

8-7-2022

## Clinical Research in Occupational Therapy

Daisy C. Alvarado  
Nova Southeastern University, da1293@mynsu.nova.edu

Follow this and additional works at: [https://nsuworks.nova.edu/hpd\\_ot\\_capstone](https://nsuworks.nova.edu/hpd_ot_capstone)

## Share Feedback About This Item

---

### NSUWorks Citation

Daisy C. Alvarado. 2022. *Clinical Research in Occupational Therapy*. Capstone. Nova Southeastern University. Retrieved from NSUWorks, . (88)  
[https://nsuworks.nova.edu/hpd\\_ot\\_capstone/88](https://nsuworks.nova.edu/hpd_ot_capstone/88).

This Entry Level Capstone is brought to you by the Department of Occupational Therapy at NSUWorks. It has been accepted for inclusion in Department of Occupational Therapy Entry-Level Capstone Projects by an authorized administrator of NSUWorks. For more information, please contact [nsuworks@nova.edu](mailto:nsuworks@nova.edu).



# Clinical Research in Occupational Therapy

Daisy Celeste Alvarado, OTD-S

Rachel Hingst, MPH, OTR/L, CPRP | National Institutes of Health Clinical Center

Gustavo Reinoso, PhD., OTR/L | Nova Southeastern University, Department of Occupational Therapy

## Introduction

- Clinical research in occupational therapy (OT) is the “**systematic and objective study** of treatment methods or interventions to improve health, prevent illness, and develop or restore function” (Rice et al., 2019)
- Clinical research serves to (Rice et al., 2019)



- The purpose of the capstone was to **develop skills** applicable to the clinical research process and required for advancing the OT profession
- The National Institutes of Health (NIH) Clinical Center was the ideal capstone site due to its **intersection of research and clinical practice**

## Literature Review

### NIH Research Plan on Rehabilitation (2016) (Frontera et al., 2017)

- In 2016, the NIH organized the “Rehabilitation Research at NIH: Moving the Field Forward” conference to evaluate the status of rehabilitation research in response to a high disability rate
  - Collaborative research between regenerative medicine and rehabilitation medicine was found to be lacking
  - OT was linked to greater engagement, active time, and functional recovery
  - OTs reportedly had difficulty obtaining funding without a doctorate degree
- The NIH, the National Advisory Board for Medical Rehabilitation Research, and the public identified six rehabilitation research focus areas:

- Rehabilitation across the lifespan
- Community and family
- Technology use and development
- Research design and methodology
- Translational science
- Building research capacity and infrastructure

### 2021 Update (Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, & DHHS, 2021)

**49%** increase in rehabilitation research funding | The focus area of **community and family** remained less responsive in the research portfolio

## Site Description

### NIH Clinical Center (National Institutes of Health Clinical Center, 2022)

- Mission: “We provide hope through pioneering clinical research to improve human health.”
- Guiding Principle: “Individual and collective passion for high reliability in the safe delivery of patient-centric care in a clinical research environment.”
- OT Section, Rehabilitation Medicine Department (RMD)
  - Provides clinical care services to participants in clinical trials
  - Engages in research as associate investigators

“Nation’s largest hospital devoted entirely to clinical research”



Figure 1. National Institutes of Health Clinical Center (left); Mark O. Hatfield Clinical Research Center Atrium (right)

## The OT Clinician and Researcher

### Considerations for OT Research

- Requires a complex, systematic approach of qualitative and quantitative methods (Campbell et al., 2000)
- Incorporates the lived experience and expertise provided by the client (Bennett, 2017)
- Implementation of new evidence may require changes at some or all levels of practice, including the policy, profession, organization, and individual practitioner levels (Burke & Gittin, 2012)

## Needs Assessment

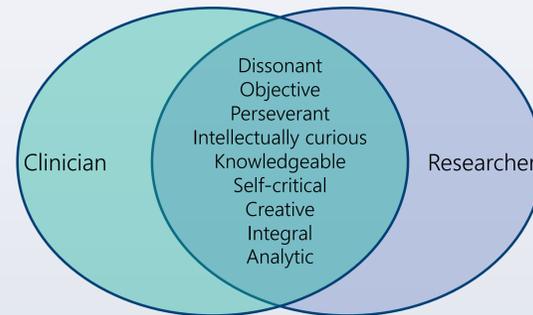


Figure 2. Characteristics of an OT clinician and researcher (Stein, 2020; Rice et al., 2019).

## Capstone Project Description

### Clinical Skills

- Observed/co-treated research participant intervention sessions
- Assisted in facilitating OT groups for inpatient units



Figure 1. OT services were provided to participants in inpatient units similar to traditional acute care and acute rehab settings. Pictured is Dr. Terry Fry with Bo, a first in human trial participant, during the production of the Discovery documentary First in Human.



Figure 2. Cooking group interventions were offered as individual and group intervention sessions, primarily for participants on the schizophrenia and mood disorders studies. Pictured is Rachel Hingst (OT) and Megan Schoenfeld (Nutrition) in the OT Kitchen.

### Research

- Conducted a scoping review on cooking and OT
- Participated in study design of biomarker identification study

Figure 3. Framework analysis method used for scoping review to identify common themes in literature and gaps for future research

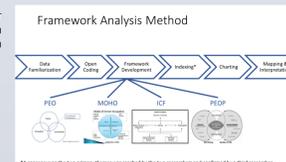
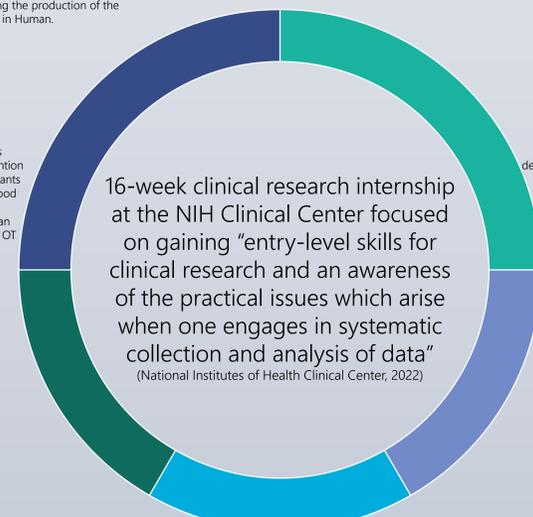
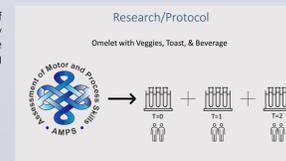


Figure 4. Schematic of salivary biomarker study design for measuring acute stress during cooking



### Program Development

- Reviewed program logic model
- Drafted grant funding application for further research and sustainability

Figure 5. Revised logic model for CWC program evaluation



Figure 6. CWC provides culinary and kitchen safety training for adolescents with ASD. Pictured is a participant of CWC at the Free Library of Philadelphia Culinary Literacy Center.

### Theory Development

- Engaged in theory development of a new model for cooking
- Collaborated with multidisciplinary, international team



Figure 7. The Meaning of Cooking book by Dr. Jean-Claude Kaufmann and Kawa River Model by Dr. Michael Iwama have served as inspiration for the newly designed model

### Education

- Developed clinical research scenarios and thinking maps for training on data analysis from national data
- Presentation for OTD 8271 on Group Interventions in Clinical Research

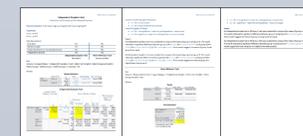


Figure 8. A reference sheet was generated for each statistical analysis method

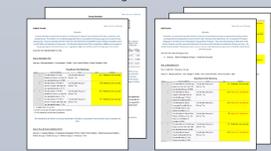


Figure 9. A guided practice and self-practice clinical research scenario was constructed for student learning and practice

Cooking and Occupational Therapy: A Scoping Review	Multidisciplinary Model of Cooking for Health and Wellbeing	Measuring Acute Stress during Cooking Behaviors: A Feasibility Study	Cooking with Confidence (CWC): Program Development and Evaluation
<b>Purpose:</b> To map the current literature on OT and cooking and identify any existing gaps in knowledge.	<b>Purpose:</b> To describe the development, structure, components, and applications of a newly designed multidisciplinary model for cooking	<b>Purpose:</b> To identify the feasibility of collecting objective salivary biomarkers and measuring HRV during a cooking task conducted within an experimental kitchen setting	<b>Purpose:</b> To assess outcome measures of CWC for the refinement and standardization of the program curriculum and increase probability of funding awards

Table 1. Title and purpose of assigned projects at the NIH Clinical Center

## Learning Objectives

### Capstone Goals

- Gain familiarity with current projects at the NIH Clinical Center
- Improve understanding of the role of OT in clinical research
- Increase competence of skills used in the clinical research process
- Gain knowledge/skills in program development and evaluation
- Develop learning tools for research and data analysis
- Develop a portfolio for future career opportunities

### 16-Week Overview

4 RMD research projects	See Table 1
2 mental health studies	schizophrenia & mood disorders
5 rare disorders studies	Job syndrome, Loeys-Dietz syndrome, STING-associated vasculopathy with onset in infancy (SAVI), Von Hippel-Lindau (VHL) disease, CD40L deficiency, & VHL tumor craniotomy
5 cancer intervention studies	TEDDI-R in aggressive B-cell lymphomas, HIV-associated malignancies chemotherapy, Kaposi sarcoma chemotherapy, EBV associated lymphoma bone marrow transplant, Hyperthermic intraperitoneal chemotherapy (HIPEC) surgery
75	Team meetings
18	Clinical rounds & case conference
36	Participant groups

## Implications

- Occupational Therapy**
  - Validation of **cooking** as a skilled intervention for a variety of clinical populations
  - Identification of **gaps** in the literature on cooking and OT for continued research
  - Progression of a **newly proposed model** to highlight the role of OT in culinary medicine and improve multidisciplinary communication on cooking

- NIH Clinical Center**
  - Advancement of clinical research projects in RMD
  - Drafting of **two manuscripts** for continued review and future dissemination
  - New ideas** on how capstone students can be incorporated to advance the RMD research portfolio

- Education**
  - Reflective insight** into the challenges of clinical research through clinical research scenarios
  - Increased technical skills** for systematic and objective data collection and analysis in practice

- Personal**
  - Continued **work** on research projects post-capstone
  - Establishment of **relationship** with NIH RMD and cooking research
  - Increased skills** across the continuum of research
  - Insight** into the complexity of clinical research and navigating challenges
  - Curiosity** for future career opportunities at the intersection of research and clinical practice
  - Creative potential** for program development and theory development

## Acknowledgments

I extend my deepest gratitude to Rachel Hingst, MPH, OTR/L, CPRP, and Dr. Gustavo Reinoso, Ph.D., OTR/L, for their mentorship throughout this capstone and continued support for curiosity and growth. I would also like to thank the OT Section, RMD, and Behavioral Health Unit staff for welcoming me into their community of inquiry at NIH. Lastly, this capstone would not have been possible without the support of Dr. Christina Kane, Ed.D., MS, OTR/L, who believed in this goal two years before I ever set foot on the NIH campus.