman S, Finkelstein AN: The **Uninsured** Do Not Use The **Emergency** Department More-They Use Other Care Less. Health Aff (Millwood). 2017 Dec;36(12):2115-2122. doi: 10.1377/hlthaff.2017.0218.

[11] Taubman SL, Allen HL, Wright BJ, Baicker K, Finkelstein AN. Medicaid increases emergency-department use: evidence from Oregon's Health Insurance Experiment. Science. 2014;343(6168):263–8. 26. **And** Finkelstein AN, Taubman SL, Allen HL, Wright BJ, Baicker K. Effect of Medicaid coverage on ED use—further evidence from Oregon's experiment. N Engl J Med. 2016;375(16): 1505–7.

[12] Zhou RA, Baicker K, Taubman S, Finkelstein AN: The Uninsured Do Not Use The Emergency Department More-They Use Other Care Less. Health Aff (Millwood). 2017 Dec;36(12):2115-2122. doi: 10.1377/hlthaff.2017.0218.

	• Although the core role of the ER is to evaluate and stabilize seriously ill and injured patients, the vast majority of patients who seek care in an ED walk in the front door and leave the same way, suggesting their care could have been delivered in different settings. However they come to the ER mostly because they do not perceive that any alternative exits.[13]
What is the cost of the ER? *Evidence is overwhelming that ER costs are excessive for urgent visits that could be cared for in other settings, and ERs are valued for downstream admissions to hospital profit centers.*	• ERs has boosted its Medicare charges since 2002 faster than every other speciality, second only to Rad Onc.[14] • In 2012, using older data, ERs provided 11 percent of all outpatient visits and are responsible for ½ ofl admissions, but they account for only 2-4 % of total annual healthcare expenditures.[15] • Average ER visit cost:` The 2016 Health Care Cost and Utilization report analyzed HCCI's commercial claims database, which represents Americans under age 65 with employer-sponsored insurance plans. Between 2012 and 2016, the average price for an outpatient emergency room visit rose 31 percent to $1,917 [16] • Average expenses for people who had one or more visits to the Emergency Room were $1533 in 2014, up 7.7% from 2013 according to the Medical Expenditure Panel Survey (MEPS). Median, or typical, cost was $749. For people ages 45 to 64, the cost was substantially higher on average ($2176, up 18%). Uninsured people under age 65 averaged $1251 in expenses ($585 median), of which they paid more than 1/3 out of pocket. [17] • Across hospitals, there is wide variation in excess charges on ED services, which are often priced higher than internal medicine services. One recent study showed that Hospitals mark up Services provided by ER physician charges by 340% over Medicare allowable rates, compared to mark ups of 110% for services provided by hospital based internal medicine physicians. For example, For physician interpretation of electrocardiograms, which had a median Medicare-allowable amount of $16, different EDs charged between $18 (markup ratio, 1.1) and $317 (markup ratio, 20.0), with a median of $95 (markup ratio, 6.0). This research is consistent with previous research suggesting that hospitals may set chargemaster prices strategically across departments to increase revenues. [18]
Is the use of ER appropriate use vs. overuse or overuse?	• Although the core role of EDs is to evaluate and stabilize seriously ill and injured patients, the vast majority of patients who seek care in an ER walk in the front door and leave the same way, suggesting a large portion could be seen and treated in less intensive settings.[19] • There is a surprising similarly high rate of visits to the ER

[13] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.
[14] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.
[15] Ibid, Rand Health Research Report, 2013.
[16] http://www.healthcostinstitute.org/report/
[17] https://meps.ahrq.gov/mepsweb/
[18] Xu T, Park A, Bai G, Joo S, Hutfless SM, Mehta A, Anderson GF, Makary MA. Variation in Emergency Department vs Internal Medicine Excess Charges in the United States. JAMA Intern Med. 2017 Aug 1;177(8):1139-1145.
[19] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.

	for both the insured and the uninsured for conditions that are likely nonemergent (roughly one-fifth) or potentially amenable to being treated in other settings (another third).[20] • The American College of Emergency Physicians points to the 2015 CDC National Hospital Ambulatory Medical Care (NHAMC) survey that reports that 5% of ER visits are for non-urgent care[21]. But note: this is the "triage status" of visits and 30% of visits had no triage or unknown status. Instead, the above data suggests that ⅓ of ER visits could be treated effectively elsewhere … • The seminal New England Health Institute report on ER use calculated that up to 56% of emergency room visits were "totally avoidable."[22]
Why do people use ER vs. other settings? *People use the ER because they perceive no other options are available.*	• Patients "perceive no viable alternative." [23] • 80% of adults who visited ER did so because "doctor's office was not open" CDC 2012[24] • The Major driver of ER use is lack of access to primary care. People go to ER because of lack of options, not due to lack of judgement.The ER is viewed as convenient and available. [25] • ERs are being used with increasing frequency to conduct complex diagnostic workups of patients with worrisome symptoms - whereas previously these workups were being conducted in PCP offices. "Primary care physicians are increasingly relying on ERs to evaluate and, if necessary, hospitalize their sickest and most complex patients." [26] • Given that two-thirds of emergency visits occur ***after*** business hours (weekdays 9 am - 5 pm), identifying primary care sites available after business hours is one strategy for improving appropriate access to health care services[27] • Despite *recent efforts to strengthen primary care*, the principal reason patients visit ERs for non-emergent outpatient care is *lack of timely options elsewhere*.[28]
What happens to patients who go to ER?	• (Rand): they come and are discharged home, hence it was something that could be handled in ambulatory setting…
Should we reduce ER use?	• CMS believes Yes. CMS has an active policy to continue "collaborating with states to reduce cost and reduce over use of ERs (CMS bulletin);States and CMS share interest in reducing unnecessary use; CMS has proposed numerous strategies[29] (broaden primary care, target supersuers, target behavior health problems, payment strategies"

[20] Zhou RA, Baicker K, Taubman S, Finkelstein AN: The **Uninsured** Do Not Use The **Emergency** Department More-They Use Other Care Less. Health Aff (Millwood). 2017 Dec;36(12):2115-2122. doi: 10.1377/hlthaff.2017.0218.
[21] https://www.cdc.gov/nchs/data/nhamcs/web_tables/2015_ed_web_tables.pdf
[22] A Matter of Urgency: Reducing Emergency Department Overuse A NEHI Research Brief – March 2010.
[23] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.
[24] CDC. (2012). Emergency Room Use Among Adults Aged 18–64: Early Release of Estimates From the National Health Interview Survey, January–June 2011.
[25] Ibid, RAND Health Research Report: The Evolving Role of Emergency Departments in the United States. 2013.
[26] Ibid, RAND Health Research Report, 2013.
[27] Pitts et al, 2010. Where Americans get acute care: Increasingly, it's not at their doctor's office. Health Affairs. 29 (9):1620-1629.
[28] Ibid, RAND Health Research Report, 2013.
[29] CMS Bulletin 2014 Jan 16: Reducing Nonurgent Use of Emergency Departments and Improving Appropriate Care in Appropriate Settings https://www.medicaid.gov/federal-policy-guidance/downloads/cib-01-16-14.pdf

	● ER fulfill valuable services today: as noted in Rand study: ERs are increasing being used as diagnostic centers for complex undifferentiated symptoms; place where PCPs send patients for evaluation. The reasons are of high value; but these services can be provided in much less costly settings. That is why we invented Zoom Super. ● CMS "very supportive" of "efforts to ensure that appropriate care is delivered in the most appropriate settings. Successful strategies to reduce inappropriate ED use can have the enhanced benefit of improving care and lowering costs." Evidence supports broad strategies such as enhancing care opportunities in other settings" (CMS Bulletin 2014 Jan 16) ● Goal should be: more rationally aligning resources to deliver the best care, best experience,
Are going to non-ERs dangerous?	● No meaningful studies studies, and no suggestions that ER alternatives are dangerous or unsafe.
Who is doing studies of ER utilization? Is there bias?	● Much research performed by or commissioned by ER groups ● Nonetheless, most of their research shows a problem
Conclusion / solution What are solutions?	● Zoom is a System of care - in contrast to the "start at the Hospital" system of current players, Zoom starts with Chat and graduates as needed to higher and higher levels of care, gradually and systematically gathering of data and routing to appropriate location ● As per the RAND study[30], the main reason people continue to use ERs and have increased use of ERs is the is the continued lack of timely options elsewhere. Zoom solves this by building a system of care. ● Yes, as per RAND study[31], ER physicians are key to making decisions on sick patients; and yes, primary care providers are sending an increasing number of patients to the ER instead of evaluating them in the PCP office. These are the trends we recognized years ago and these trends were the foundation for why we launched Super: we deliver the benefit of the ER doctors in a setting that is much more accessible and less expensive.

[30] Ibid, RAND Health Research Report, 2013.
[31] Ibid, RAND Health Research Report, 2013.