

Online Supplement

A national survey of telemedicine use by U.S. emergency departments

Kori S. Zachrison, MD, MSc; Krislyn M. Boggs, MPH; Emily Hayden, MD, MHPE; Janice A.

Espinola, MPH; Carlos A. Camargo Jr., MD, DrPH

Corresponding Author:

Kori S. Zachrison, MD, MSc

Department of Emergency Medicine

Massachusetts General Hospital

55 Fruit Street

Boston, MA 02114

kzachrison@mg.harvard.edu

Phone: 617-726-6636

Fax: 617-725-0917

Contents:

- Survey Instrument
- List of NEDI-USA State Coordinators
- Supplemental Table. Hospital Characteristics of Non-responders versus Responders

1.

Survey Instrument



National Emergency Department Inventory

This survey is funded by the R. Baby Foundation (www.rbabyfoundation.org)

Please find below questions that apply to the year **2016** (either fiscal or calendar year is acceptable). If you find the precise answer, we welcome your best estimate. We would like to know the following about your

1. What is the name of your hospital/ED? _____
2. What is the mailing address of your hospital/ED? _____

3. In 2016, was your ED open:

a. 24 hours/day, 7 days/week? ☐ Yes ☐ No b. 365 days per year? ☐ Yes

If NO to either question, please explain: _____

4. Please indicate the total number of patient visits at your ED and the 12-month reporting period to

ED VISITS From / / to / /
MM YY MM YY

5. Approximate number of visits by children per year:

a. Children (e.g., age <18)

b. If your ED uses another age to distinguish between children and adults (e.g., age 21 years), and data for age <18, please respond above according to your ED's cut-off.

If you have used an age other than <18 years, please specify cut-off here: Age < years

6. For EDs that regularly treat adults: Does your ED have a separate "pediatric ED" (i.e., a dedicated children only)? ☐ Yes ☐ No ☐ Not applicable (e.g., children's hospital)

7. Do you have identified coordinators for pediatric emergency medicine in your ED? (check all that apply)

☐ Yes, physician coordinator(s) ☐ Yes, nurse coordinator(s) ☐ No
☐ Yes, other coordinator(s) (e.g., PA, administrator), please specify: _____

8. Does your hospital *provide* telemedicine services for patient evaluation? ☐ Yes ☐ No ☐ I don't know

9. Does your ED *receive* telemedicine services for patient evaluation? ☐ Yes ☐ No

If your ED receives telemedicine services, does your ED utilize telemedicine for: (check all that apply)

☐ Pediatrics ☐ Psychiatry ☐ Dermatology ☐ Transfer coordination
☐ Stroke/Neuro ☐ Trauma ☐ Radiology ☐ Other: _____

The results from this national survey will be used to upgrade our existing app, *EMNet findERNOW*. We hope that this short/simple survey as we work to bring accurate, beneficial ED information directly to those in need.

Please take a moment to send your answers to us in the attached, pre-paid envelope. If you prefer, we also welcome responses by email (emnet@partners.org) or by fax to **617-724-4050**. Another option is to complete this short form online at <https://is.ed/findERNOW> (please note that the URL is case-sensitive).

Thank you for your help!
Carlos Camargo

Carlos Camargo, MD, DrPH
Massachusetts General Hospital
125 Nashua Street, Suite 920
Boston, MA 02114-1101

NEDI-USA State Coordinators

Marc Auerbach, MD, MSc (*Yale New Haven Children's Hospital, New Haven, CT*)

Steve Baldwin, MD (*University of Alabama at Birmingham, Birmingham, AL*)

Besh Barcega MD, MBA (*Loma Linda University Medical Center, Loma Linda, CA*)

Joel Berezow, MD (*NewYork-Presbyterian Morgan Stanley Children's Hospital, New York, NY*)

William Clayton Bordley, MD, MPH (*Duke University School of Medicine, Durham, NC*)

Beech Burns, MD (*Oregon Health and Science University Hospital, Portland, OR*)

Boyd Burns, DO (*University of Oklahoma Health Sciences Center, Tulsa, OK*)

Jeffrey Caterino, MD, MPH (*Ohio State University Wexner Medical Center, Columbus, OH*)

Vidya Chande, MD (*Blank Children's Hospital, Des Moines, IA*)

Norman Christopher (*Akron Children's Hospital, Akron, OH*)

Sunday Clark, ScD, MPH (*Weill Cornell Medical College, New York, NY*)

Kathleen Cowling, DO (*Covenant Healthcare, Saginaw, MI*)

Steven Czinn, MD (*University of Maryland, Baltimore, MD*)

Joseph Dougherty, DO (*Ohio Valley Medical Center, Wheeling, WV*)

Paul Eakin, MD (*Kapi'olani Medical Center for Women and Children, Honolulu, HI*)

Carly Eastin, MD (*University of Arkansas for Medical Sciences, Little Rock, AR*)

Jennifer Fishe, MD (*University of Florida Health Jacksonville, Jacksonville, FL*)

Jay Fisher, MD (*Children's Hospital of Nevada, Las Vegas, NV*)

George Foltin, MD (*NYU Langone Medical Center, New York, NY*)

Rob Freishtat, MD, MPH (*Children's National Health System, Washington, DC*)

Susan Fuchs, MD (*Lurie Children's Hospital, Chicago, IL*)

Marcie Gawel, MSN, MS (*Yale New Haven Children's Hospital, New Haven, CT*)

Richard Gray, MD (*Hennepin County Medical Center, Minneapolis, MN*)

Mark Griffiths, MD (*Emory University School of Medicine, Atlanta, GA*)

Azita Hamedani, MD, MPH, MBA (*University of Wisconsin, Madison, WI*)

Stanley Hassinger, MD (*Palmetto Health Richland, Columbia, SC*)

Sandra Horning, MD (*Providence Alaska Medical Center, Anchorage, AK*)

Pholaphat Charles Inboriboon, MD (*Truman Medical Center, Kansas City, MO*)

Sujit Iyer, MD (*Dell Children's Medical Center of Central Texas, Austin, TX*)

Jessica Katznelson, MD (*The Johns Hopkins Hospital, Baltimore, MD*)

Brandon Kelley, NREMT (*Office of Emergency Medical Services, Cheyenne, WY*)

Moon Lee, MD, MPH (*Stanford University Medical Center, Palo Alto, CA*)

Ernest Leva, MD (*Robert Wood Johnson University Hospital, New Brunswick, NJ*)

Frank LoVecchio, DO (*Maricopa Integrated Health System, Phoenix, AZ*)

Donald Lum, MD (*Northfield Hospital, Northfield, MN*)

Andrew Marsh, MD (*Wesley Medical Center, Hattiesburg, MS*)

Taylor McCormick, MD (*Denver Health Medical Center, Denver, CO*)

Anna McFarlin, MD (*Louisiana State University, New Orleans, LA*)

Nathan Mick, MD (*Maine Medical Center, Portland, ME*)

Rakesh Mistry, MD, MS (*Children's Hospital Colorado, Aurora, CO*)

Vinay Nadkarni, MD (*The Children's Hospital of Philadelphia, Philadelphia, PA*)

Brian Pate, MD (*Kansas University School of Medicine, Wichita, KS*)

Emory Petrack, MD (*Tufts Medical Center, Boston, MA*)

Eugenia Quackenbush, MD (*University of North Carolina Hospital, Chapel Hill, NC*)

Ali Raja, MD, MBA, MPH (*Massachusetts General Hospital, Boston, MA*)

Robert Redwood, MD, MPH (*University of Wisconsin, Madison, WI*)

Maia Rutman, MD (*Dartmouth-Hitchcock Medical Center, Lebanon, NH*)

Robert Sapien, MD, MMM (*University of New Mexico Health Sciences Center, Albuquerque, NM*)

Manish Shah, MD, MS (*Texas Children's Hospital, Houston, TX*)

Todd Slesinger, MD (*Aventura Hospital and Medical Center, Aventura, FL*)

F. Meridith Sonnett, MD (*NewYork-Presbyterian Morgan Stanley Children's Hospital, New York, NY*)

Annalise Sorrentino, MD (*University of Alabama at Birmingham, Birmingham, AL*)

Michelle Stevenson, MD, MS (*Norton Children's Hospital, Louisville, KY*)

Robin Suzor (*Montana Department of Public Health and Human Services, Helena, MT*)

Amy Thompson, MD (*Alfred I. duPont Hospital for Children, Wilmington, DE*)

J. Adrian Tyndall, MD, MPH (*University of Florida, Gainesville, FL*)

Arvind Venkat, MD (*Allegheny Health Network, Pittsburgh, PA*)

Arjun Venkatesh, MD, MBA, MHS (*Yale School of Medicine, New Haven, CT*)

Jennifer Walthall, MD, MPH (*Riley Hospital for Children at Indiana University Health, Indianapolis, IN*)

Nancy Ewen Wang, MD (*Stanford University Medical Center, Palo Alto, CA*)

Taketo Watase, MD, MBA (*Harborview Medical Center, Seattle, WA*)

Peter Weimersheimer, MD (*University of Vermont Medical Center, Burlington, VT*)

Christopher Wilbert, MD (*University of Tennessee Health Science Center, Memphis, TN*)

Scott Youngquist, MD, MSc (*University of Utah School of Medicine, Salt Lake City, UT*)

Christopher Zabbo, DO (*Kent Hospital, Warwick, RI*)

Supplemental Table. Characteristics of Non-responding versus Responding Emergency Departments to 2016 NEDI-USA Survey

Characteristics	Non-responders n=868 n (%)	Responded to NEDI-USA, but incomplete telemedicine use questions, n=476 n (%)	Responded to NEDI-USA and completed telemedicine use questions n=4,031 n (%)
Total visit volume in 2015, median (IQR)	21,573 (7,608-40,150)	32,850 (13,939-55,000)	19,744 (7,300-40,325)
Rural	164 (19%)	79 (17%)	1,010 (25%)
Academic	33 (4%)	48 (10%)	181 (4%)
Freestanding	127 (15%)	40 (8%)	442 (11%)
Satellite	49 (6%)	30 (6%)	255 (6%)
Autonomous	78 (9%)	10 (2%)	187 (5%)
Critical access hospital	151 (17%)	68 (14%)	1,111 (28%)

Data source: NEDI-USA 2015. Data are missing for newer EDs (i.e., those that opened after NEDI-USA 2015 database was closed)

Abbreviations: ED, Emergency Department; IQR, Interquartile Range