OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
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NAME: Meek, Paula Marie

eRA COMMONS USER NAME (credential, e.g., agency login): pmmeek

POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

| INSTITUTION AND LOCATION | DEGREE(if applicable) | Completion DateMM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- |
| Brigham Young University, Provo, UT | AD | 06/78 | Nursing |
| Brigham Young University, Provo, UT | BSN | 06/82 | Nursing |
| University of Washington, Seattle, WA | MS | 12/85 | Physiological Nursing |
| University of Arizona, Tucson, AZ | PhD | 12/93 | Clinical Nursing Research |
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**A. Personal Statement**

As a nurse scientist, I have investigated symptom monitoring, appraisal, treatment, and management for over 20 years. I specialize in longitudinal measurement and the psychometric properties of instruments used to evaluate symptoms in both chronic and acute phases of illnesses. I have specialized in using respiratory symptoms in chronic conditions to help guide self-management decisions including fatigue, shortness of breath, anxiety, and depression in pulmonary and cardiac patients, oncology patients undergoing treatment, and healthy individuals My post-doctoral work was in instrument development, and I have personally guided the development of ten different instruments.

I have also been working extensively as a part of several interdisciplinary teams. For example, I was Co-Investigator of “Investigating the Affective Dimension of Dyspnea” based at Beth Israel Medical Center in Boston Massachusetts. In addition, I have recently completed work with other interdisciplinary team to improve self-management of symptoms in palliative care (R01NR013422-Bekelman (PI) Improving Symptoms and Quality of Life in Advanced Chronic Heart Failure). With this randomized control trial, management of symptoms such as fatigue anxiety and depression and shortness of breath was part of the primary intervention tested. I most recently was part of an interdisciplinary pilot project (R21AG053413, Boxer (PI) to reduce sedentary time in patients with HF, again looking at symptoms in HF patients as part of an intervention. Given these past experiences I am well position to lead this interdisciplinary team that will use digital interventions to assess, monitor and intervene in older adult survivors of COVID-19.

1. Bekelman, D. B., Allen, L., McBryde, C., Hattler, B., Fairclough, D., Havranek, E. P., Turvey, C., **Meek, P.M.** (2018). Improving Health Status in Chronic Heart Failure: The Collaborative Care to Alleviate Symptoms and Adjust to Illness (CASA) Randomized Clinical Trial. JAMA Internal Medicine.
2. Banzett RB, O'Donnell CR, Guilfoyle TE, Parshall MB, Schwartzstein RM, Meek PM, Gracely RH, Lansing RW. (2015) Multidimensional Dyspnea Profile: an instrument for clinical and laboratory research. European Respiratory Journal. Jun;45(6):1681-1691.
3. Cook P, Schmiege SJ, Reeder B, Horton-Deutsch S, Lowe NK, **Meek P.** (2018)Temporal immediacy: A two-systems theory of mind for understanding. Nursing Research. 67(2):108-121. doi: 10.1097/NNR.0000000000000265
4. Lange P, Celli B, Agustí A, Boje Jensen G, Divo M, Faner R, Guerra S, Marott JL, Martinez FD, Martinez-Camblor P, **Meek P,** Owen CA, Petersen H, Pinto-Plata V, Schnohr P, Sood A, Soriano JB, Tesfaigzi Y, Vestbo J. (2015). Lung-Function Trajectories Leading to Chronic Obstructive Pulmonary Disease. New England J Med. 373(2):111-22. doi: 10.1056/NEJMoa1411532.

**B. Positions and Honors**

**Positions**

1985-89 Pulmonary Clinical Nurse and Education Specialist, University of Wisconsin Hospital and Clinics, Madison, WI

1989-94 Graduate Research Associate and Research Specialist (L.P. Phillips, S. Ferketich, J.V. Verran), University of Arizona College of Nursing, Tucson, AZ

1993-94 Postdoctoral Fellow, Instrumentation Grant (NR07029), University of Arizona. College of Nursing, Tucson, AZ

1994-96 Assistant Professor, University of Utah College of Nursing, Salt Lake City, UT

1997-00 Assistant Professor, University of Arizona, College of Nursing, Tucson, AZ

2000-03 Associate Professor, University of Arizona, College of Nursing, Tucson, AZ

2003-05 Professor and Division Director University of New Mexico, College of Nursing, Albuquerque, NM

2006-08 Professor and Acting Associate Dean for Research and Clinical Scholarship. University of New Mexico, College of Nursing, Albuquerque, NM

2008-14 Professor, and Senior Scholar University of Colorado, Anschutz Medical Campus, College of Nursing, Aurora, CO

2015-19 Director of the Ph.D. Program, Professor, and Senior Scholar University of Colorado, Anschutz Medical Campus, College of Nursing, Aurora, CO

2020- Assistant Dean of the PhD Program, Professor, University of Utah College of Nursing, Salt Lake City, UT

Honors

1990-93 Predoctoral Fellowship, National Research Service Award, National Center of Nursing Research

1993 Dissertation of the Year Award, "The Cognitive Dimension of Breathlessness," University of AZ College of Nursing

1993-94 Postdoctoral Fellowship, National Research Service Award, National Institute of Nursing Research

1997 Friends of the National Institute of Nursing Research Certificate of Merit

2000 Sigma Theta Tau Beta Mu Chapter Excellence in Research Award

2002 American Thoracic Society Marilyn Hansen Award for Outstanding Abstract

2003-06 Regents Professor, University of New Mexico, College of Nursing

2003 Fellow in the American Academy of Nursing

2006 Sigma Theta Tau, Gamma Ki, Excellence in Research Award.

2009 Fellow in the Western Academy of Nursing

2014 Boeker Faculty Excellence-in-Research Award, University of Colorado College of Nursing

2019 Distinguished Researcher Award, Western Institute of Nursing

**C. Contributions to Science**

The following five areas represent contributions that my research groups and I have made in areas relevant to the current proposal.

**1.** **Symptom Measurement in Chronic Conditions.** My early research interest was understanding the discomfort patients experienced (expressed through symptoms). Symptoms are poorly understood, sometimes mistrusted and frequently inadequately addressed by many healthcare providers. Since symptoms are a subjective sensation, questionnaires are the primary method of evaluation. Unfortunately, over the past 20 years, the development of many questionnaires has occurred with little awareness of the scientific methods used in instrument development. My background in instrument development has resulted in developing questionnaires while consulting with clinicians, basic scientists, and academicians as well as advising students in instrument development. This resulted in an improved understanding of a symptom’s meaning to the person, how symptoms are expressed and thus how symptoms can be used to control disease and maintain function.

1. **Meek PM,** Lareau SC, Hu J. (2003)Are self-reports of breathing effort and breathing distress stable and valid measures among persons with asthma, persons with COPD, and healthy persons? Heart Lung. 32(5):335-46.
2. **Meek PM,** Nail LM, Barsevick A, Schwartz AL, Stephen S, Whitmer K, Beck SL, Jones LS, Walker BL.(2000) Psychometric testing of fatigue instruments for use with cancer patients. Nursing Research. Jul-Aug;49(4):181-90.
3. **Meek, P.M.,** Banzett, R. Parshall, M., Gracely, R.; Schwartzstein, R., Lansing, R. (2012) Reliability and validity of the multidimensional dyspnea profile (MDP). Chest, 141(6):1546–1553.
4. Banzett RB, O'Donnell CR, Guilfoyle TE, Parshall MB, Schwartzstein RM, **Meek PM**, Gracely RH, Lansing RW. (2015) Multidimensional Dyspnea Profile: an instrument for clinical and laboratory research. European Respiratory Journal. Jun;45(6):1681-1691.

2. **Symptom Monitoring in Chronic Conditions**. My interest in developing questionnaires supported my interest in evaluating symptoms and expanded the body of research in symptom evaluation particularly in relation to respiratory symptoms. We found that the degree and quality of breathlessness in patients varied. Most patients are good at describing their symptom experience while others have difficulty. Since we cannot monitor patients at home 24 hours a day, we must rely on patients to report significant changes. In chronic conditions such as COPD, early recognition of changes in symptoms can affect health status, physical activity and quality of life contributing to morbidity and mortality. Work in this area has expanded our understanding of symptoms linkages with physiologic changes such as gene methylation and important health status differences with despite similar pathophysiologic changes.

1. **Meek PM,** Lareau SC, Anderson D. Memory for symptoms in COPD patients: how accurate are their reports? Eur Respir J. 2001 Sep;18(3):474-81.
2. Schwartz, A. L., Nail, L. M., Chen, S., **Meek, P M,** Barsevick, A. M., King, E. M., Jones, L. S. (2000). Fatigue patterns observed in patients receiving chemotherapy and radiotherapy. Cancer Investigation. 18; 11–9.
3. Cook, P.F., Sousa, K.H., Matthews, E.E., **Meek, P.M.,** Kwong, J. (2011) Patterns of Change in Symptom Clusters with Human Immunodeficiency Virus Disease Progression. Journal of Pain and Symptom Management. 42(1):12-23. PMID:21429701.
4. Vazquez Guillamet R, Petersen H, **Meek P,** Sood A, Tesfaigzi Y. (2018) Grading Severity of Productive Cough Based on Symptoms and Airflow Obstruction. COPD. 26:1-8. doi: 10.1080/15412555.2018. PMID: 29697285

3. **Symptom Management and Palliative Care in Chronic Conditions.** What began as my attempt to understand better what patients were experiencing and how they managed these sensations from their lung and heart disease expanded to include symptom management amd the factors that influence their ability to care for them seld. Including system approaches, equipement issues and individual differences.

1. Bekelman, D. B., Hooker, S., Nowels, C. T., Main, D. S., **Meek, P.,** McBryde, C., . . . Heidenreich, P. A. (2014). Feasibility and acceptability of a collaborative care intervention to improve symptoms and quality of life in chronic heart failure: mixed methods pilot trial. Journal of Palliative Medicine, 17(2), 145-151. doi: 10.1089/jpm.2013.014
2. Jacobs SS, Lindell KO, Collins EG, Garvey CM, Hernandez C, McLaughlin S, Schneidman AM, **Meek PM.** Reply: Access to Supplemental Oxygen Therapy: A Crisis. (2018) Ann Am Thorac Soc. Jul;15(7):894. doi: 10.1513/AnnalsATS.201804-266LE. PubMed PMID: 29688744.
3. Massouh A, Abu Saad Huijer H, **Meek P,** Skouri H. (2019) Determinants of Self-Care in Patients With Heart Failure: Observations From a Developing Country in the Middle East. J Transcult Nurs. Jul 30: PubMed PMID:31359818.
4. Massouh A, Skouri H, Cook P, Huijer HAS, Khoury M, Meek P. (2020) Self-care confidence mediates self-care maintenance and management in patients with heart failure. Heart Lung. 49(1):30-35. doi: 10.1016/j.hrtlng.2019.07.008. PubMed PMID: 31371031

4. **Symptom assessment, monitoring and management as part of practice and position statements.** As science has evolved, research questions have become more complex and directions for investigation not always distinct. My contributions to symptoms science have helped to moved knowledge to the point that symptoms are considered a critical part of most chronic disease management or palliative care programs. Further, this work has progressed that I am now able to help define standards of care, and propose advanced intervention strategies as well as recommend research priorities for the future.

1. Celli, B. R., Decramer, M., Wedzicha, J. A., Wilson, K. C., Agustí, A. A., Criner, G. J., **Meek, P.M…** ZuWallack, R. L. (2015). An official American Thoracic Society/European Respiratory Society statement: research questions in COPD. European Respiratory Review, 24(136), 159-172. doi: 10.1183/16000617.00000315.
2. Effing TW, Vercoulen JH, Bourbeau J, Trappenburg J, Lenferink A, Cafarella P, Coultas D, **Meek P**, van der Valk P, Bischoff EW, et al. (2016). Definition of a COPD self-management intervention: International Expert Group consensus. Eur Respir J. 48(1):46-54. doi: 10.1183/13993003.00025-2016. Epub 2016 Apr 13. PubMed PMID: 27076595.
3. Blackstock FC, Lareau SC, Nici L, ZuWallack R, Bourbeau J, Buckley M, Durning SJ, Effing TW, Egbert E, Goldstein RS, Kelly W, Lee A, Meek PM, Singh S.(2018) [Chronic Obstructive Pulmonary Disease Education in Pulmonary Rehabilitation. An Official American Thoracic Society/Thoracic Society of Australia and New Zealand/Canadian Thoracic Society/British Thoracic Society Workshop Report.](https://www.ncbi.nlm.nih.gov/pubmed/29957038/)Ann Am Thorac Soc. 2018 Jul;15(7):769-784. doi: 10.1513/AnnalsATS.201804-253WS. Review. PubMed PMID: 29957038.
4. Nici L, Mammen MJ, Charbek E, Alexander PE, Au DH, Boyd CM, Criner GJ, Donaldson GC, Dreher M, Fan VS, Gershon AS, Han MK, Krishnan JA, Martinez FJ, **Meek PM**, Morgan M, Polkey MI, Puhan MA, Sadatsafavi M, Sin DD, Washko GR, Wedzicha JA, Aaron SD. (2020) Pharmacologic Management of Chronic Obstructive Pulmonary Disease. An Official American Thoracic Society Clinical Practice Guideline. Am J Respir Crit Care Med. May 1;201(9):e56-e69. doi: 10.1164/rccm.202003-0625ST. PubMed PMID: 32283960; PubMed Central PMCID: PMC7193862.

5. **Digital Interventions.** In recent years I have been involved in moving the discussions of symptom science and chronic disease self-management to address digital assessment and interventions. This work is timely given the current COVID-19 pandemic and restrictions on interactions among provider and patients, but also for helping to establish ways of assessing risk to wellness and health and the need to intervene.

1. Vazquez Guillamet R, Petersen H, **Meek P**, Sood A, Tesfaigzi Y.( 2018) Grading Severity of Productive Cough Based on Symptoms and Airflow Obstruction. COPD. 2018 Apr;15(2):206-213. doi: 10.1080/15412555.2018.1458218. Epub 2018 Apr 26. PubMed PMID: 29697285; PubMed Central PMCID: PMC6239864.
2. McCarthy MS, Matthews EE, Battaglia C, **Meek PM**. (2018) Feasibility of a Telemedicine-Delivered Cognitive Behavioral Therapy for Insomnia in Rural Breast Cancer Survivors. Oncol Nurs Forum. Sep 1;45(5):607-618. doi: 10.1188/18.ONF.607-618. PubMed PMID: 30118453.
3. Donner CF, Raskin J, ZuWallack R, Nici L, Ambrosino N, Balbi B, Blackstock F, Casaburi R, Dreher M, Effing T, Goldstein R, Krishnan J, Lareau SC, Make BJ, Maltais F, **Meek P,** Morgan M, Pépin JL, Rabbito C, Rochester CL, Silverman AR, Singh S, Spruit MA, Vitacca M, Williams L. (2018) Incorporating telemedicine into the integrated care of the COPD patient a summary of an interdisciplinary workshop held in Stresa, Italy, 7-8 September 2017. Respir Med. 2018 Oct;143:91-102. doi: 10.1016/j.rmed.2018.09.003. Epub 2018 Sep 8. Review. PubMed PMID: 30261999.
4. Coats, H. **Meek, P.M.,** Schilling, L.M., Akard, T.F., Doorenbos, A.D. (2020). "Connection": The Integration of a Person-Centered Narrative Intervention Into the Electronic Health Record: An Implementation Study. PMID: 31905039 DOI: 10.1089/jpm.2019.0376.

**Complete List of Published Work in My Bibliography:**

 <https://www.ncbi.nlm.nih.gov/myncbi/1R3aqsr7EscAe/bibliography/public/>

**D. Research Support**

**Ongoing**

**Completed**

R21AG053413 Boxer (PI) 09/27/16-07/31/18

NIA

“Reducing Sedentary Time in Patients with Heart Failure (REST-HF)”. Boxer, R. NIA, NIH, Bethesda MD, , The goal of this pilot research are to (1) reduce sedentary time in patients with HF, and (2) to evaluate the change of symptom severity and burden secondary to reduced sedentary time.

Role: symptom and measurement consultant.