

**Alison E. Turnbull, D.V.M., M.P.H., Ph.D.**  
*Curriculum Vitae*

November 13, 2016

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Alison Turnbull

## **DEMOGRAPHIC INFORMATION**

### **Current Appointments**

- 2015 – present      Assistant Professor, Pulmonary & Critical Care Medicine, Johns Hopkins University School of Medicine
- 2015 – present      Assistant Professor, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health (joint appointment)

### **Personal Data**

Division of Pulmonary and Critical Care Medicine  
Department of Medicine  
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### **Education and Training**

- 2002      Bachelor of Arts (B.A.), Carleton College, Minnesota
- 2006      Doctor of Veterinary Medicine (D.V.M.), Tufts University School of Veterinary Medicine, Massachusetts
- 2006      Master of Public Health (M.P.H.), Tufts University School of Medicine, Massachusetts
- 2013      Doctor of Philosophy (Ph.D.) in Epidemiology, Johns Hopkins Bloomberg School of Public Health, Maryland

### **Professional Experience**

- 2004 – 2005      ER/ICU Veterinary Technician, Tufts University Foster Hospital for Small Animals, Massachusetts
- 2006 – 2007      Field Program Facilitator, Participatory Disease Surveillance and Response Project for Avian Influenza Control, United Nations Food and Agriculture Organization, Indonesia
- 2007 – 2008      Monitoring and Evaluation Field Coordinator, Participatory Disease Surveillance and Response Project for Avian Influenza Control, United Nations Food and Agriculture Organization, Indonesia
- 2008 – 2009      Relief Veterinarian, Banfield Pet Hospital, Maryland
- 2009 – 2010      Research Assistant, Hospital Epidemiology and Infection Control, Johns Hopkins Hospital, Maryland
- 2010 – 2013      Data Analyst, Pediatric Antibiotic Stewardship Program, Johns Hopkins University, Maryland
- 2014 – 2015      Instructor, Pulmonary and Critical Care Medicine, Johns Hopkins University, Maryland
- 2014 – 2015      Instructor, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health (joint appointment), Maryland
- 2015 – present      Assistant Professor, Pulmonary and Critical Care Medicine, Johns Hopkins University, Maryland
- 2015 – present      Assistant Professor, Epidemiology, Johns Hopkins University, Maryland

## RESEARCH ACTIVITIES

### Publications – Peer-Reviewed Research

1. Tamma PD, **Turnbull AE**, Milstone AM, Cosgrove SE, Valsamakis A, Budd A, Perl TM. Clinical outcomes of seasonal influenza and pandemic influenza A (H1N1) in pediatric inpatients. *BioMed Central Pediatrics*. 2010;10(1):72.
2. Tamma PD, **Turnbull AE**, Milstone AM, Lehmann CU, Sydnor ER, Cosgrove SE. Ventilator-associated tracheitis in children: Does antibiotic duration matter? *Clinical Infectious Diseases*. 2011;52(11):1324–1331.
3. **Turnbull AE**. Fear, Numbers, and Measles. *Health Communication*. 2011;26(8):775-776.
4. Tamma PD, **Turnbull AE**, Milstone AM, Hsu AJ, Carroll KC, Cosgrove SE. (2012) Does the piperacillin minimum inhibitory concentration for *Pseudomonas aeruginosa* influence clinical outcomes of children with pseudomonas bacteremia? *Clinical Infectious Diseases*. 2012;55(6):799-806.
5. Tamma PD, **Turnbull AE**, Harris AD, Milstone AM, Hsu AJ, Cosgrove SE. Less is More: Combination Antibiotic Therapy for the Treatment of Gram-Negative Bacteremia in Pediatric Patients. *Journal of the American Medical Association Pediatrics (JAMA Pediatr)*. 2013;167(10):1-8.
6. Tamma PD, Tan K, Nussenblatt VR, **Turnbull AE**, Carroll KC, Cosgrove SE. Can Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF) Enhance Antimicrobial Stewardship Efforts in the Acute Care Setting? *Infection Control and Hospital Epidemiology*. 2013;34(9):990-995.
7. **Turnbull AE**, Ruhl AP, Lau BM, Mendez-Tellez PA, Shanholtz CB, Needham DM. (2014) Timing of Limitations in Life Support in Acute Lung Injury Patients: A Multisite Study. *Critical Care Medicine*. 2014;42(2):296-302.
8. **Turnbull AE**, Krall JR, Ruhl AP, Curtis JR, Halpern SD, Lau BM, Needham DM. A scenario-based, randomized trial of patient values and functional prognosis on intensivist intent to discuss withdrawing life support. *Critical Care Medicine*. 2014;42(6):1455-1462.
9. Sick AC, Tschudin-Sutter S, **Turnbull AE**, Weissman SJ, Tamma PD. Empiric Combination Therapy for Gram-Negative Bacteremia. *Pediatrics*. 2014;133(5):1148-1155.
10. **Turnbull AE**, Parker AM, Needham DM. Supporting small steps toward big innovations: the importance of rigorous pilot studies in critical care. *Journal of Critical Care*. 2014;29(4):669-670.
11. **Turnbull AE**, Ruhl AP, Needham DM. Timing of limitations of life support in the intensive care unit and sequential organ failure assessment (SOFA) scores: the authors reply. *Critical Care Medicine*. 2014;42(8):e596.
12. **Turnbull AE**, Lau BM, Ruhl AP, Mendez-Tellez PA, Shanholtz CB, Needham DM. Age and Decisions to Limit Life Support for Patients with Acute Lung Injury: A Prospective Cohort Study. *Critical Care*. 2014;18(3):R107.
13. Dinglas VD, Parker AM, Reddy DR, Colantuoni E, Zanni JM, **Turnbull AE**, Nelliot A, Ciesla N, Needham DM. A Quality Improvement Project Sustainably Decreased Time to Onset of Active Physical Therapy Intervention in Acute Lung Injury Patients. *Annals of the American Thoracic Society*. 2014;11(8):1230-1238.
14. **Turnbull AE**, Neufeld KJ, Needham DM. Contradictory findings on 1-year mortality following ICU delirium. *Critical Care*. 2015;19(29).
15. **Turnbull AE**, O'Connor CL, Lau B, Halpern SD, Needham DM. Allowing Physicians to Choose the Value of Compensation for Participation in a Web-Based Survey: Randomized Controlled Trial. *Journal of Medical Internet Research*. 2015;17(7):e189.
16. Hayes MH, **Turnbull AE**, Zaeh S, White DB, Bosslet GT, Wilson KC, Thomson CC. Responding to Requests for Potentially Inappropriate Treatments in Intensive Care Units. *Annals of the American Thoracic Society*. 2015;11(1):1697-1699.
17. Lane-Fall MB, Collard ML, **Turnbull AE**, Halpern SD, Shea JA. ICU Attending Handoff Practices: Results from a National Survey of Academic Intensivists. *Critical Care Medicine*. 2016;44(4):690-698.
18. Halwani MA, **Turnbull AE**, Harris M, Witter F, Perl TM. Post-discharge Surveillance for Infection Following Caesarian Section: A Prospective Cohort Study Comparing Methodologies. *American Journal of Infection Control*. 2016;44(4):445-447.
19. **Turnbull AE**, Hayes MM, Hashem MD, Needham DM. Interactive online module failed to improve sustained knowledge of the Maryland Orders for Life Sustaining Treatment (MOLST) form. *Annals of the American Thoracic Society*. 2016;13(6):926-932.

20. **Turnbull AE**, Rabiee A, Davis WE, Nasser MF, Venna VR, Lolitha R, Hopkins RO, Bienvenu OJ, Robinson KA, Needham DM. Outcome Measurement in ICU Survivorship Research from 1970-2013: A Scoping Review of 425 Publications. *Critical Care Medicine*. 2016;44(7):1267-1277.
21. Rabiee A, Nikayin S, Hashem MD, Huang M, Dinglas VD, Bienvenu OJ, **Turnbull AE**, Needham DM. Depressive symptoms after critical illness: a systematic review and meta-analysis. *Critical Care Medicine*. 2016;44(9):1744-1753.
22. **Turnbull AE**, Davis WE, Needham DM, White DB, Eakin MN. Intensivist-reported facilitators and barriers to discussing post-discharge outcomes with ICU surrogates: A qualitative study. *Annals of the American Thoracic Society*. 2016;13(9):1564-1552.
23. Wang R, Cosgrove SE, Tschudin-Sutter S, Han JH, **Turnbull AE**, Hsu AJ, Avdic E, Carroll KC, Tamma PD. Cefepim Therapy for Cefepime-Susceptible Extended-Spectrum Beta-Lactamase-Producing Enterobacteriaceae Bacteremia. *Open Forum Infectious Disease*. 2016; 3(3):ofw132.
24. **Turnbull AE**, Sahetya SK, Needham DM. Aligning Critical Care Interventions with Patient Goals: a Modified Delphi Study. *Heart & Lung: The Journal of Acute and Critical Care*. 2016; 45:517-524.
25. Robinson KA, Davis WE, Dinglas VD, Mendez-Tellez PA, Rabiee A, Sukrithan V, Yalamanchilli R, **Turnbull AE**, Needham DM. A systematic review finds limited data on measurement properties of instruments measuring outcomes in adult intensive care unit survivors. *J Clin Epidemiol*. 2016 Nov 16. pii.0895-4356(16)30626-6.
26. Nikayin S, Rabiee A, Hashem MD, Huang M, Bienvenu OJ, **Turnbull AE**, Needham DM. Anxiety Symptoms in Survivors of Critical Illness: A Systematic Review and Meta-Analysis. *General Hospital Psychiatry*. 2016; In Press.
27. Hodgson CL, **Turnbull AE**, Iwashyna TJ, Parker AM, Davis WE, Bingham CO, Watts N, Finfer S, Needham DM. Clinician and Researcher Perspectives on Core Domains in Evaluating Post-Discharge Patient Outcomes after Acute Respiratory Failure. *Physical Therapy Journal*. 2016; In Press.

## Extramural Funding

### Current

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|------------------------|--|
| 12/1/2014 - 11/30/2017 | <p><i>Engaging Surrogates and Physicians to Ensure Concordant Critical Care</i><br/>Grant #4626<br/>Gordon and Betty Moore Foundation - Early Career Investigator Award<br/>\$506,155<br/>Role: PI, 50% Effort in year 3</p>   |
| 7/15/2013 – 3/31/2018  | <p><i>R24 Improving Long-Term Outcomes Clinical Research for Acute Respiratory Failure</i><br/>Grant # R24HL111895<br/>National Heart, Lung and Blood Institute<br/>\$3,395,137<br/>PI: Dale M. Needham, MD, PhD.<br/>Role: Co-investigator</p>  |
| 10/1/2016 – 9/30/2018  | <p><i>Development of an Automated and Sustainable Electronic Approach for Data Mining to Evaluate Clinical Outcomes of Patients with Bacterial Infections</i><br/>Grant # HHSF223201610070C<br/>Food and Drug Administration<br/>\$118,615<br/>PI: Pranita Tamma, MD, MHS<br/>Role: Co-investigator 5% Effort in years 1 and 2</p> |

## Pending

06/01/2017 – 05/31/2022      *Understanding Response Shift in ARDS Survivors*  
K01 Mentored Research Scientist Development Award  
National Heart, Lung, and Blood Institute  
\$800,000  
Role: PI

## Previous

10/1/2014 - 9/30/2016      *Establishing Clinically Relevant Antibiotic Breakpoint Interpretive Criteria*  
Grant # HHSF223201400096C  
Food and Drug Administration  
\$207,364  
PI: Pranita Tamma, MD, MHS  
Role: Statistician, 15% Effort in year 3

8/1/2014 – 12/31/2015      *Libretto Consortium*  
Gordon and Betty Moore Foundation  
\$342,500  
PI: Peter Pronovost  
Role: Co-investigator

10/01/2014 – 7/31/2015      *Enhancements to Project Emerge Prototype System*  
Grant # 3186.01  
Gordon and Betty Moore Foundation  
\$2,209,619  
PI: Peter Pronovost  
Role: Co-investigator

10/01/2010 – 09/30/2014      *ICU/Acute Care Multi-site Demonstration Project*  
Grant # 3186.01  
Gordon and Betty Moore Foundation  
ICU/Acute Care Multi-site Demonstration Project  
PI: Peter Pronovost  
Role: Co-investigator

04/01/2010 – 03/31/2012      *Epidemiology and Biostatistics of Aging*  
T32 AG000247  
Institutional Training Grant from the National Institute on Aging  
Program director: Karen Bandeen-Roche  
Role: Postdoctoral fellow

## EDUCATIONAL ACTIVITIES

### Teaching

2010      Healthcare Epidemiology, Teaching Assistant, Johns Hopkins Bloomberg School of Public Health  
2010 – 2011      Fundamental of Epidemiology, Teaching Assistant, Johns Hopkins Krieger School of Arts and Sciences  
2012      Data Analysis Workshop I & II, Teaching Assistant, Johns Hopkins Bloomberg School of Public Health  
2012      Math, Money, and the Mind: Controversies in Medical Decision Making, Dean's Teaching Fellowship, Instructor, Johns Hopkins Krieger School of Arts and Sciences

- 2015 The Unbefriended Patient: Grand Rounds, Division of Pulmonary and Critical Care Medicine, Johns Hopkins School of Medicine 12/2/2015
- 2015 Decisions about Patients who are Critically Ill or Dying for class 552.606.01: Ethics of Healthcare Decision-Making: Theory and Practice; Lecturer, JHBSPH 12/8/2015
- 2016 Interpreting Clinical Trials: Presentation for PCCM fellows, Lecturer, 1/8/2016
- 2016 Primary palliative care in the MICU: Presentation for palliative care fellows, Lecturer, 4/22/2016
- 2016 ATS postgraduate course: PG4-Palliative Care in the ICU: Clinical, ethical, and research challenges; Presentation entitled: End-of-life care in the ICU: Research challenges, Lecturer, 5/13/2016

## ORGANIZATIONAL ACTIVITIES

### Institutional Administrative Appointments

- 2011 – present Member, Johns Hopkins University, Outcomes After Critical Illness & Surgery (OACIS) Research Group
- 2012 – 2015 Guest, Johns Hopkins Hospital, Hospital Ethics Committee
- 2015 – present Member, Johns Hopkins Hospital, Hospital Ethics Committee
- 2012 – present Inpatient Working Group, Johns Hopkins Hospital, Maryland Medical Orders for Life-Sustaining Treatment (MOLST)
- 2012 – 2016 Research Collaborator, Johns Hopkins University Armstrong Institute, Gordon & Betty Moore Foundation, Libretto project
- 2013 – 2016 Research Collaborator, Johns Hopkins University Armstrong Institute, Emerge Project

### Journal Peer Review Activities

- 2012 – present *Intensive Care Medicine*

## RECOGNITION

### Awards/Honors

- 2002 Magna Cum Laude, Carleton College
- 2002 Awarded Honors for Academic Excellence in Biology and Senior Thesis, Carleton College
- 2004 – 2005 The Agnes Varis Scholarship for students of public health, Tufts School of Veterinary Medicine
- 2008 Robert Dyar Memorial Award, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health
- 2010 Doctoral Seminar Award for Scholarship, Creativity, and Conversational Courage, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health
- 2010 – 2013 Johns Hopkins Sommer Scholar, Johns Hopkins Bloomberg School of Public Health
- 2012 – 2013 Dean's Teaching Fellowship for developing and teaching the undergraduate seminar *Math, Money, and the Mind: Current Controversies in Medical Decision Making*, Johns Hopkins University
- 2014 American Thoracic Society International Conference Abstract Scholarship, Assembly on Critical Care
- 2014 Inducted to Alpha Chapter of the Delta Omega Public Health Honor Society

### Invited Talks

- 3/13/14 *Solving Research Problems in Palliative Medicine: Official Resources and Creative Partnerships*, American Academy of Hospice and Palliative Medicine Annual Assembly, San Diego, USA
- 4/16/14 *Family Participation in Treatment Decisions for our Sickest Patients*, Johns Hopkins Hospital Department of Social Work Grand Rounds, Johns Hopkins Hospital, Baltimore, USA
- 5/21/14 *What Should be the Role of Primary Care Physicians in ICU Decision Making?*, American Thoracic Society Annual Conference, San Diego, USA
- 5/13/16 *End-of-life care in the ICU: Research challenges*. ATS postgraduate course presentation, San Francisco, USA

## Abstracts

1. Tamma PD, Turnbull AE, Milstone AM, Cosgrove SE, Carlson A, Perl T. Clinical Outcomes of Seasonal Influenza and Pandemic Influenza A H1N1 in Pediatric Inpatients. Infectious Diseases Society of America Annual Assembly, Vancouver, Canada, 2010.
2. Tamma PD, Turnbull AE, Milstone AM, Lehmann CU, Sydnor EM, Cosgrove SE. Ventilator-associated tracheitis in children: Does antibiotic duration matter? Pediatric Grand Rounds, Johns Hopkins Medical Institution, 2011.
3. Halwani MA, Turnbull AE, Harris M, Maragakis LM, Witter F, Perl TM. Post-discharge Surveillance for Infection Following Caesarian Section: a Prospective Cohort Study Comparing Methodologies. Society for Healthcare Epidemiology of America (SHEA) Annual Scientific Meeting, Atlanta, USA, 2011.
4. Tamma PD, Turnbull AE, Milstone AM, Hsu AJ, Carroll KC, Cosgrove SE. Does the piperacillin minimum inhibitory concentration influence clinical outcomes of children with Pseudomonal bacteremia? Translational Science Meeting, Washington D.C., 2012.
5. Ruhl AP, Turnbull AE, Sevransky JE, Shanholtz CB, Pronovost PJ, Needham DM. Timing of Limitations In Life Support: A Prospective Evaluation in Acute Lung Injury Patients. American Thoracic Society Annual Conference, San Francisco, USA, 2012.
6. Turnbull AE, Ruhl AP, Lau BM, Mendez-Tellez PA, Shanholtz CB, Needham DM. The Role of Age And Comorbidity In Limitation Of Life Support For Patients With Acute Lung Injury. American Thoracic Society Annual Conference, Philadelphia, USA, 2013.
7. Turnbull AE, Ruhl AP, Lau BM, Mendez-Tellez PA, Shanholtz CB, Needham DM. Timing of Limitations in Life Support in Acute Lung Injury Patients: A Multi-Site Study. American Thoracic Society Annual Conference, Philadelphia, USA, 2013.
8. Turnbull AE, Krall JR, Ruhl AP, Curtis JR, Halpern SD, Lau BM, Needham DM. A scenario-based, randomized trial of patient values and functional prognosis on intensivists' intent to discuss withdrawing life support. American Thoracic Society Annual Conference, San Diego, USA, 2014.
9. Parker A.M, Dinglas VD, Reddy DR, Colantuoni E, Zanni JM, Turnbull AE, Ciesla N, Needham DM. A Quality Improvement Intervention Sustainably Decreases Time to First Physical Therapy Intervention In Acute Respiratory Distress Syndrome Patients. American Thoracic Society Annual Conference, San Diego, USA, 2014.
10. Nasser MF, Venna VR, Rabiee A, Nallagangula A, Turnbull AE. Measures of physical activity limitations in ICU survivors: A systematic review. Third Annual Johns Hopkins Critical Care Rehabilitation Conference, Baltimore, USA, 2014.
11. Malhotra S, Turnbull AE, Mughanlinskaya N. Who's Who and What Do They Do? MedStar Health Research Symposium, USA, 2015.
12. Turnbull AE, Sahetya SK, Hashem MD, Needham DM. Expanding ICU stakeholder participation in the Delphi method: the Critical Care Aligned with Patient Goals project. American Thoracic Society Annual Conference, San Francisco, USA, 2016.
13. Zaeh S, Hayes MM, Turnbull AE. Barriers to House Staff Comfort Discussing MOLST Forms. American Thoracic Society Annual Conference, San Francisco, USA, 2016.
14. Zaeh S, Hayes MM, Rand CS, Turnbull AE. Why are Some House Staff Uncomfortable Discussing MOLST Forms with Patients? Partnering with Patients in Decision Making, Baltimore, USA, 2016.
15. Turnbull AE, Rabiee A, Hashem M, Shaear M, To A, Chessar C, Coffin R, Needham DM. Preparing Medical ICU Proxies to Partner in Shared Decision-Making: A Pilot Study, Partnering with Patients in Decision Making, Baltimore, USA, 2016.
16. Turnbull AE, Davis WE, Needham DM, White DB, Eakin MN. Intensivist-reported facilitators and barriers to discussing post-discharge outcomes with ICU surrogates: A qualitative study, Partnering with Patients in Decision Making, Baltimore, USA, 2016.