Developing a Healthy Aging Teaching Curriculum Model

BY YOUNG S. SONG

B.S., Grand Valley State University, 1980
M.S., Wayne State University, 1982
M.P.H., University of Illinois at Chicago, 1987

DISSERTATION

Submitted as partial fulfillment of the requirements for the degree of Doctor of Public Health in the School of Public Health of the University of Illinois at Chicago, 2015

Chicago, Illinois

DrPH Dissertation Committee:

Eve Pinsker, PhD (Committee Chair, Division of Community Health Sciences)
Christina Welter, DrPH (Division of Community Health Sciences)
Naoko Muramatsu, PhD (Division of Community Health Sciences)
Steven Seweryn, EdD (Division of Epidemiology and Biostatistics)
Annette Debisette, PhD (Food and Drug Administration)
DISCLAIMER

The views expressed in this dissertation are those of the author and do not reflect the Bureau of Health Workforce (BHW) in the Health Resources Services Administration or the position of the United States Department of Health and Human Services. Documents were obtained from the HRSA Freedom of Information Office for the document review and no BHW resources or staff time including the PI’s duty time were used in completing this research project.
DEDICATION

To my parents, family, mentors, and friends for their prayers, guidance, encouragement, and support.
ACKNOWLEDGEMENTS

I would like to thank my dissertation committee chair, Eve Pinsker, PhD, and my dissertation committee members, Christina Welter, DrPH, Naoko Muramatsu, PhD, Steven Seweryn, EdD, and Annette Debisette, PhD for their support, guidance, and gracious assistance. My special thanks to Dr. Welter, who chaired my dissertation committee at the initial stage. In addition, I would also like to thank the director of the Doctor of Public Health program, Patrick Lenihan, PhD, for gracious support and guidance in completing my dissertation under the unique challenge I faced.

I would like to express my special gratitude to Annette Debisette, PhD and Madeleine Hess, PhD who provided me encouragement and support in completing my doctoral degree.

In addition, I would like to extend my sincere appreciation to the faculty, staff, and fellow graduate students at the University Of Illinois School Of Public Health.

Finally, I extend my thanks to the Freedom of Information Act staff at the Health Resources and Services Administration for providing information for the document review.

YSS
# TABLE OF CONTENTS

## I. INTRODUCTION

A. Summary of Chapter I .................................................................................................................. 6  
B. Background .................................................................................................................................. 8  
C. Statement of the Problem ........................................................................................................... 12  
D. Purpose of the Study .................................................................................................................. 13  
E. Study Questions ............................................................................................................................ 14  
F. Leadership Implications ................................................................................................................. 14

## II. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

A. Summary of Chapter II .................................................................................................................. 17  
B. Literature Review .......................................................................................................................... 17  
   1. Introduction ............................................................................................................................... 17  
   2. Demographics of the Aging U.S. Population .............................................................................. 18  
   3. Economic Impact of Increases in Multiple Chronic Conditions ............................................. 19  
   4. Identified Training Needs for the National Health Care Workforce ..................................... 20  
   5. Definitions and Concepts of Healthy Aging ........................................................................... 21  
   6. Conceptual Models of Healthy Aging/Successful Aging and Their Facilitating Factors ........ 22  
   7. Summary of Eight Common Healthy Aging/Successful Aging Facilitating Factors ............... 31  
   8. Conceptual Framework ................................................................................................................ 34

## III. METHODS

A. Summary of Chapter III .................................................................................................................. 47  
B. Setting .......................................................................................................................................... 48  
C. Design ........................................................................................................................................... 54  
D. Sample .......................................................................................................................................... 56  
   1. Selection Criteria, Strategy, and Size ....................................................................................... 56  
E. Data Collection .............................................................................................................................. 59  
F. Data Analysis Plan ......................................................................................................................... 64  
   1. Preparation Phase ..................................................................................................................... 64  
   2. Organization Phase .................................................................................................................... 65  
   3. Reporting Results Phase .......................................................................................................... 65  
G. Study Limitations .......................................................................................................................... 69  
H. Study Validity ................................................................................................................................. 70

## IV. DISCUSSION

A. Summary of Chapter IV .................................................................................................................. 71  
B. Discussion of Study Findings ......................................................................................................... 81  
   1. Subquestion 1A ......................................................................................................................... 81  
   2. Subquestion 1B ........................................................................................................................ 97  
C. Limitations and Generalizability ................................................................................................. 108  
D. Conclusions ................................................................................................................................. 109  
E. Utility of the Healthy Aging Teaching Curriculum Model ......................................................... 114  
F. Recommendations ....................................................................................................................... 114  
G. Implications to Geriatric Programs ............................................................................................ 118
APPENDICES ...................................................................................................................... 119
  Appendix A: Document Review Template ........................................................................ 119
  Appendix C. Document Review Sample Selection Matrix, September 2007-September 2010 ........ 128
  Appendix D. Notice of Determination of Human Subject Research ........................................ 129
  Appendix E. Letter From The HRSA Freedom of Information Office ..................................... 130

CITED LITERATURE ........................................................................................................... 131

VITA ........................................................................................................................................... 140
LIST OF TABLES

TABLE I. HEALTHY AGING/SUCCESSFUL AGING MODELS AND THEIR HEALTHY AGING/SUCCESSFUL AGING FACTORS ................................................................. 33

TABLE II. GACA PROGRAM LOGIC MODEL ................................................................. 53

TABLE III. STUDY QUESTIONS, CONSTRUCTS, FACTORS, MEASURES, AND DATA SOURCES ........................................................................................................ 60

TABLE IV. OVERVIEW OF DATA SOURCES AND ANALYSIS STRATEGY .................. 68

TABLE V. SUMMARY OF RESULTS BY RESEARCH QUESTIONS .............................. 73

TABLE VI. PRESENCE OF OTHER SOURCES OF GERIATRIC PROGRAM FUNDING. 107
LIST OF FIGURES

FIGURE 1. CONCEPTUAL MODEL ........................................................................................................ 45
FIGURE 2. PROPOSED CONCEPTUAL MODEL FOR THIS STUDY ........................................... 46
FIGURE 3. Awardee Teaching Activities Overview ........................................................................ 52
FIGURE 4. Study Design ........................................................................................................................ 55
FIGURE 5. Deductive Content Analysis Process ........................................................................... 67
FIGURE 6. Curricula Topics Taught by the Awardees ................................................................. 86
FIGURE 7. The 10 Healthy Aging Competencies Taught to Health Care Workers ......................... 90
FIGURE 8. Number of Archived Online Curricular by the Awardees .......................................... 91
FIGURE 9. Teaching Methods and Settings Used by the Awardees ........................................... 93
FIGURE 10. Learners Assessments and Curriculum Evaluation Methods Used by the Awardees .................................................................................................................................................. 94
FIGURE 11. Reported Facilitators in Developing and Implementing the Healthy Aging Curriculum and Using a Wide Range of Teaching Methods and Settings ........................................................................................................... 97
FIGURE 12. Identified Gaps in Teaching the 10 HA Competencies by the Awardees ...................... 100
LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACA</td>
<td>Patient Protection and Affordable Care Act</td>
</tr>
<tr>
<td>AOA</td>
<td>Administration on Aging</td>
</tr>
<tr>
<td>BHW</td>
<td>Bureau of Health Workforce</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CDSMP</td>
<td>chronic disease self-management program</td>
</tr>
<tr>
<td>DCA</td>
<td>deductive content analysis</td>
</tr>
<tr>
<td>DCW</td>
<td>direct care worker</td>
</tr>
<tr>
<td>4DCDF</td>
<td>four-dimensional curriculum development framework</td>
</tr>
<tr>
<td>GACA</td>
<td>Geriatric Academic Career Awards</td>
</tr>
<tr>
<td>HCW</td>
<td>health care workforce</td>
</tr>
<tr>
<td>HA</td>
<td>healthy aging</td>
</tr>
<tr>
<td>HHS</td>
<td>U.S. Department of Health and Human Services</td>
</tr>
<tr>
<td>HRSA</td>
<td>Health Resources and Services Administration</td>
</tr>
<tr>
<td>IPE</td>
<td>interprofessional education</td>
</tr>
<tr>
<td>IPT</td>
<td>interprofessional team</td>
</tr>
<tr>
<td>IOM</td>
<td>Institute of Medicine</td>
</tr>
<tr>
<td>IRB</td>
<td>institutional review board</td>
</tr>
<tr>
<td>MCC</td>
<td>multiple chronic conditions</td>
</tr>
<tr>
<td>NCA</td>
<td>National Council on Aging</td>
</tr>
<tr>
<td>PCPM</td>
<td>preventive and corrective proactivity model</td>
</tr>
<tr>
<td>SA</td>
<td>successful aging</td>
</tr>
<tr>
<td>SOCM</td>
<td>selective optimization with compensation model</td>
</tr>
</tbody>
</table>
I. INTRODUCTION

A. **Summary of Chapter I**

This chapter includes: 1) Background, 2) Statement of the Problem, 3) Purpose of the Study, 4) Study Questions, and 5) Leadership Implications. Each section will be introduced and described.

The background in Chapter I includes literature that supports the need to improve the geriatric knowledge and skills of health care providers in order to meet the needs of the burgeoning elderly population, particularly those living with MCC. The literature also supports training health care providers in HA concepts as a prevention strategy for MCC and as an approach to cost containment. These older adults with MCC may need the IPT approach to provide well-coordinated patient-centered health care that emphasizes preventive health care. Unfortunately, the current health care workforce (HCW) is unprepared in HA concepts and IPE to meet the needs of older adults with MCC. The solution to this problem may require training in HA concepts and IPT to provide well-coordinated patient-centered geriatric care.

In this study, HA is defined as the ability of an older person to maintain or improve his/her optimal physical health by a health-promoting lifestyle, optimizing mental, cognitive, and physical functions, and optimizing engagement with life. It may be best achieved through the ecological approach across all levels of society because health promotion is multidimensional in nature. The Public Health Service (PHS) Act, Geriatric Academic Career Award (GACA) program addresses these needs by training the national HCW in HA concepts and IPE.

In response to these issues in training the national HCW in HA concepts and IPE, this dissertation is intended to: 1) develop the HA teaching curriculum model for health professions based on the literature; 2) develop the HA teaching curriculum model for health professions as
an assessment tool, including a document review template; and 3) apply the HA teaching curriculum model for health professions to a particular program. The HA teaching curriculum model is applied to two previous GACA cohorts of the program to see: a) what it shows as an assessment of teaching strengths and areas for improvements in this particular program; and b) what it shows about the utility of this tool, whether it is helpful and easy to use with available program documents to see overall patterns across a program compared to what is recommended based on current literature. In addition, based on the findings of this study through document review and analysis of the work of the GACA supported educators, make recommendations to strengthen the design of the HA teaching curriculum model for geriatric health profession education.

The GACA program is a useful test case for the utility of this particular model as an assessment tool, since GACA awardees are required to hold a full-time junior faculty appointment from the accredited school of medicine. In addition, they are required to spend 75% of their time in training the HCW in clinical geriatrics including HA concepts such as IPT-based approaches. The awardees are considered ‘cream of the crop’ in geriatric education, especially medically-dominated geriatric education.

The primary investigator (PI) of this study currently serves as program officer with oversight for the GACA program which is housed in the Health Resources and Services Administration (HRSA) of the U. S. Department of Health and Human Services (HHS). In order to avoid possible perceived influence over future funding decisions and opportunities, the PI did not collect interview data or use data from any grantees currently receiving funding from Title VII and Title VIII geriatric programs in the HRSA BHW. In addition, the PI only used documents obtained through the Freedom of Information Act (FOIA) process as a private citizen
of the United States. Further details on study methods, data sources, and limitations can be found in Chapter 3.

B. **Background**

Currently, the United States is experiencing an increase in the proportion of the population aged 65 and older and the life expectancy at birth is increasing. For example, the Administration on Aging (AOA), a division of the Administration for Community Living (ACL), stated that the population 65 years and over represented 13% of the total population in the year 2011 and is expected to increase to 21% of the total population by 2040 (AOA, 2012). In addition, the National Vital Statistics Report from the Centers for Disease Control and Prevention (CDC) reported the overall life expectancy at birth was 78.5 years in 2009 and that between 2008 and 2009, life expectancy at birth increased for both males (from 75.6 to 76.0 years) and females (80.6 to 80.9 years; CDC, 2014).

While Americans are living longer, this does not necessarily mean these extra years are spent living in good health. As they get older, they accumulate chronic conditions. Eighty percent of older adults have at least one chronic condition and 50% have at least two (CDC, 2009). The CDC reports that two of three older Americans have MCC and their treatment accounts for 66% of the national health care budget (CDC, 2013). According to the CDC, older adults with MCC will place unprecedented demands on aging services and a significant financial burden on individuals as well as on the nation’s entire health care system. In addition to a significant financial burden on individuals as well as on the health care system, MCC both affect bio-psychosocial aspects of life and seriously compromise the quality of life of older adults. These chronic conditions not only can cause years of pain and limited or lost functioning, but
also affect their family and can force older adults to give up their independence too soon (Freid et al., 2012).

The disease, disability, and death associated with MCC are preventable and poor health is not an inevitable consequence of aging (CDC, 2009). According to the CDC, a large proportion of chronic diseases is preventable. This provides an opportunity to improve prevention as a strategy to bend the curve and reduce the growth in disease burden and associated costs (Thorp et al., 2010). HA concepts can help reduce health care costs and improve the quality of life of older adults by addressing the modifiable aspects of the aging process through meaningful interventions (CDC, 2013).

Traditional training of health care professionals in geriatrics predominantly focuses on the treatment of disease and little attention is given to the promotion of health of adults aged 65 and older (Anderson, 2010). In addition, older adults with MCC may need IPT-based care to provide well-coordinated patient-centered health care that emphasizes preventive health care.

Unfortunately, the national HCW is unprepared to address the complexity of MCC in the aging population through providing well-coordinated patient-centered IPT-based care. Furthermore, they are unprepared to address primary prevention and health promotion concepts such as those found in HA concepts. The Institute of Medicine (IOM) report, Retooling for an aging America: Building the health care workforce, states that the HCW has been inadequate in both size and skills to meet the health care needs of the rapidly growing number of older adults (IOM, 2008). The education and training of health professionals in the area of geriatrics are hampered by a scarcity of well-versed faculty, inadequate and variable academic curricula and clinical experiences, and a lack of opportunities for advanced training.
In addition, the education and training of geriatric health care professionals is often limited in scope and needs to be expanded to take into account the diversity of health care needs among older populations and to prepare HCW for the coming new models of care, many of which will require changed or expanded roles (IOM, 2008). For example, the Recovery and Reinvestment Act of 2009 (Steinbrook, 2009) and the Patient Protection and Affordable Care Act of 2010 (Kaiser Family Foundation, 2010) have stimulated new approaches, such as the patient-centered medical home (PCMC) concept, to achieve better outcomes in primary care, especially for older adults with MCC and other frail older adult populations. IPT-based care has a core role in many of the new primary care approaches. A PCMH is an enhanced model that provides IPT-based care to provide well-coordinated patient-centered care.

Marshall and Altpeter (2005) suggested that HA health promotion concepts and strategies in geriatrics that are based on an ecological approach might be more successful across all levels of society. HA concepts based on the ecological model call for all partners to work together to promote the health of older adults in order to reduce health care costs and increase the quality and years of healthy life. As one of the partners in the ecological approach to HA concepts, the GACA program trains HCW in HA concepts and IPT-based training to promote and foster HA concepts in meeting the needs of an aging population.

In 1998, the U.S. Congress passed the Health Professions Education Partnership Act, which provided the Bureau of Health Workforce (BHW) in the Health Resources and Services Administration (HRSA) administrative authority to develop and implement the PHS Act, Title VII GACA program. This legislation was passed in response to the national shortage of academic geriatricians to teach geriatrics to the HCW. The GACA program was implemented in 1999. The GACA program has been instrumental in developing academic geriatricians and
increasing clinical training in geriatrics, including training IPT and emphasizing a coordinated approach to patient-centered geriatric care. It has also developed curricula relating to health problems of older adults and integrating geriatrics education into medical schools.

The GACA program seeks to support the career development of physicians, nurses, social workers, psychologists, dentists, pharmacists, and allied health professionals in academic geriatrics who provide training in clinical geriatrics including training IPTs of health professionals. GACA awardees are required to hold a full-time junior faculty appointment from the accredited health professional school of their specific discipline. In addition, they are required to spend 75% of their time in training the HCW in clinical geriatrics including HA concepts such as IPT-based approaches. The remaining 25% of their time is to be used for additional career development activities such as obtaining an additional advanced degree to expand and enhance a career in academic geriatrics; publishing textbooks, journal articles and posters in geriatrics; attending and presenting at national, regional, and local conferences to educate health professional practitioners, educators, and students (For further background information concerning the GACA program, please refer to Chapter 3, Section B).

In addition to the GACA program, there are other sources of funding for HCW training in geriatrics, through both the public and private sectors. These include graduate medical education (GME) related funding streams, Donald W. Reynolds Foundation grants, Hartford Foundation grants, Geriatric Research Education and Clinical Centers (GRECCs) grants by the Veterans Administration, and Area Health Education Centers grants in the HRSA BHW. The National Institute of Aging, located in the National Institutes of Health, provides grants for clinical research, career development awards in clinical research, and loan repayments for clinical researchers in geriatrics/gerontology. However, none of these grants focus on academic career
development in geriatrics or require a substantial teaching commitment, with or without an IPT component. Only the Hartford Foundation provides funding for IPT that included all health care providers, including informal caregivers.

C. **Statement of the Problem**

As the baby boomers age, the nation is facing an increase in the number of adults aged 65 and older, as well as an increase in the proportion of the total population that is elderly. As adults live longer, they tend to accumulate chronic conditions which, in turn, may cause physical and emotional suffering for these individuals and their family members. Management of MCC requires an interdisciplinary approach and team-based care, bringing together disease management, primary and secondary prevention, and health promotion. HA concepts are critical to this effort. With their integrated approach, HA concepts also are in a unique position to reduce the financial stress on aging individuals, their families and, in fact, on the U.S. health care system.

At this time, there is a shortage of health care professionals trained in geriatrics including HA concepts and an even greater shortage of those trained to work in interprofessional and IPT approaches. MCC management among older adults requires a patient-focused and well-coordinated interprofessional approach with health professionals capable of delivering care in diverse settings. Currently, there is no HA teaching curriculum model including IPE and IPT-based approaches for health profession education in geriatrics, or an assessment tool of such a model to identify strengths and areas of improvement of health profession education programs. Furthermore, there is not a clear understanding of factors that affect the development and implementation of HA teaching curriculum including IPE and IPT-based approaches.
The GACA program supports this effort by funding the interprofessional training of the national HCW in HA concepts. Currently, the GACA HA teaching curriculum has not been systematically investigated. The substantive content of the GACA curriculum as developed and implemented in multiple sites, as well as the GACA supported educators’ approach to IPE and IPT-based care needs to be investigated to understand the experience of the GACA program in promoting the teaching of HA concepts and practices, and to compare this experience against an ideal model based on the literature on supporting health aging.

D. **Purpose of the Study**

This dissertation is intended to:

1. understand the factors affecting HA teaching curriculum including the interprofessional education (IPE) curriculum development and implementation;

2. develop a HA teaching curriculum model for health professions based on the literature review, as an assessment tool, including a document review template;

3. apply the HA teaching curriculum model for health professions to two previous GACA cohorts of the program to:
   
   a. assess HA teaching curriculum strengths and areas for improvements in the program,
   
   b. assess the utility of this tool, whether it is helpful and easy to use with available program documents to see overall patterns across a program compared to what is recommended based on current literature, and

4. based on the findings of this study, make recommendations to strengthen the design of the HA teaching curriculum model for geriatric health professions education.
E. **Study Questions**

The main question and subquestions for this study are as follow:

1. What are the factors affecting HA teaching curriculum including the interprofessional education (IPE) curriculum development and implementation?

   A. What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice?

      o *who, what, where, and how:* who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods).

      o factors that facilitate or hinder success of health profession (HP) educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

   B. What are the overall strengths and gaps of HA teaching curriculum including the IPE contents and how the content has been delivered in practice?

      o overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught, and

      o overall strengths and gaps of the HP educator in reaching a wide range of HCW disciplines and conducting IPE in various settings.

F. **Leadership Implications**

According to the CDC, two of every three older Americans have MCC and treatment for this population accounts for 66% of the national health care budget. Due to the rapid growth of adults aged 65 and older, national health care costs are rising. The financial burden, physical and emotional suffering of individuals with chronic conditions and their family members is compelling. Chronic conditions significantly compromise the quality of life for them and their
families. The results of the 2012 National Health Interview Survey (NHIS) showed the prevalence of MCC and an increased trend of MCC among those aged 65 years and over (Fried et al., 2012). The NHIS found the percentage of adults aged 65 and over with both hypertension and diabetes increased from 9% to 15%; prevalence of hypertension and heart disease increased from 18% to 21%; and prevalence of hypertension and cancer increased from 8% to 11% from 2000-2010. These two reports further inform and encourage public health leadership to consider HA concepts in public health program planning for adults aged 65 and older. The costs of not considering the HA concepts in geriatric education are too great, and call for public health leaders to consider HA in planning and implementing public health programs.

The Prevention Institute report, *Towards a 21st century approach: Advancing a vision for prevention and public health*, supports the importance of implementing HA concepts in today’s setting and argues that the social ecological approach is both effective and efficient, especially when integrating primary prevention into clinical geriatric care (Chehimi & Cohen, 2013). There are complex public health challenges in meeting the needs of the rapidly increasing older adult population, and multiple sectors of society will need to be engaged. A multi-sectoral strategy, including approaches to leadership, will allow partners to leverage knowledge, expertise, and resources. By building on disciplinary strengths, it will also allow each partner to work toward the common shared goal to improve the health of older adults and the quality of their lives. It is consistent with Marshall and Altpeter (2005) that HA concepts of health promotion that are based on the ecological approach might be more successful across all levels of society because health promotion is multidimensional in nature.

Training the health care workforce (HCW) in HA concepts requires collaborative partnerships with federal agencies, private foundations, academia, health professional training
centers, and health professional organizations. The national grantees, their institutions, and their subsidiaries/affiliates, such as nursing homes, medical centers, ambulatory care centers, community clinics, home care, and assisted living facilities have successfully implemented HA concepts. Grantees, their institutions, and subsidiaries/affiliates have important roles in HA teaching curriculum development and implementation. A strengthened common understanding of model ways to effectively train the HCW, with its health professionals who come from multiple disciplines, in HA concepts, informed by a systematic review of the GACA program’s reported experience, will help build the capacity within our nation to provide care for our elders, which improves the overall quality of life. Furthermore, in delaying disability and avoiding long periods of care due to preventable MCC, such care is also cost-effective at the societal level.
II. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

A. Summary of Chapter II

Chapter II presents literature necessary to develop a conceptual model to understand the HA teaching curriculum, including IPE, and the four complex interrelated dimensions that affect HA teaching curriculum development and implementation in training the national HCW.

The literature reviewed in this chapter explains the dimensions of HA/successful aging (SA) including definitions, concepts and theoretical foundations of eight key HA/SA models, the best available models for training a HCW that will support optimum aging. These models will be used in the current study to identify key HA/SA factors that should be considered in developing any HA-based teaching curriculum used to train the geriatric HCW.

In addition, Chapter II reviews the four-dimensional curriculum development framework (4DCDF) developed by Lee et al. (2013) to understand the four complex interrelated dimensions affecting HA teaching, curriculum development, and implementation for health professions.

B. Literature Review

1. Introduction

The purposes of this literature review are to facilitate the development of a conceptual model for the HA teaching curriculum and to understand four dimensions that affect health professions HA teaching curriculum, including IPE development and implementation. The literature review focuses on the following areas:

- definitions, concepts, theoretical foundations of HA/SA, and the HA/SA factors that could be incorporated into the HA teaching curriculum used to train HCW.
four dimensions that affect health professions HA teaching curriculum, including IPE development and implementation are:

A. Dimension 1: Current and future changes in the context of providing health care for an aging population in the United States that will affect the practice of HCW trainees. In this study, Dimension 1 refers to why HA teaching curricula are developed.

B. Dimension 2: The content of the competencies, including knowledge, skills, and attitudes that are needed by the health workers who care for the elderly. In this study, Dimension 2 refers to what is being taught by HP educators.

C. Dimension 3: The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. Dimension 3 refers to who is being taught, how they are taught, and where (settings) they are taught by HP educators.

D. Dimension 4: The impact of the institutional context of collaborating academic institutions and teaching hospitals on shaping the HA teaching curriculum, including IPE training sessions. This includes structural and cultural issues.

2. Demographics of the Aging U.S. Population

As previously discussed, the combination of the increased lifespan and the number of adults aged 65 years or older with MCC has far-reaching implications for the U.S. health system. The CDC reports that (CDC, 2013). The results from the 2000-2010 National Health Interview Survey (NHIS) showed an increasing trend in MCC among adults aged 65 and over. Adults aged 65 and over with both hypertension and diabetes increased from 9% to 15%; prevalence of hypertension and heart disease increased from 18% to 21%; and prevalence of hypertension and cancer increased from 8% to 11% (Freid et al., 2012). In a study of obesity, it was found that
35% of adults aged 65 and over were obese in 2007-2010, for an estimated 8 million obese adults aged 65-74, and another estimated 5 million obese adults aged 75 and over (NCA, 2013).

3. **Economic Impact of Increases in Multiple Chronic Conditions**

In 2011, the cost of chronic diseases was estimated to be $2.8 trillion annually, or an average of $9,216 per person [National Council on Aging (NCA), 2011]. Currently, adults 65 years and older comprise 13% of total population, but account for 66% of the country’s health care budget (CDC, 2013) and a disproportionate share of healthcare services (IOM, 2008). Older adults with four or more MCC consume 80% of Medicare spending (Boult et al, 2008).

Individuals living with depression and certain chronic conditions have been shown to have substantially higher total health care costs than those with these same conditions but without depression ($22,960 versus $11,956 per year). The aggregated payments for health care, long-term care, and hospice care among those diagnosed with Alzheimer’s disease currently the sixth leading cause of death among adults and other dementias are projected to increase from $183 billion in 2011 to $1.1 trillion (stated in 2011 dollars) in 2050 (CDC, 2011).

A significant amount of out-of-pocket expense also finances health care for older community-dwelling adults with both chronic conditions and/or disabilities (Lewin Group, 2010). Individuals with Medicare and private insurance coverage spend an average of $1,808 of personal income per year on out-of-pocket expenses. Even with Medicaid coverage, individuals who are dually eligible (Medicare and Medicaid coverage) spend an average $808 per year. This estimate would be much higher if older adults residing in nursing homes were included (Stone & Benson, 2012). An increased focus on prevention has the potential to cut total health care costs and lessen the impact of health-related costs to the system, individuals and their families.
4. **Identified Training Needs for the National Health Care Workforce**

A large proportion of chronic disease is preventable, a fact that provides an incentive to adopt a prevention strategy to bend the curve and reduce the growth in disease burden and its associated costs (Thorp et al., 2010). However, traditional training of health care professionals in geriatrics predominantly focuses on the treatment of disease and little attention is given to prevention or the promotion of health (Anderson, 2010). Randomized clinical trials have demonstrated that lifestyle changes can reduce new cases of diabetes by more than 50% (CDC, 2011). Early detection of certain cancers and other chronic diseases through screening can reduce mortality from these conditions by 15-20% (AOA, 2013). Similarly, screening guidelines are important in nursing homes for the early detection of depression and pressure ulcers (Estabrooks & Glasgow, 2006). These are just a few examples that, when taken together, show the potential leverage of prevention in decreasing morbidity and the costs associated with chronic disease, potentially averting 70% of such cases (AOA, 2011).

As the 2008 IOM report stated, the HCW is not prepared to meet the health care needs of the rapidly growing number of older adults (IOM, 2008). In addition to an inadequate number of trained clinicians, training is often limited in scope and needs to be expanded to take into account the diversity of health care needs among older populations and to prepare HCW for the coming new models of care, many of which will require changed or expanded roles (IOM, 2008). For example, the Recovery and Reinvestment Act of 2009 (Steinbrook, 2009) and the Patient Protection and Affordable Care Act of 2010 (Kaiser Family Foundation, 2010) has mandated new approaches, including the patient-centered medical home (PCMH) concept, to achieve better outcomes in primary care, especially for older adults with MCC and other frail older adult populations. A PCMH is an enhanced model that provides collaborative, interprofessional based
care to provide well-coordinated patient-centered care and is one example of the role of IPT in emerging primary care approaches. The GACA Program address these identified needs by training the national HCW in HA concepts and IPE.

5. **Definitions and Concepts of Healthy Aging**

There are many definitions of HA and HA is often used interchangeably with terms such as *active aging* (Bowling, 2008; World Health Organization [WHO], 2002); *successful aging* (SA) (Bowling & Dieppe, 2005; Bowling & Iliffe, 2006; Rowe & Khan, 1997), *positive aging* (Kendig & Browning, 1997), and *productive aging* (Kerschner & Pegues, 1998). Until the 1980s, no established framework for HA had been established. According to Rowe and Kahn (1998), a conceptual framework for effectively guiding a HA approach was not developed until the 1990s.

The World Health Organization (WHO) defined health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1948). Aging is a lifelong and natural process including anatomical, physiological and psychological changes. This study focuses on the state of optimal health or HA as defined by various sources.

- Health Canada defined healthy aging as: “A lifelong process of optimizing opportunities for improving and preserving health and physical, social and mental wellness, independence, quality of life and enhancing successful life-course transitions” (2001, p. 1).

- The Prevention Research Centers Healthy Aging Research Network (PRC-HAN) described healthy aging as:
Healthy aging is the development and maintenance of optimal physical, mental and social well-being and function in older adults. It is most likely to be achieved when physical environments and communities are safe, and support the adoption and maintenance by
individuals of attitudes and behaviors known to promote health and well-being; and by the effective use of health services and community programs to prevent or minimize the impact of acute and chronic disease on function. (Marshall & Altpeter, 2005, p. 137).

- The Division of Aging and Seniors, Government of Newfoundland and Labrador, Canada stated, “Healthy aging can best be seen as a process. It refers to creating the best opportunities for health, participation and security in order to enhance quality of life as we age” (2006, p. 4).

From the definitions and concepts of HA mentioned above, there is consensus that HA is a process involving wellness or aging successfully relative to physical, mental, and social well-being. The PRC-HAN definition is especially relevant to this study and adapted for it. “HA in this study is defined as the ability of an older person to maintain or improve his/her optimal physical health by a health-promoting lifestyle, optimizing mental, cognitive and physical functions, and optimizing engagement with life” (2006, p.3). It may be best achieved through the ecological approach across all levels of society because health promotion is multidimensional in nature.

6. Conceptual Models of Healthy Aging/Successful Aging and Their Facilitating Factors

The terms HA and SA are used interchangeably in the literature, even at times without specific definition and only implied meaning and most recent literature in gerontology and geriatrics discussions are evolving around SA. To reflect the robust multiple perspectives from the fields of gerontology and geriatrics, in developing a conceptual model for the GACA program HA teaching curriculum to train HCW, the study will use the term HA/SA.
There is a lack of consensus and no single well-accepted definition of SA, most likely related to the ambiguity of the term *success* (Depp & Jeste, 2006; Marshall & Altpeter, 2005). As a result, the literature does not use a precise, uniform definition and, additionally, the scope of SA is not consistent. In fact, *successful aging* is a complex concept and can be interpreted in a variety of ways. Havighurst (1961) originally described SA as “adding life to the years” and “getting satisfaction from life.” The idea of maximizing one’s years evolved into a theory of continuity that suggests that SA might be best interpreted as continued participation in activities of middle age, maintaining midlife attitudes, and adapting to new roles in order to maintain a positive sense of oneself (Havighurst, 1961). These notions were formalized into a definition of SA that included having inner feelings of happiness and satisfaction with one’s present and past life (Ryff, 1989). Maddox (1968), Atchley (1971), and Atchley and Baruch (2004) stated that the definition of active living found in SA models included the notion that older adults should maintain the same activities, social networks, and behaviors that they engaged in throughout life. Thus, various definitions and models of SA appear in the literature (Bowling, 2007; Cho et al., 2011; Depp & Jeste, 2006; Jeste et al., 2010; Peel et al., 2004; Phelan & Larson, 2002; Willcox, Willcox, Sokolovsky, & Sakihara, 2007). Together, these ideas shape the current framework of SA that emphasizes both productivity and positive health outcomes in older age. Until an operational definition or an uniform definition of SA is developed, it appears that aging well and optimal aging or HA are synonymous and whatever differences exist can be attributed to an issue of semantics.

a. **Rowe and Kahn’s Successful Aging Model Factors**

The most widely used model of SA was developed by Rowe and Kahn (1997, 1998), who defined SA as a high degree of physical and cognitive function, active engagement, and the
absence of disease. They proposed the following three factors of SA: 1) low probability of disease and disease-related disability; 2) high cognitive and physical functioning; and 3) active engagement with life.

In the 1980s, it became increasingly clear that the division of populations into *diseased* versus *normal* had serious limitations. First, the model insufficiently depicting the broad heterogeneity of older persons in the non-diseased group; second, its emphasis on normality suggested harmlessness or lack of risk; and third, the belief that normal is somehow natural implied that age-associated decline was beyond modification (Blazer, 2006; Rowe & Kahn, 1987). According to Blazer (2006), Rowe and Kahn were the main contributors to introducing SA as a meaningful construct and as a field of empirical study in North America.

In 1984, a multidisciplinary group of scholars was assembled by the John D. and Catherine T. MacArthur Foundation to develop a conceptual basis of the positive aspects of aging and to clarify the genetic, biomedical, behavioral, and social factors contributing to the maintenance and promotion of function in later life (Blazer, 2006). In their early work, Rowe and Kahn (1987) described SA solely in reference to the absence of disease and disability. In 1997, they distinguished between usual aging in which extrinsic factors heighten the effects of aging alone, and SA in which extrinsic factors have a neutral or positive role. Rowe and Kahn moved beyond the proposed distinction between usual and SA in their follow-up article on SA in 1997. They stated that the substantial increases in relative and absolute numbers of older persons in the society pose a challenge for the biological, social, and behavioral sciences, as well as medicine. They defined SA as multidimensional and noted that SA is more than the absence of disease and more than the maintenance of functional capacities. The authors noted that it was active
engagement with life that represents the concept of SA most fully. In 1998, Rowe and Kahn proposed the three factors of SA presented at the beginning of this historical overview.

A common critique of Rowe and Kahn’s model is the inherent exclusivity of the criteria when applied to individuals who experience functional limitations. Critics argue that their criteria automatically exclude individuals with lifelong, acquired disabilities, and those experiencing the increased functional impairments associated with the aging process (Minkler & Fadem, 2002). They found the Rowe and Kahn model to be imperfect and inadequate because it is based upon criteria that inherently excluded a substantial number of older adults. However, beyond the concrete suggestion that the term SA be replaced with optimal aging, the authors do not offer an improved model that would incorporate their suggestions.

Rowe and Kahn have also been criticized for paying insufficient attention to aging over the lifespan, as well as to genetic, race, class, and gender inequities, and the realities and importance of losses as well as gains in later life (Baltes & Cartensen, 1996; Riley, 1998; Schulz & Heckhausen, 1996). Aldwin et al. (2006) addressed these concerns, stating that an optimal aging model should consider: 1) health is a life-long process; 2) health is characterized by multidimensionality; 3) the study of health is inherently multidimensional; 4) there are always gains and losses in development; and 5) health occurs and is constrained by its sociohistorical context.

b. Selective Optimization with Compensation Model

One of the leading alternative models of SA is the life-span model, the selective optimization with compensation model (SOCM), developed by Baltes and Baltes (1990). In their model, the SA of an individual is a process including three factors: selection, optimization, and compensation (SOC). The authors believe that aging may be best characterized as a
heterogeneous process with many different pathways and successful outcomes. The SOCM authors were among the first to describe the processes of SA instead of solely defining the end points. From the viewpoint of the SOCM, people select life domains that are important to them, optimize the resources and aids that facilitate success in these domains, and compensate for losses in these domains in order to adapt to biological, psychological, and socioeconomic changes throughout their lives and to create an environment for lifelong successful development. Since stressors, such as declining health, may multiply whereas resources decrease in later life, selection, optimization, and compensation processes become increasingly important during aging in order to maintain a positive balance between gains and losses (Baltes, 1993; Baltes & Cartensen, 1996). The SOCM processes are aimed at maximizing gains and minimize losses while striving for personal goals. SOCM is considered a universal mechanism, but its expression depends on the individual and his/her environment since personal goals vary from person to person, as well as according to culture and historical period (Baltes & Cartensen, 1996; Baltes & Smith, 2004; Rakowski et al., 2003). The SOCM definition of SA allows for non-normative, individual trajectories of successful development in older age.

Schulz and Heckhausen (1996) also emphasized the importance of accepting losses and disengaging from goals that can no longer be pursued in old age. The authors argued that a common feature of SA models is the focus on broad, measurable domains of functioning or performance that can be applied to any stage of the life course, and for which there exists a broad societal consensus that the higher the level of functioning or performance, the more successful the individual. The authors proposed a variation of this approach, using the same outcome measures but viewing them through a relativistic filter. When considering that with Rowe and Kahn’s model, former president Franklin D. Roosevelt would not be considered to have aged
successfully. An individual with polio may be very limited in physical functioning when viewed through the lens of absolute or normative standards, but may be exceptional when other standards. The same type of analysis could be applied to a very old person. Contrary to the criticism that SA models focus on performance-based criteria rather than the subjective psychological experience of the individual, the authors argued that using highly individualized and subjective criteria as gauges for successful development are problematic because: 1) they open the door for any indicator to meet the criteria of success because the criteria are individually determined, 2) they are subject to the rationalization biases characteristic of individuals when they evaluate their own experiences and accomplishments, and 3) this perspective fails to take advantage of the fact that all cultures are characterized by considerable consensus regarding what constitutes success. Schulz and Heckhausen (1996) argued for a focus on criteria of success that are externally measurable and include physical functioning; cognitive, intellectual, affective, creative functioning; and social relations.

c. Preventive and Corrective Proactivity Model

The preventive and corrective proactivity (PCP) model is a stress theory based conceptual model introduced by Kahana and Kahana (1996). The PCPM approaches to SA incorporate not only a focus on prevention that has common elements with Rowe and Kahn’s model (1987), but also a focus on corrective adaptation that is consistent with the Baltes and Baltes (1990) concept of SOCM. This HA/SA model incorporates both process and outcome factors, including: 1) social and psychological resources; 2) preventive and corrective adaptations; and 3) psychological, existential, and social well-being. The model is more inclusive of older adults who have physical, social, and environmental challenges and acknowledges that older adults are likely to face normative stressors of chronic illness, social losses, and lack of person-
environment fit. This SA model posits the possibility of good quality of life, despite challenges, to the extent that older adults can call upon internal coping resources and external social resources. These resources can translate into proactive behavioral adaptations including health promotion, helping others, and planning ahead (preventive adaptations), along with marshaling support, role substitution, and environmental modifications (corrective adaptations). The authors state that these proactive adaptations can help ameliorate the adverse effects of stressors on quality of life outcomes, such as psychological well-being, goals and meaning in life, and maintenance of valued activities and relationships. The model was further refined to consider the more macro-contextual dimensions of the temporal and environmental influences on SA (Kahana & Kahana, 2003; Kahana et al., 2003).

The PCPM approaches to SA have been advocated by Aspinwall (1997, 2011) and applied to highly vulnerable groups of older adults (Emlett et al., 2011; Kahana & Kahana, 2001). In addition, empirical support for this model has recently been reported (Kahana et al., 2012).

d. Alternative Formulations Beyond Successful Aging Model Factors

In response to the lack of agreement about an optimal definition of SA, Depp and Jeste (2006) conducted a comprehensive, quantitative literature search for an operationalized definition of SA. Inclusion criteria include being published in English, peer-reviewed, data driven, and a study population of adults over age 60. Various terms had emerged in the literature, such as healthy aging, SA, productive aging, and aging well. The authors categorized the components of existing definitions into 10 domains. There was an average of 2.6 components per definition; disability and/or physical functioning factors, followed by cognitive functioning appeared most frequently as definitional components. In this comprehensive review, the authors
noted, in a majority of the reviewed papers, successful agers are defined as older adults whose health status is similar to that of younger people and, thus, are functionally ideal elderly who do not have physical illness or disability. The authors found a wide range of variability due to methodological issues in the sampling and measurement of SA and a bias toward studying negative outcomes. The authors suggested that the biomedical definitions should be enlarged to encompass biopsychosocial definitions to better connect the disparateness of the operational definitions of SA, of lifespan developmental theories, and of who is classified as an older adult. The ideal definition of SA should be acceptable to all stakeholders including clinicians, researchers, and older adults alike.

Jeste et al., (2010) conducted a literature search specifically focusing on the cognitive and emotional aspects of SA. The authors found that when a definition based on physical health is used, only a small minority of older adults can be defined as aging successfully. However, the majority of these older adults believe they are aging successfully and meet psychosocial criteria. The authors found that there was a gulf between researcher and lay definitions.

In the article, Alternative formulations beyond the SA model, Depp and Jeste (2006) included the following HA/SA factors: 1) disability/physical function; 2) cognitive functioning; 3) life satisfaction/wellbeing, 4) social/productive engagement; and 4) presence of illness, longevity, self-rated health and successful aging, personality, and environment/finances.

e. **Alberta Rose Model Factors**

Alberta’s HA and seniors wellness strategic framework 2002-2012 was proposed by Alberta Health and Wellness, a project of the Alberta, Canada Provincial Ministry of Health to promote healthiness among older adults. Their conceptual model for HA, called the Alberta Rose model (ARM), refers to the symbol of the provincial flower, a wild rose, and incorporates
biomedical and psychosocial dimensions. The ARM builds upon the SA framework (Rowe & Kahn, 1998), but excludes their concept of avoiding or minimizing disease, stating that an individual can be considered healthy despite experiencing one or more chronic illnesses. If one can adapt to live with or manage their chronic conditions during the aging process, one can still achieve HA (Baltes & Baltes, 1990; Hansen-Kyle, 2005; KPMG Consulting, 2002; WHO, 2002). This HA conceptual model creates a modified version based on Rowe and Kahn’s SA by using the term HA instead of SA. The ARM health promotion strategies are inclusive of all older people including those who are frail or disabled. The ARM model includes four HA/SA factors: 1) promoting health and preventing disease and injury; 2) optimizing mental and physical function; 3) managing chronic conditions; and 4) engaging with life.

The ARM model also adapts Marshall and Altpeter’s (2005) health promotion strategies based on an ecological approach to address the consequences of the increased life expectancy for older adults. The ARM calls for all partners, including community organizations, recreational and cultural groups; academics, researchers, the private sector; health and community service providers, and governments to work together to promote and support HA. Marshall and Altpeter suggested that health promotion strategies based on the ecological approach might be more successful across all levels of society because health promotion is multidimensional in nature.

In moving beyond Rowe and Khan’s 1998 model, the ARM expands the aspect of “avoiding disease” to include “promoting health and preventing disease and injury,” revising the dimension of “maintaining high cognitive and physical function” in “maintaining optimized function of both,” and adding “managing chronic conditions” (KPMG Consulting, 2002, p.5).
7. **Summary of Eight Common Healthy Aging/Successful Aging Facilitating Factors**

This literature review discussed definitions, concepts, theoretical foundations, and multidimensions of HA/SA and highlighted many concerns about, and complexities of, popular HA/SA models. The summary HA/SA section also discussed the importance of the original intentions of Rowe and Kahn (1997) and the efforts of other SA researchers to draw attention to the modifiable aspects of the aging process to develop meaningful interventions that improve the quality of life of older adults (Levy & Myers, 2004). Despite disagreement about what it means to age successfully, the importance of preventive health care and the idea that age-related health status decline is not inevitable are salient and common features of the various approaches.

In Rowe and Kahn’s 1998 model of SA assumptions, SA is an outcome rather than a process. Interventions could only assist those individuals who are not aging successfully, as defined by poor physical health or cognitive limitations. However, process-oriented SA theories allow success to be much more broadly defined and inclusive (Depp & Jeste 2006; Schulz & Heckhausen, 1996; Bryant et al., 2001). Human plasticity is evidenced in older adults based on the success of interventions that alter patterns of behavior later in life (Baltes & Baltes, 1993).

The ARM and the PCPM health promotion intervention models include the frail and/or disabled elderly and enable these individuals to be viewed as engaged in healthy/successful aging, even as they cope with, and manage, various chronic diseases and conditions. The ARM and the PCPM health promotion strategies are based on the ecological approach addressed across all levels of society since health promotion is multidimensional in nature. The PCPM (Kahana & Kahana, 1996; Kahana & Kahana, 2003) offers a greater range of process as well as outcome-oriented criteria for classification of diverse existing interventions.
This literature review identified eight common HA/SA factors, fully summarized in Table I:

1. promoting health and preventing disease and injury,
2. optimizing mental and physical function,
3. engaging with life,
4. managing chronic diseases/conditions,
5. biopsychosocial team-based/interdisciplinary team-based care,
6. connecting patients/clients to social system resources,
7. client/patient-centered care that incorporate perspectives of clients/patients, and
8. assisting client/patient in competent coping efforts and processes.

Given the rapidly increasing number of older adults and MCC among this population in the United States, and the considerable benefits of preventative health care, these eight common HA/SA facilitating factors identified in the literature review will be incorporated in the HA teaching curriculum used to train the national HCW. HCW competencies derived from these eight HA/SA factors will be integral in facilitating older adults to achieve HA/SA and improve their quality of life. Competencies related to each of these factors will be recommended for inclusion in the HA teaching curriculum.
Table I. Healthy Aging/Successful Aging Models and Their Healthy Aging/Successful Aging Factors

<table>
<thead>
<tr>
<th>HA/SA Models</th>
<th>Factors for HA/SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rowe and Kahn’s SA model (1997; 1998)</td>
<td>▪ low probability of disease and disease-related disability</td>
</tr>
<tr>
<td></td>
<td>▪ high cognitive and physical functional capacity</td>
</tr>
<tr>
<td></td>
<td>▪ active engagement with life</td>
</tr>
<tr>
<td>Lifespan model (Baltes &amp; Baltes, 1990)</td>
<td>▪ selective optimization with compensation</td>
</tr>
<tr>
<td>Preventive and corrective proactivity model</td>
<td>▪ social and psychological resources</td>
</tr>
<tr>
<td>(Kahana &amp; Kahana 1996, 2003)</td>
<td>▪ preventive and corrective adaptations</td>
</tr>
<tr>
<td></td>
<td>▪ psychological, existential, and social well being</td>
</tr>
<tr>
<td>Alberta Rose model (KPMG Consulting, 2002)</td>
<td>▪ promoting health and preventing disease and injury</td>
</tr>
<tr>
<td></td>
<td>▪ optimizing mental and physical function</td>
</tr>
<tr>
<td></td>
<td>▪ managing chronic conditions</td>
</tr>
<tr>
<td></td>
<td>▪ engaging with life</td>
</tr>
<tr>
<td>Alternative formulations beyond SA model (Depp &amp;</td>
<td>▪ low disability/physical function</td>
</tr>
<tr>
<td>Jeste, 2006)</td>
<td>▪ cognitive functioning</td>
</tr>
<tr>
<td></td>
<td>▪ life satisfaction/wellbeing</td>
</tr>
<tr>
<td></td>
<td>▪ social/productive engagement</td>
</tr>
<tr>
<td></td>
<td>▪ presence of illness, longevity, self-rated health and successful aging, personality, and environment/finances</td>
</tr>
</tbody>
</table>

The identification of previously published models and their common concepts has set the stage for a focus on literature related to the conceptual framework of the proposed study. The conceptual framework will allow us to understand factors that affect HA teaching, including IPE, as well as the content and practice of curriculum development and implementation.
8. **Conceptual Framework**

a. **Introduction and Summary**

To understand the factors affecting HA teaching including IPE contents and practices of curriculum development and implementation in training the national HCW, this study will adapt the 4DCDF developed by Lee et al. (2013). The 4DCDF conceptual framework captures how curriculum development and implementation are affected by multiple interrelated factors such as educational practice, health policy, health system, workforce, and professional practices in a coherent way. The HA teaching curriculum, including the IPE conceptual model, will be guided by the 4DCDF.

The proposed HA teaching curriculum, including the IPE conceptual model, adapted from the 4DCDF is composed of four main structures (dimensions) to provide comprehensive understanding regarding: 1) why HA teaching curriculum including IPE is developed in the context of providing care for the aging U.S. population that will affect the practice of current and future HCW trainees; 2) what is taught in the content of the competencies, including knowledge, skills, and attitudes; in this study, HA teaching curricula topics being taught by HP educators in training HCW regarding 10 HA/SA curriculum competencies from the HA/SA factors identified from the literature review and the American Geriatric Society (AGS) multidisciplinary geriatric competencies to facilitate older adults to achieve HA/SA and improved their quality of life; 3) who is being taught, how they are taught, and where (i.e., settings) they are taught by HP educators; and 4) The impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery experience.

To fulfill the purposes of this study and to structure the research subquestions, four dimensions will be reviewed below to provide a comprehensive perspective, but the study will be
only focusing on dimensions 2, 3 and 4 for data collection and analysis. (The rationale is explained below). Each of the four main structures of the HA teaching curriculum conceptual model is described to show how each dimension relates to the HA teaching curriculum, including IPE for the national HCW. As outlined below, the four dimensions of Lee et al.’s 4DCDF provide a framework for organizing and integrating specific competencies and factors relevant to HP educators’ work and identified elsewhere in the literature and professional guidelines.

b. **Dimension 1 (Study Construct 1): Current and Future Changes in the Context of Providing Health Care for the Aging Population in the U.S. that Will Affect the Practice of HCW Trainees**

In this study, Dimension 1 refers to why HA teaching curriculum including IPE is developed.

The need for the HA teaching curriculum, including the IPE curriculum, has already been discussed in Chapter 1. The *why* question has also been answered through the literature review. The research questions for this study focus on the remaining information needed to answer the *what, when, where, and how* questions. Therefore, for the purpose of this study, beyond the background information given in Chapter 1 and Chapter 2, dimensions 2, 3, and 4 will provide study constructs (i.e., dimensions) and factors (i.e., subdimensions) and their measures, and Dimension 1 will not be explored through additional data collection.

c. **Dimension 2 (Study Construct 2): The Content of the Competencies, Including Knowledge, Skills, and Attitudes**

Dimension 2 describes the content of competencies that are needed by the health workers in caring for the elderly. In this study context, Dimension 2 refers to what is being taught by HP educators regarding the HA teaching curriculum including the IPE. Dimension 2 has 10 factors
(subdimensions). These 10 HA/SA competencies (factors) are identified from the literature review and the AGS multidisciplinary geriatric competencies.

In addition to HCW knowledge and competencies in eight common HA/SA factors identified from the literature review, the HCW knowledge and competencies in geriatrics are integral to facilitate older adults to achieve HA/SA and improve the quality of life.

In June 2008, the AGS convened a meeting to advance recommendations from the 2008 IOM report, with 21 health professional organizations to discuss how they could work together and advocate for the healthcare needs of the nation’s rapidly growing older adults. The AGS developed six multidisciplinary competencies (The AGS refers to these as domains) in geriatrics for entry-level health professional degrees, which are described below (see domains 1-6). These were endorsed by 28 professional organizations including dentistry, medicine, nursing, nutrition, occupational therapy, pharmacy, physical therapy, physician assistants, psychology, and social work disciplines (AGS, 2008). However, additional competencies have also been identified through the HA/SA literature reviewed above; these will be combined with the 6 AGS domains to provide 10 competencies, which will be included in the conceptual framework that integrates the constructs that structure this study. Four of six AGS competencies (domains) in geriatrics overlap with eight HA/SA factors identified from the literature review. It is further discussed in detail at the end of the Dimension 2 summary section.

**Domain #1: Health Promotion and Safety**

Domain 1 overlaps with one of eight common HA/SA factors identified from the literature review. Key learner objectives are:
Advocate to older adults and their caregivers interventions and behaviors that promote physical and mental health, nutrition, function, safety, social interactions, independence, and quality of life.

Identify and inform older adults and their caregivers about evidence-based approaches to screening, immunizations, health promotion, and disease prevention.

Assess specific risks and barriers to older adult safety, including falls, elder mistreatment, and other risks in community, home, and care environments.

Recognize the principles and practices of safe, appropriate, and effective medication use in older adults.

Apply knowledge of the indications and contraindications for, risks of, and alternatives to the use of physical and pharmacological restraints with older adults.

Domain #2: Evaluation and Assessment

Key learner objectives:

- Define the purpose and components of an interdisciplinary, comprehensive geriatric assessment and the roles individual disciplines play in conducting and interpreting a comprehensive geriatric assessment.

- Apply knowledge of the biological, physical, cognitive, psychological, and social changes commonly associated with aging.

- Choose, administer, and interpret a validated and reliable tool/instrument appropriate for use with a given older adult to assess: a) cognition, b) mood, c) physical function, d) nutrition, and e) pain.

- Demonstrate knowledge of the signs and symptoms of delirium and whom to notify if an older adult exhibits these signs and symptoms.
- Develop verbal and nonverbal communication strategies to overcome potential sensory, language, and cognitive limitations in older adults.

**Domain #3: Care Planning and Coordination Across the Care Spectrum including End-of-Life Care**

Domain 3 overlaps with one of eight common HA/SA factors identified from the literature review. Key learner objectives:

- Develop treatment plans based on the best evidence and on person-centered and -directed care goals.
- Evaluate clinical situations where standard treatment recommendations, based on best evidence, should be modified with regard to older adults’ preferences and treatment/care goals, life expectancy, co-morbid conditions, and/or functional status.
- Develop advanced care plans based on older adults’ preferences and treatment/care goals, and their physical, psychological, social, and spiritual needs.
- Recognize the need for continuity of treatment and communication across the spectrum of services and during transitions between care settings, utilizing information technology where appropriate and available.

**Domain #4: Interdisciplinary Team Care**

Domain 4 overlap with one of eight common HA/SA factors identified from the literature review. Key learner objectives:

- Distinguish among, refer to, and/or consult with any of the multiple healthcare professionals who work with older adults, to achieve positive outcomes.
Communicate and collaborate with older adults, their caregivers, healthcare professionals, and direct-care workers to incorporate discipline-specific information into overall team care planning and implementation.

Domain #5: Caregiver Support

Key learner objectives:

- Assess caregiver knowledge and expectations of the impact of advanced age and disease on health needs, risks, and the unique manifestations and treatment of health conditions.
- Assist caregivers to identify, access, and utilize specialized products, professional services, and support groups that can assist with caregiving responsibilities and reduce caregiver burden.
- Know how to access and explain the availability and effectiveness of resources for older adults and caregivers that help them meet personal goals, maximize function, maintain independence, and live in their preferred and/or least restrictive environment.
- Evaluate the continued appropriateness of care plans and services based on older adults’ and caregivers’ changes in age, health status, and function; assist caregivers in altering plans and actions as needed.

Domain #6: Healthcare Systems and Benefits

Domain 6 overlap with one of eight common HA/SA factors identified from the literature review. Key learner objectives:

- Serve as an advocate for older adults and caregivers within various health care systems and settings.
Know how to access, and share with older adults and their caregivers, information about the healthcare benefits of programs such as Medicare, Medicaid, Veterans’ Services, Social Security, and other public programs.

Provide information to older adults and their caregivers about the continuum of long-term care services and supports such as community resources, home care, assisted living facilities, nursing facilities, sub-acute care facilities, and hospice care. Currently, the Association for Gerontology in Higher Education Geriatric Curriculum Development Task Force is engaged in an interdisciplinary and organizational approach to constructing geriatrics/gerontology competencies and curricula guidelines for Health Professions Programs at every educational level. Current work includes a mapping of competencies in nursing, social work, and gerontology, at various levels of training. Additional disciplines will be examined, including public health (AGS, 2014).

Competencies for personal care workers (draft 2008, but still not finalized):
Demonstration of this set of competencies provides a portable certification that will enable a direct-care worker to work in all long-term care settings, providing personal care services as well as performing specific health-related tasks for nursing home residents and Medicare-certified home health clients.

In summary, Dimension 2 has 10 subdimensions (factors). These have been synthesized from multiple sources: four of six AGS competencies in geriatrics overlap with eight HA/SA factors identified from the literature review. Therefore, there are 10 competencies (the 8 HA/SA factors from the literature cited above and the additional 2 identified in the AGS guidelines) that are essential in facilitating older adults to achieve HA/SA and improve the quality of life. These 10 competencies will be included in the framework used in this study for deductive content.
analysis, as the key HA teaching curriculum competencies in training HCW to facilitate older adults to achieve HA/SA and improve the quality of life. The 10 HA teaching curriculum competencies are as follows (HA/SA factors that overlap with the AGS multidisciplinary competencies are marked with an asterisk):

1. promoting health and preventing disease and injury*;
2. optimizing mental and physical function;
3. engaging with life;
4. managing chronic diseases/conditions;
5. biopsychosocial team-based/interdisciplinary team-based care*;
6. connecting patients/clients to social system resources and benefits*;
7. care planning and coordination with client/patient-centered care that incorporate perspectives of clients/patients*;
8. assisting client/patient in competent coping efforts and processes;
9. evaluation and assessment-conducting an interdisciplinary, comprehensive geriatric assessment of patients/clients using validated and reliable tools/instruments; and
10. caregiver support (AGS, 2008).

Data collection from document review will be organized around subdimensions (factors) and the associated measures for each factor that were detailed in the proposed study conceptual model and operationalized in Table III. Please refer to Table III (Study Questions, Constructs, Factors, Measures, and Data Sources) and Appendix A (Document Review Templates).

d. **Dimension 3 (Study Construct 3): The teaching methods and processes**

This dimension pertains to the development of appropriate learning, teaching, and assessment experiences to support the implementation of dimensions 1 and 2 (the why and the
what). In Dimension 3, the core educational activities of teaching, learning, and assessment are how HCW trainees learn about the 10 competencies mentioned above. For the purpose of this study, the specific focus of Dimension 3 will be on who is being taught, how they are taught, and where (settings) they are taught by HP educators.

Dimension 3 has the following five subdimensions (factors) and the associated measures for each factor:

1. Who is being taught?
   - What discipline of health professional?
   - What discipline in the interdisciplinary team?

2. What methods are being used to teach?
   - didactic sessions with presented lectures,
   - hands-on experiential training sessions,
   - precepting or coaching,
   - online curricula,
   - group discussion in a small or a large group discussion,
   - interdisciplinary team-based or individual projects, and
   - others.

3. What settings are being used to teach?
   - Hospitals, medical schools, nursing homes, rehabilitation centers, ambulatory care centers, alternative living facilities, day and home care and others.
   - Where those HCW trainees’ patients are?

4. What methods are used to assess learners, and for program evaluation of curriculum?
What are the results or findings reported from these learner assessments and evaluations?

5. What methods and settings have been successful in:

- reaching a wide disciplinary range of health professional and
- health professionals working with clients in community-based including institutional settings.

In Dimension 3, data collection from document review will be organized around subdimensions (factors) and the associated measures for each factor that was detailed in the proposed study conceptual model and operationalized in Table III. Please refer to Table III (Study Questions, Constructs, Factors, Measures, and Data Sources) and Appendix A (Document Review Templates).

e. **Dimension 4 (Study Construct 4): Institutional Context**

This dimension refers to the impact of local academic institution and teaching hospital structure and culture on the shaping of teaching curriculum design and delivery. According to Lee et al. (2013), Dimension 4 refers to the organizational and administrative context in which teaching curricula are structured, implemented, and experienced. This dimension involves cultural norms, protocols, and procedures responsive to specific universities and locations. The culture and structure of institutions inevitably impact the development and implementation of curriculum.

Johnson et al.’s (2003) findings from their report, *Curriculum integration in context: An exploration of how structures and circumstances affect design and implementation*, are relevant to this dimension. The authors discussed that the presence of leadership at all levels contributes to developing, implementing, and sustaining successful curriculum. For curriculum integration
efforts to be effective, individuals in leadership roles must be innovative, adaptable, and willing to take risks with instruction and the content of the curriculum. In addition, an investment of resources is needed to develop, support, sustain, and expand curriculum integration efforts.

For the purpose of this study, it will be more relevant to focus on barriers and facilitating factors relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings. Therefore, Dimension 4 will focus on the following two subdimensions (factors):

1. barriers that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings and
2. facilitating factors that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings.

In Dimension 4, data collection from document review will be organized around subdimensions (factors) and the associated measures for each factor that were detailed in the proposed study conceptual model and operationalized in Table III. Please refer to Table III (Study Questions, Constructs, Factors, Measures, and Data Sources) and Appendix A (Document Review Templates).

Figure 1 and Figure 2 depict the four-dimensional HA teaching curriculum conceptual model and the proposed HA teaching curriculum conceptual model for this study.
Dimension 1:
Current and future changes in the context of providing health care for the aging population in the United States that will affect the practice of HCW trainees.

In this study context, it refers to why HA teaching curriculum is developed.

The focus of this study will be on dimensions 2-4 to answer the main study question and subquestions.

Dimension 2:
The content of the competencies, including knowledge, skills, and attitudes that are needed by the health workers caring for the elderly.

In this study context, it refers to what is being taught regarding the 10 HA competencies from the HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies.

Dimension 3:
The teaching methods and processes used by HP educators to deliver the HA curriculum they developed.

In this study context, it refers to who, how, and where HCW trainees learn about the 10 HA competencies from the HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies.

Dimension 4:
Institutional context: the effects of local academic institution and teaching hospital structure and culture on the shaping of HA teaching curriculum design and delivery.

For the purpose of this study, focus will be on barriers and facilitating factors relating to the home institution of HP educator in reaching HCW in a wide range of disciplines/settings.

Figure 1. Conceptual Model
Factors Affecting Health Professional Education of the Healthy Aging Curriculum Development and Implementation Framework (adapted from Lee et al., 2013)
Figure 2. Proposed Conceptual Model for This Study
Factors Affecting the Development and Implementation of the Healthy Aging Teaching Curriculum For Health Professions
III. METHODS

A. Summary of Chapter III

Chapter 3 provides the rationale for using deductive content analysis (DCA) for this study, the overview of the study approach, and how the study validity and the limitations are addressed.

The HA teaching curriculum model for health professions is applied to two previous GACA cohorts of the GACA program to see: 1) what it shows as an assessment of teaching strengths and areas for improvements in this particular program; and 2) what it shows about the utility of this tool, whether it is helpful and easy to use with available program documents to see overall patterns across a program compared to what is recommended based on current literature.

The GACA program was a useful test case for the utility of this particular model as an assessment tool, since these awardees were required to hold a full-time faculty appointment and to teach health care workers 75% of their time. The awardees were considered ‘cream of the crop’ in geriatric education, especially medically-dominated geriatric education.

Based on the findings of this study, this researcher will make recommendations to strengthen the design of the HA teaching curriculum model for geriatric health profession education. The researcher anticipates the strengths of the GACA program may lie in the legislatively mandated IPT-based approach to geriatric care. However, the HCW training developed and delivered by GACA awardees may predominantly focus on the treatment of disease with less emphasis on health promotion. Understanding these issues is a necessary prerequisite to making recommendations to strengthen the design of the HA teaching curriculum model for geriatric health profession education for the future.
To understand the study design, an understanding of the GACA program is necessary. This chapter starts with a discussion of: 1) what the GACA program does, 2) what GACA awardees do, 3) program requirements and eligibility, and 4) program settings where the GACA awardees teaching activities occur. In addition, the GACA program logic model (Table II) is included to provide the progression from GACA funding eligibility and requirements to the professional development of GACA awardees, to HA teaching curriculum development and implementation in training the HCW to facilitate HA/SA, and promoting the quality of life for older adults.

B. Setting

1. Geriatric Academic Career Award Program

   a. Background Information of the Geriatric Academic Career Award Program

   The Public Health Service Act, Title VII Geriatric Academic Career Award, is an individual career development award. The GACA award provides financial incentives of $76,000 per year to encourage already highly qualified health professional practitioners to pursue an academic career in teaching geriatrics. In turn, these individuals are required to train health care workers in geriatrics; GACA requires that training interdisciplinary teams of health professionals is included in all GACA supported curricula. The GACA program has made 260 awards since its inception in 1999. There have been five cohorts: 1999-2002, 2002-2005, 2004-2007, 2007-2010, and 2010-2015. The GACA program was not funded in 2006. Until the recent program reauthorization by the ACA in April, 2010, the GACA program eligibility only included one discipline, medicine, specifically allopathic and osteopathic physicians and psychiatrists.
The GACA authority was changed in 2010 and expanded program eligibility to include nursing, social work, psychology, dentistry, pharmacy, and allied health in addition to medicine.

b. Program Eligibility

To be eligible, an individual must apply through an accredited health professions school or program of medicine, osteopathic medicine, nursing, social work, psychology, dentistry, pharmacy, or allied health and individuals must hold a full-time junior faculty appointment.

c. Program Requirements

GACA awardees are required to teach 75% of their time in training HCW in geriatrics, including interdisciplinary team-based training of health professionals. The 25% of the time remaining is to be used for additional career development activities such as obtaining an additional advanced degree to expand and enhance a career in academic geriatrics; publishing textbooks, journal articles, and posters in geriatrics; attending and presenting at the national, regional, and local conferences to educate health professional practitioners, educators, and students.

In addition, institutions submitting applications on behalf of individuals applying for a GACA award are required to submit an institution agreement. The agreement with HRSA must be signed by the institution’s authorized representative and the department chair or the dean of the potential awardee’s specific discipline to clearly demonstrate that the institution will:

- appoint the awardee as a full-time faculty member for not less than the duration of the award period,
- commit to supporting the individual GACA awardee to spend 75% of an individual’s total time on teaching and developing skills in geriatrics-related IPE,
commit to support the work of the project director as required under this award’s service requirements in teaching HCW in geriatrics including IPE for each year in which the GACA awardee serves as a faculty member,

provide assurance that the GACA awardee is an integral part of the school’s clinical, educational research and academic programs and assist in identifying a faculty mentor for the applicant,

provide a qualified mentor who is senior faculty or at minimum holds at least an associate professor position; a copy of the mentor’s two-page biographical sketch must be provided with the application,

allow the GACA awardee sufficient access to organizational infrastructure(s) to impact geriatric curricula.

facilitate medical and other health professions school staff and faculty as appropriate to collaborate productively with each GACA awardee, develop and/or maintain partnerships with community-based organizations (such as managed care sites, rural health organizations and community health centers) that can provide high quality experiences that would not otherwise be available to the GACA awardee, and

submit a report on the number of previous GACA recipients since the inception of the program in 1999 and the number of GACA recipients who maintained full-time academic appointments teaching in geriatrics and their current academic appointment positions after the period of funding.

d. **Who and What the GACA Awardees Train**

All GACA awardees provide training in geriatrics to health professionals, lay workers, chaplains, family, and clients/patients in continuing education sessions, seminars, lecture series,
and distance learning formats. Awardees also provide clinical geriatric care to older adults and train interdisciplinary health care professional teams in diverse teaching settings such as hospitals, nursing homes, assisted living facilities, and patient homes in the community.

The GACA program is an individual career award, and each GACA awardee determines which disciplines will be included in the IPT-based on the appropriateness to the individual GACA project. For example, some GACA awardees include lay workers, chaplains, patients and their family in addition to health professional disciplines in the IPT training and others do not. Examples of GACA HA teaching curriculum topics developed by GACA awardees include: IPT training; primary prevention such as immunization shots, nutrition, physical exercise, depression screening; fall and injury prevention; secondary and tertiary prevention of chronic disease/conditions; self-care management such as medications management; palliative care and end of life care; pain management; elder justice and financial exploitation; and ethics.

e. GACA Awardees Teaching Activities and Settings

The GACA awardees develop curricula for continuing education, seminars, lectures, workshops, in-services, and online courses to teach in hospitals, medical centers, long-term care facilities/nursing homes, medical schools, acute care, ambulatory care, and community clinics. In addition, they develop experiential training curricula to teach in hospitals, medical centers, long-term care facilities/nursing homes, medical schools, community clinics and a variety of settings including acute care, ambulatory care, day care and home care, rehabilitation, palliative care, and hospice.

Figure 3 depicts an overview of the GACA awardees teaching activities and settings and Table II is a logic model showing the progression from GACA funding and requirements to the professional development of the awardees, the curricula they develop, and the training they
provide to HCW to improve quality of life for older adults by promoting HA and improving quality of geriatric care.

Figure 3. Awardee Teaching Activities Overview

<table>
<thead>
<tr>
<th>Develop curricula:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing education, seminars, lectures, workshops, in-services, and online courses</td>
</tr>
</tbody>
</table>

- **Target audiences:**
  Physicians, nurses, social workers, psychologists, dentists, pharmacists, and allied health professionals, lay workers, chaplains, caregivers, and patients

- **Settings:**
  Hospitals, medical schools, nursing homes, rehabilitation centers, ambulatory care centers, alternative living facilities, day and homecare, and others

<table>
<thead>
<tr>
<th>Publications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Journal Articles</td>
</tr>
<tr>
<td>- Textbooks</td>
</tr>
<tr>
<td>- Posters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Develop experiential training curricula</th>
</tr>
</thead>
</table>

- **Target audiences:**
  Physicians, nurses, social workers, psychologists, dentists, pharmacists, and allied health professionals, lay workers, chaplains, caregivers, and patients

- **Settings:**
  Hospitals, medical schools, nursing homes, rehabilitation centers, ambulatory care centers, alternative living facilities, day and homecare, and others
Table II. GACA Program Logic Model

**Purpose:** The purpose of the GACA program is to support the career development of physicians, nurses, social workers, psychologists, dentists, pharmacists, and allied health professionals in academic geriatrics who provide training in clinical geriatrics including the training of ID/IP teams of health professionals.

<table>
<thead>
<tr>
<th>Program Requirements</th>
<th>Program Inputs</th>
<th>GACA Awardees’ Activities</th>
<th>Outputs</th>
<th>Patient Encounters</th>
<th>Short-Term Outcomes</th>
<th>Intermediate Outcomes</th>
<th>Long-Term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must hold an FT faculty position</td>
<td>Fund individual GACA awardees to train the national HCW</td>
<td>Develop HA teaching curricula to teach CE and experiential training: Seminars, lectures, in-services, workshops and online classes.</td>
<td># GACA awards # of curricula developed and implemented in geriatrics #, type, topics and mode of curricula developed # of older adults seen in a wide range of clinical settings # of HCW training offered including the training of the IP teams # of contact hours # of the specific discipline trained in geriatrics including the training of the IP teams # and the title of IPE courses took by the awardees to develop and expand skills # of institution activities to develop career in academic geriatrics # of professional activities outside of their institutions to advance career in academic geriatrics</td>
<td>Older adults/families/caregivers at hospitals, nursing homes, teaching hospitals/medical centers, hospitals, ambulatory care centers, community clinics, palliative care, hospice, and home care</td>
<td>Increased number of faculty to teach the 10 HA competencies in geriatrics Increased knowledge, competencies and practices (KCP) of faculty in HA concepts</td>
<td>Increased KCP of HCW trainees in HA Improved HA education and practices in geriatrics</td>
<td>Improve quality of life for older adults by promoting HA and improving quality of geriatric care</td>
</tr>
</tbody>
</table>
C. Design

This study used a descriptive research design using the deductive content analysis (DCA) method to answer the main study question and subquestions to accomplish the purposes of this study. DCA is unobtrusive, and it does not require contact with key informants. It allows investigators to collect relevant information in unobtrusive and systematic ways using structured forms to reduce bias and increase reliability (U.S. General Accounting Office [GAO], 1996). DCA is often used in testing categories, concepts, models, or hypotheses (Marshall & Rossman, 1995). It is generally based on earlier work such as theories, models, and literature review (Polit & Beck 2004). A deductive approach is based on earlier categories from the literature review, concepts, or models and moves from the general to the specific (Burns & Grove, 2005). The purpose of this study meets these conditions. This study used dimensions (study constructs), subdimensions (factors), and the associated measures for each factor from the HA teaching curriculum conceptual model as a template for document review.

The content of dimensions and subdimensions in the HA teaching curriculum conceptual model is compared across the cases reviewed and a recommended template for a model curriculum is synthesized based on the study findings, which include a review of the information grantees provided on teaching methods and evaluation of their efforts. The study results are reported in accordance with study constructs (dimensions 2-4), factors (subdimensions), and their measures that were detailed in the proposed study conceptual model and operationalized in Table III and Appendix A. The overall study design is illustrated in Figure 4.
Main Study Question:
What are the factors affecting HA teaching curriculum including the IPT training curriculum development and implementation?

Conceptual Framework

Dimension 1 (Study Construct 1):
For the purpose of this study, the focus was on dimensions 2, 3 and 4 to answer the main study question and subquestions.

Dimension 2 (Study Construct 2):
The content of the HA competencies, including knowledge, skills, and attitudes that are needed by the health workers caring for the elderly

Dimension 3 (Study Construct 3):
The HA teaching methods and processes used by the GACA awardees to deliver the curricula they developed

Dimension 4 (Study Construct 4):
Institutional context: the impacts of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum.

Goal

- Understand the factors affecting HA teaching curriculum including the IPE curriculum development and implementation.
- Develop a HA teaching curriculum model for HP based on the literature review.
- Develop a HA teaching curriculum model for HP as an assessment tool, including a document review template.
- Apply the HA teaching curriculum model for HP to two previous GACA cohorts of the program to: 1) assess HA teaching curriculum strengths and areas for improvements, and 2) assess the utility of this tool.
- Based on the findings of this study, make recommendations to strengthen the design of the HA teaching curriculum model for geriatric HP education.

Methods

- Apply the HA teaching curriculum model in assessing the program, and assess its utility as an assessment tool.
- Conducted deductive content analysis of the GACA document review and additional data from other sources.
- Used both secondary qualitative and quantitative data were used in conducting deductive content analysis.

Validity

- Used the structured analysis matrix for consistent coding
- Compared two different GACA cohorts between 2004-2006 (seven cases) and 2007-2010 (seven cases)
- Used multiple data sources within the document review and additional data from other sources to address some of the study limitations
- Developed the process of analysis and results

Figure 4. Study Design
D. Sample

1. Selection Criteria, Strategy, and Size

The primary data set for deductive content analysis is from 14 cases from the GACA cohorts between 2004-2006 (7 cases) and 2007-2010 (7 cases) the institutions of which are not currently receiving funding from Title VII or Title VIII geriatric programs (please refer to appendices C and D (Document Review Sample Selection Matrix). In 2006, the GACA program was not funded, and the program was reappropriated in 2007.

According to Maxwell (2013, p. 102), qualitative designs often use more than one data collection method. Among other things, using multiple methods can serve as a reliability/validity check. If data collected via more than one method support a single conclusion, the likelihood is greater that the findings are valid. Triangulation will increase the reliability of the data and the validity of this study. In the context of data collection, triangulation will serve to corroborate the data gathered from these different sources. To improve the validity and reliability of the study, this study will use both secondary qualitative and quantitative data in addition to the primary DCA review of grantee reports. Multiple documents within each case and other additional sources of information also will be used to triangulate. The following types of documents were used for the review:

- the career development plan (CDP) in the original application,
- the annual summary progress report (ASPR), and
- the summary final progress report (SFPR).

To improve the study triangulation, the following strategies will be used:
- Compare two different GACA cohorts between 2004-2006 (seven cases) and 2007-2010 (seven cases).
- Analyze multiple documents from the same sample.
- Use the grantee institution website to obtain appropriate publications such as strategic plans, financial reports, and performance reports to gain further insight.
- Use literature review. In addition to the peer-reviewed sources cited in Chapter II, the researcher also reviewed these reports:
  - Institute of Medicine (2014), *Graduate medical education that meets the nation’s health needs*.
- Use public information and data from websites of health professional associations, federal agencies, and private organizations. The following were used:
  - MedEdPORTAL publications on topics in geriatric medicine archived by GACA awardees from 2004-2006 and 2007-2010
  - Portal of Geriatrics Online Education (POGOe)
  - HRSA website:
    - FY 2011-2014 HRSA Congressional budget justifications
    - Two studies funded by the National Center for Health Workforce Analysis, Bureau of Health Professions, HRSA:
The University of California, San Francisco, *An aging U.S. population and the health care workforce: Factors affecting the need for geriatric care workers*

University at Albany, *The impact of the aging population on the health workforce in the United States*

- Bureau of Labor Statistics, U.S. DOL website:

- Agency on Aging, Administration of Community Living website:
  - Federal interagency forum on aging-related statistics. Older Americans 2012: *Key indicators of well-being*
  - *2012: A profile of older Americans*

- U.S. Department of Health and Human Services (HHS) website:
  - The HHS strategic framework on multiple chronic conditions

- American Geriatrics Society (AGS) website:
  - The Geriatrics Workforce Policy Studies Center (GWPS) data
  - Six multidisciplinary geriatric competencies (the AGS refers as domains)
  - Importance of the Geriatrics Team

- ElderCare Workforce Alliance website:
  - Direct service workers (DSW)

- Association of American Retired Persons (AARP) Website:
  - *Home alone: Family caregivers providing complex chronic care*
E. **Data Collection**

Document review is the foundation of this study and is used to answer the main study question and the subquestions. The document review is organized under the main question and two subquestions using the study constructs (dimensions 2, 3, and 4), factors (subdimensions), and measures of each factor. Please refer to appendices A and B. Table III summarizes how they are organized.
Table III. Study Questions, Constructs, Factors, Measures, and Data Sources

<table>
<thead>
<tr>
<th>Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 1:</strong> For the purpose of this study, the focus was on dimensions 2, 3 and 4 to answer the main study question and subquestions. Beyond the review of the background and the literature review in chapters 1 and 2, no further exploration was pursued.</td>
</tr>
</tbody>
</table>

**Subquestion 1A:** What are constructs of GACA HA teaching curriculum including the IPE content and how has the content been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Measures</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 2:</strong> The content of the competencies, including knowledge, skills, and attitudes, that are needed by the health workers caring for the elderly. In this study, Dimension 2 refers to what is being taught by the GACA awardees regarding the 10 HA competencies.</td>
<td>The 10 HA competencies (factors) from HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies.</td>
<td>a. Curricula topics taught by the GACA awardees regarding each of the 10 HA competencies from the HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies.</td>
<td>• Document review. • Grantee’s institution website. • Public information and data available on websites of health professional associations, federal agencies and private foundations. • Literature review.</td>
</tr>
<tr>
<td><strong>Dimension 3:</strong> The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. In this study, Dimension 3 refers to whom, how and where the GACA awardees taught regarding the 10 HA competencies. Dimension 3 has 5 factors.</td>
<td>1. Who are being taught by the GACA awardees regarding the 10 HA competencies? 2. What methods are being used to teach? 3a. What settings are being used to teach? 3b. Where those HCW trainees’ patients are in?</td>
<td>1a. What health professional disciplines were taught? 1b. Was it interprofessional team (IPT) training? 1c. If yes, which disciplines were in the IPT? 2-1: Didactic sessions with presented lectures; 2-2: Hands-on experiential training sessions; 2-3: Precepting or coaching; 2-4: Online curricula; 2-5: Group discussion in a small or a large group; 2-6: IPT-based or individual projects; 2-7: Others 3a-1: Hospitals; 3a-2: Medical Schools; 3a-3: Nursing Homes/Rehabilitation Centers; 3a-4: Ambulatory Care Centers; 3a-5: Alternative Living Facilities; 3a-6: Day and Homecare; 3a-7: Others 3b: Where those HCW trainees’ patients are in? (The same settings listed above)</td>
<td>• Document review. • Grantee’s institution website. • Public information and data available on websites of health professional associations, federal agencies and private foundations. • Literature review.</td>
</tr>
</tbody>
</table>
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Measures</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension 3 (continued): The teaching methods and processes used by the GACA awardees to deliver the curricula they developed.</td>
<td>4. What methods are used to assess learners, and for program evaluation of the curriculum? What are the results or findings reported from these learner assessments and evaluations?</td>
<td>4a. Types of learner assessment methods. 4b. Results of learner assessment. 4c. Types of program evaluation of curriculum. 4d. Findings of program evaluation of curriculum.</td>
<td>• Document review. • Grantee’s institution website. • Public information and data available on websites of health professional associations, federal agencies and private foundations. • Literature review.</td>
</tr>
<tr>
<td></td>
<td>5. What methods and settings have been successful in reaching a wide disciplinary range of health professional and health professionals working with clients in community-based including institutional settings?</td>
<td>5a. Teaching methods reported by the GACA awardees as successful. 5b. Teaching settings reported by the GACA awardees as successful.</td>
<td></td>
</tr>
<tr>
<td>Dimension 4: Institutional context: The impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery.</td>
<td>1. Barriers that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines and settings.</td>
<td>Institutional structural capacity: 1. Reported barriers relating to the institution of the GACA awardee in reaching a wide range of disciplines/settings. 2. Reported facilitating factors relating to the wide range of disciplines/settings such as a strong infrastructure in the community and the number diverse clinical settings for HCW training, a strong infrastructure of geriatric programs in the institution to provide a wide range of HCW trainees for the GACA awardee to train.</td>
<td>• Document review. • Grantee’s institution website. • Public information and data available on websites of health professional associations, federal agencies and private foundations. • Literature review.</td>
</tr>
<tr>
<td></td>
<td>2. Facilitating factors that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines and settings.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1B: What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Measures</th>
<th>Data Sources</th>
</tr>
</thead>
</table>
| **Dimension 2:** In this study, Dimension 2 refers to what are being taught by the GACA awardees regarding the 10 HA competencies. | The 10 HA competencies from eight common HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies. | 1a. Curricula topics not taught by the GACA awardees.  
1b. Curricula topics most commonly taught by the GACA awardees.  
1c. Published journal articles/textbooks/presentations/online teaching modules topics not covered by the GACA awardees.  
1d. Published journal articles/textbooks/presentations/online teaching modules topics most covered by the GACA awardees.  
1e. Strengths of the GACA project in teaching the 10 HA competencies topics.  
1f. Gaps of the GACA project in teaching the 10 HA competencies topics. | • Document review.  
• Grantee’s institution website.  
• Public information and data available on websites of health professional associations, federal agencies and private foundations.  
• Literature review. |
| **Dimension 3:** The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. In this study, Dimension 3 refers to who, how, and where the GACA awardees taught regarding the 10 HA competencies. | 1. Who are being taught by the GACA awardees regarding the 10 HA competencies?  
2. What methods are being used to teach?  
3. What settings are being used to teach? | 1a. Strengths of the GACA project in training who are being taught including IPT-based training and community-based health professionals training.  
1b. Gaps of the GACA project in training who are being taught including IPT-based and community-based health professional training.  
2a. What teaching methods are not used by the GACA awardees?  
2b. What methods are most used by the GACA awardees?  
2c. Strengths of the GACA project.  
2d. Gaps of the GACA project.  
3a. What settings are not used by the GACA awardees?  
3b. What settings are most commonly used by the GACA awardees in teaching HCW.  
3c. Strengths of the GACA project.  
3d. Gaps of the GACA project. | • Document review.  
• Grantee’s institution website.  
• Public information and data available on websites of health professional associations, federal agencies and private foundations.  
• Literature review. |
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1B: What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Measures</th>
<th>Data Sources</th>
</tr>
</thead>
</table>
| Dimension 3 (cont.): The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. | 4. What methods are used to assess learners, and for program evaluation of curriculum? What are the results or findings reported from these learner assessments and evaluations? | 4a. Identified strengths from the results of learner assessments. | • Document review.  
• Grantee’s institution website.  
• Public information and data available on websites of health professional associations, federal agencies and private foundations.  
• Literature review. |
| | 5. What methods and settings have been successful in reaching a wide disciplinary range of health professional and health professionals working with clients in community-based including institutional settings. | 5a. Strengths of teaching methods used by the GACA awardee in reaching wide disciplinary range of health professionals including health professionals working with older adults living at home setting. | |
| Dimension 4: Institutional Context: the impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery. | 1. Barriers that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings. | Institutional structural capacity: | • Document review.  
• Grantee’s institution website.  
• Public information and data available on websites of health professional associations, federal agencies and private foundations.  
• Literature review. |
| | 2. Facilitating factors that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings. | 1. The GACA project gaps/barriers regarding the institution of the GACA awardee to facilitate in reaching HCW in a wide range of disciplines/settings. | |
| | | 2. The GACA project strengths/facilitators regarding the institution of the GACA awardee to facilitate in reaching HCW in a wide range of disciplines/settings. | |
F. Data Analysis Plan

This deductive content analysis (DCA) study used a systematic approach to analyzing secondary qualitative and quantitative data from the document review. DCA processes are involved in three main phases: 1) preparation; 2) organization; and 3) reporting results.

1. Preparation Phase

The preparation phase consisted of collecting suitable data for content analysis, reading and rereading source documents to capture their meaning in a holistic fashion, selecting specific units of analysis, and generally making sense of the data in a meaningful way. Secondary qualitative and quantitative data from document review and relevant grantee websites will be read and reread toward similar ends. Descriptive data from the document review (e.g., number of HCW trained, number of publications, online modules) were converged with secondary qualitative data to relate and interpret in the study results.

According to Elo et al. (2014, p. 5), the most suitable unit of analysis will be sufficiently large to be considered as a whole, but small enough to be a relevant meaning unit during the analysis process. If it is too broad, a unit of analysis will be difficult to manage and may have various meanings. If it is too narrow as a meaning unit, it may result in fragmentation. The GACA is an individual award, and the awardees’ individual projects vary in who, what, how, and where the awardee provides HCW training. For the purpose of this study, the GACA project is an appropriate unit of analysis, allowing comparison and contrast between cases to answer the main study question and subquestions.
2. **Organization Phase**

   This phase involves developing categorization matrices, with which all the data were reviewed for content and coded for correspondence to the identified categories (Polit & Beck, 2012). In this study, the structured analysis matrices were developed from three dimensions of GACA HA teaching curriculum (dimensions 2, 3, and 4), subdimensions (factors), and their associated measures for each factor are organized under the main study question and two subquestions. These structured analysis matrices served as a template for reviewing documents of each of 14 GACA projects (Appendix A).

   All data were read and reread, and coded according to categories in the structured analysis matrices. Any emergent dimensions and subdimensions were to be added as appropriate. Based on the results of the analysis, the study dimensions and subdimensions will be compared to the HA teaching curriculum conceptual model developed from the literature review.

   A clearly defined study protocol was developed and described in: 1) appendices A, B, and C; 2) Table III and VI.

   The Excel workbook program was used as a database. Excel templates based on a structured analysis matrix (Appendix A) were developed. Document titles, dates, and project period of document review were captured, and notes were organized around the structured analysis matrix by the study question and subquestions.

3. **Reporting Results Phase**

   The results of analysis of the study in dimensions and subdimensions are compared to the conceptual model from the literature review to: 1) assess GACA program teaching strengths and areas for improvement; and 2) assess the utility of this tool, whether it is helpful and easy to use.
with available program documents to see overall patterns across a program compared to what is recommended based on current literature. This reporting phase described study results by the content of the dimensions and subdimensions organized by the main question and subquestions in relation to the HA teaching curriculum conceptual model constructs from the literature review (dimensions 2, 3 and 4), factors (subdimensions), and measures for each factor.

The study is guided by steps in deductive content analysis by Elo and Kyngøs (2008). Figure 5 summarizes the process of deductive content analysis of this study. The overview of data sources and analysis strategy is summarized in Table VI.
<table>
<thead>
<tr>
<th>I. Preparation Phase: Data collection method, sampling strategies, and selecting the unit of analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determined Unit of Analysis: GACA Program.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Organizing Phase: Categorization matrix development, whereby all the data were reviewed for content and coded for correspondence to categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used the structured analysis matrix from the three Dimensions HA teaching curriculum conceptual model, subdimensions, and measures organized under the study question and two subquestions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Reporting Phase: Reporting the analyzing process and the results</th>
</tr>
</thead>
<tbody>
<tr>
<td>The study results are reported by the content of dimensions (study constructs), subdimensions (factors), and measures for each factor in the HA teaching curriculum conceptual model to: 1) assess GACA program teaching strengths and areas for improvement; and 2) assess the utility of this tool.</td>
</tr>
</tbody>
</table>

**Figure 5. Deductive Content Analysis Process**
(Adapted from Elo and Kyngäs)
### Table IV. Overview of Data Sources and Analysis Strategy

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Source</th>
<th>Analysis Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What are the factors affecting GACA HA teaching curriculum including the interprofessional education (IPE) curriculum development and implementation?</strong></td>
<td>• <strong>Document review</strong>: career development plan (CDP) in the original application, the annual summary progress report (ASPR), the summary final progress report (SFPR) • Grantee’s institution website • Public information and data available on websites of health professional associations, federal agencies and private foundations • Literature review</td>
<td>• Deductive content analysis using the structured matrices of analysis (Please refer to Appendix A: Document Reviews Template)</td>
</tr>
</tbody>
</table>

**Subquestion 1A:**
What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice?
- Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods)
- Factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Subquestion 1B:**
What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice?
- Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught.
- Overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

| Document review: CDP in the original application, the ASPR, the SFPR | Grantee’s institution website | Public information and data available on websites of health professional associations, federal agencies and private foundations | Literature review | Deductive content analysis using the structured matrices of analysis (Please refer to Appendix A) |
G. **Study Limitations**

As previously mentioned, the PI currently serves as a program officer in the HRSA BHW with oversight of the GACA program. To avoid possible perceived influence over future funding decisions and opportunities, the PI did not collect interview data or use data from any grantees currently receiving funding from Title VII or Title VIII geriatric programs in the HRSA BHW. In addition, the PI only used documents obtained through the FOIA process as a private citizen of the United States. To address these limitations, document triangulation methods have been enhanced and included a wide range of publically available sources, including federal agency websites, private foundations grantees, and professional organizations. In addition, the literature review was consulted further.

In addition to excluding currently funded GACA grantees, this study excludes several health profession disciplines that were first deemed eligible for GACA participation in 2010. Prior to 2010, only allopathic and osteopathic physicians were eligible to participate. This study is limited to the review of 14 GACA cases of 110 GACA (7 of 28 cases from 2004-2006 GACA cohort; and 7 cases of 82 cases from 2007-2010 GACA cohort); these 14 GACA cases are a small subset of the 260 GACA cases accrued since the program’s inception in 1999.

In addition to these administrative-induced limitations, DCA is a purely descriptive method. It describes what has been documented, but may not reveal omissions or underlying motives related to omissions. DCA becomes a more powerful tool when combined with other research methods such as informant interviews; in order to compensate, a wide range of documents are used.

The PI planned to conduct a document review on 2 of 14 GACA cases (14%) by a person who has knowledge and understanding of the GACA program to check for consistent coding. A
Cohen Kappa score was to be calculated to verify coding reliability. However, in order to be compliant with the conditions to which the PI was required to adhere by the funding agency, it was not conducted.

H. Study Validity

A clearly defined study protocol was developed to improve both reliability and validity. The study protocol is described in: 1) appendices A, C, and D; 2) Table III and Table VI.

To improve the study validity and compensate for the study limitations, this study: 1) used both secondary qualitative and quantitative data for the deductive content analysis (DCA) document review; 2) reviewed multiple documents within each case; 3) compared two different GACA cohorts between 2004-2006 (seven cases) and 2007-2010 (seven cases); 4) consulted the grantee institution’s website to obtain appropriate publications such as strategic plans, financial reports, and performance reports to gain further insight; 5) used relevant literature review; and 6) included publically available information from websites of health professional associations, federal agencies, and private organizations.

The study developed a categorization matrix (document review template) to accurately capture the conceptual model dimensions, subdimensions, and the associated measures necessary to meet the intent of this study. Emergent categories were to be added as appropriate.
IV. DISCUSSION

A. **Summary of Chapter IV**

The HA teaching curriculum model developed from the literature review was applied to two previous GACA cohorts of the program to: 1) assess teaching strengths and areas for improvements of the program; and 2) assess the utility of this tool, whether it is helpful and easy to use with available program documents to see overall patterns across a program compared to what is recommended based on current literature.

This chapter provides a summary of: the study results and findings by research question; study limitations and generalizability; the utility of the template, based on the HA teaching curriculum conceptual model derived from the literature, as an assessment tool to identify strengths and gaps for improving HA teaching curricula for health professions; conclusions; and recommendations.

The main study question examines the factors affecting GACA HA teaching curriculum including the IPT training curriculum development and implementation. To answer the main study question, one subquestion examines the constructs of GACA HA teaching curriculum, including the IPE content and how the content has been delivered in practice. This specifically includes who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods) by the GACA awardees; and factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings. A second subquestion examines the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice. This includes overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and overall strengths and gaps of the GACA awardees
in reaching a wide range of HCW disciplines and conducting IPE in various settings. The study results from the main study question and subquestions are presented in Table V, and summarized in figures 6-12, given in Section B, below. Specific results are presented by the main question and its subquestions as stated in Chapter I. These results are presented in accordance with study constructs (dimensions 2-4), factors (subdimensions), and measures for each factor that were detailed in the proposed study conceptual model and operationalized in Table III (Study Questions, Constructs, Factors, Measures and Data Sources).
Table V. Summary of Results by Research Questions

Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods), and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
</table>
| Dimension 2: The content of the competencies, including knowledge, skills, and attitudes, that are needed by the health workers caring for the elderly | The 10 HA competencies from HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies | a. Curricula topics taught by the GACA awardees regarding each of the 10 HA competencies:  
  - All 14 cases (100%) taught Competencies 4, 5, 6, and 9: Managing chronic diseases and conditions; IDT based care; connecting patients to social system resources and benefits; and Evaluation and assessment-conducting an IP, comprehensive geriatric assessment of patients.  
  - Twelve of 14 cases (86%) taught Competency 8: Assisting patients in competent coping efforts and processes topics.  
  - Eleven of 14 cases (79%) taught Competency 7: Care planning/coordination across the care spectrum with client/patient-centered care that incorporates perspectives of clients/patients topics.  
  - Eight of 14 cases (57%) taught Competency 1: Promoting health and preventing disease and injury.  
  - Six of 14 cases (43%) taught Competency 2: Optimizing mental and physical function topics.  
  - Five of 14 cases (36%) taught Competency 10: Caregiver support topics.  
  - None of the 14 cases (0%) taught Competency 3: Engaging with life.  
| Dimension 2 has 10 factors (The 10 HA competencies) | b. Published journal articles/textbooks/presentations/online teaching modules topics by the GACA awardees regarding each of the 10 HA competencies:  
  - All 14 cases (100%) taught Competencies 4, 5, 6, and 9: Managing chronic diseases and conditions; IPT-based care; connecting patients to social system resources and benefits; and Evaluation and assessment-conducting an IP, comprehensive geriatric assessment of patients.  
  - Twelve of 14 cases (86%) taught Competency 8: Assisting patients in competent coping efforts and processes topics.  
  - Eleven of 14 cases (79%) taught Competency 7: Care planning/coordination across the care spectrum with client/patient-centered care that incorporates perspectives of clients/patients topics.  
  - Eight of 14 cases (57%) taught Competency 1: Promoting health and preventing disease and injury.  
  - Six of 14 cases (43%) taught Competency 2: Optimizing mental and physical function topics.  
  - Five of 14 cases (36%) taught Competency 10: Caregiver support topics.  
  - None of the 14 cases (0%) taught Competency 3: Engaging with life. |
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods), and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 3:</strong> The teaching methods and processes used by the GACA awardees to deliver the curricula they developed</td>
<td>1. Who are being taught by the GACA awardees regarding the 10 HA competencies?</td>
<td>• All 14 cases (100%) taught Competencies 4, 5, 6, and 9 to medical student, faculty, residents, geriatric fellows, physicians, advanced practice nurses (APNs), pharmacists, chaplains, ethicists, social workers (SWs), dentist, licensed vocational nurses (LVNs), respiratory therapists (RTs), law enforcement, coroners, nurses, geriatric fellows, gastroenterology fellows, D.W. Reynolds faculty, health professional (HP) faculty, allied health professionals (AHPs), physical therapists (PTs), occupational therapists (OTs), speech therapists (STs), physician assistants (PAs), psychologists, and dietitians/nutritionists. Twelve of 14 cases (86%) taught Competency 8 to medical student, faculty, residents, geriatric medicine and psychiatry fellows, APNs, pharmacists, chaplains, ethicists, SWs, dentist, LVNs, RTs, law enforcement, coroners, physicians, nurses, geriatric fellows, HP faculty, AHPs, dietitians, PTs, OTs, STs, PAs, and psychologists. • Eleven of 14 cases (79%) taught Competency 7 to medical student, faculty, residents, geriatric fellows, APNs, pharmacists, chaplains, ethicists, SWs, dentist, LVNs, RTs, law enforcement, coroners, physicians, nurses, geriatric medicine fellows, HP faculty, AHPs, dietitians/nutritionists, PTs, OTs, STs, PAs, psychologists, and physicians. • Eight of 14 cases (57%) taught Competency 1 to medical students and residents, faculty, geriatric fellows, nurses, physicians, nutritionists, AHPs, PTs, OTs, STs, PAs, APNs, SWs, pharmacists, public health workers, psychologists, psychiatrists, chaplains, dietitians, and ethicists. • Six of 14 cases (43%) taught Competency 2 to medical students, residents, geriatric fellows, physicians, nurses, nutritionists, AHPs, psychologists, psychiatrists, public health, SWs, pharmacists, faculty, dietitians, PTs, OTs, STs, PAs, APNs, AHPs, ethicists, and chaplains. • Five of 14 cases (36%) taught Competency 10 to medical students, nurses, nutritionists/dietitians, AHPs, pharmacists, psychologists, chaplains HP faculty, medical interns and residents, geriatric medicine, psychiatry fellows, SWs, APNs, ethicists, dentist, physicians LVNs, RTs, law enforcement, and coroners. • None of the 14 cases (0%) taught Competency 3.</td>
</tr>
</tbody>
</table>

Dimension 3 has 5 factors
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods), and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension 3: The teaching methods and processes used by the GACA awardees to deliver the curricula they developed</td>
<td>2. What methods are being used to teach?</td>
<td>Ten of 14 cases (71%) used all methods: 1) Didactic sessions with presented lectures; 2) Hands-on experiential training sessions; 3) Precepting or coaching; 4) Online curricula; 5) Group discussion in a small or a large group; 6) Interdisciplinary team-based or individual projects; and 7) Others such as presenting at national/regional and local professional conferences/meetings.</td>
</tr>
<tr>
<td></td>
<td>3a. What settings are being used to teach?</td>
<td>Three of 14 cases (21%) did not use an online teaching method.</td>
</tr>
<tr>
<td></td>
<td>3b. Where those HCW trainees’ patients are in?</td>
<td>All 14 cases (100%) used traditional settings such as hospitals, medical schools, ambulatory care centers and HCW trainees’ patients are in hospital, patients’ home, nursing homes, and alternative living facilities.</td>
</tr>
<tr>
<td></td>
<td>4a. What methods are used to assess learners, and for program evaluation of curriculum?</td>
<td>Nine of 14 cases (64%) used both traditional and non-traditional setting such as nursing homes/rehabilitation centers, alternative living facilities, day and home care facilities.</td>
</tr>
<tr>
<td></td>
<td>4b. What are the results or findings reported from these learner assessments and evaluations?</td>
<td>All 14 cases (100%) used pre- and post-learner assessments and reported satisfactory results.</td>
</tr>
<tr>
<td></td>
<td>5. What methods and settings have been successful in reaching a wide disciplinary range of HP and HPs working with clients in community-based including institutional settings?</td>
<td>Eight of 14 (57%) used diagnostic curriculum evaluation using surveys and interviews; 6 of 14 (43%) cases used summative evaluation using survey and reported satisfactory results.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eleven of 14 cases (79%) used online curricula to teach HPs in reaching a wide range of HPs and settings including rural areas to flexibly accommodate self-paced online training for busy health professionals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thirteen of 14 cases (93%) trained HCW at the national/regional/local conferences and their trainees’ patients may be in all settings.</td>
</tr>
</tbody>
</table>
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
</table>
| **Dimension 4:** Institutional Context: the effects of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery | 1. Barriers that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines/settings | **Barriers:**
- Three of 14 cases (21%) did not report any barriers
- Eleven of 14 cases (79%) reported barriers regarding:
  - Delayed IRB (7%).
  - Delayed in obtaining other funding related to the implementation of the GACA HA teaching curriculum (7%).
  - Technical problems in the development and implementation of the GACA HA teaching curriculum (7%). For example, the development and implementation of online modules.
  - Limited institutional infrastructure of geriatric programs and teaching settings to provide teaching settings in the community to provide a wide range of non-traditional teaching settings (7%).
  - Ineffective institution’s financial management of the award delayed the project (7%).
  - Human resource issues (43%): Short staff due to medical leave, retirement, high staff turnover, and changes in senior management staff.
  - Difficulty in logistic of scheduling the IDT sessions (29%).
| 2. Facilitating factors that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines/settings | **Facilitators:**
- Twelve of 14 cases (86%) reported strong institutions’ infrastructure of other geriatric programs and their funding effectively to leverage the GACA HA teaching curriculum development and implementation.
- Seven of 14 cases (50%) of cases reported strong institutions’ infrastructure in the community to provide diverse teaching settings including both traditional and non-traditional settings such as assisted living facilities, nursing homes and home care.
- All 14 cases (100%) reported strong support of the institution in the development and implementation of the GACA HA teaching curriculum. |
### Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

#### Subquestion 1B: What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
</table>
| **Dimension 2:** In this study, Dimension 2 refers to what are being taught by the GACA awardees regarding the 10 HA competencies | The 10 HA competencies from eight common HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies | • All 14 cases (100%) did not teach topics on engaging with life.  
• Nine of 14 cases (64%) did not teach topics on caregiver support.  
• Six of 14 cases (43%) did not teach topics on Competency 1: Promoting Health and Preventing Disease and Injury; and Competency 2: Optimizing Mental and Physical Function.  
• Top 5 HA competencies topics most commonly taught by 14 cases include: Competency 4: Managing Chronic Diseases/Conditions; Competency 5: Biopsychosocial Team-Based/IPT-Based Care; Competency 6: Connecting patients/clients to social system resources and benefits; Competency 8: Assisting Client/Patient in competent coping efforts and processes; Competency 9: Evaluation and assessment-conducting an interdisciplinary, comprehensive geriatric assessment of patients/clients using validated and reliable tools/instruments.  
• Topics of the 10 HA competencies that were most commonly not published in journal articles, textbooks, presentations, and online teaching modules in 14 cases include: Competency 1: Promoting Health and Preventing Disease and Injury; Competency 2: Optimizing Mental and Physical Function; Competency 3: Engaging with Life; and Competency 10: Caregiver support.  
• Topics of the 10 HA competencies that were most commonly published in journal articles, textbooks, presentations, and online teaching modules in 14 cases include: Competencies 4, 5, 6, 8, and 9 (Listed in the 4th bullet).  
• Strengths of 14 cases in teaching the 10 HA competencies topics include: Competencies 4, 5, 6, 8, and 9 (Listed in the 4th bullet).  
• Gaps of 14 cases in teaching the 10 HA competencies topics include: Competency 1: Promoting Health and Preventing Disease and Injury; Competency 2: Optimizing Mental and Physical Function; Competency 3: Engaging with Life; and Competency 10: Caregiver support. |
| **Dimension 2 has 10 factors** (The 10 HA competencies) | | |
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1B: What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) Overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
</table>
| Dimension 3: The teaching methods and processes used by the GACA awardees to deliver the curricula they developed | 1. Who are being taught by the GACA awardees regarding 10 HA competencies? | • Strengths in training who are being taught include: All 14 cases (100%) taught topics regarding: 1) Managing chronic diseases and conditions; 2) IPT-based care; 3) Connecting patients to social system resources and benefits; and 4) Evaluation and assessment-conducting an IP, comprehensive geriatric assessment of patients; and 5) Twelve of 14 cases (86%) taught assisting patients in competent coping efforts and processes topics to core disciplines such as medical student, faculty, residents, geriatric fellows, physicians, advanced practice nurses, pharmacists, chaplains, ethicists, social workers, dentist, licensed vocational nurses, respiratory therapists, law enforcement, coroners, physicians, nurses, geriatric fellows, gastroenterology fellows, D.W. Reynolds faculty, health professional faculty, allied health professionals, physical therapists, occupational therapists, speech therapists, physician assistants, psychologists, and dieticians/nutritionists.  
• Gaps in training who are being taught including IPT-based training include: All cases (100%) did not include training of direct caregivers/informal caregivers and in the IPT training. |
| Dimension 3 has 5 factors | 2. What methods are being used to teach? | • Teaching methods not used include: 1) 3 of 14 cases (21%) did not use online teaching method.  
• Most used teaching methods by 13 of 14 cases (93%) include: 1) Didactic; 2) Experiential hands-on training; 3) Precepting/coaching; 4) IPT-based training; and 5) National/regional/local conferences and meetings.  
• Strengths of teaching methods used in the GACA project in teaching HCW include: 1) Ten out of 14 cases (71%) used all methods; 2) IPT-based team training method was used by all 14 cases (100%); 2) Online curricula were used by 11 of 14 cases (79%) to reach a wide range of HCW disciplines and settings including rural areas; 3) Used other methods such presentation at the national/ regional/local conferences to reach a wide range of HCW disciplines from variety of settings.  
• Gaps of teaching methods in teaching HCW are not remarkable. Although 3 of 14 cases (21%) did not use online teaching method, and 79% of cases used online teaching method. |
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

Subquestion 1B: What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 3 Continued:</strong></td>
<td>3. What settings are being used to teach?</td>
<td>- Teaching settings that are not used include: Five of 14 (36%) cases did not use alternative community-based living facilities, day and home care.</td>
</tr>
<tr>
<td></td>
<td>4. What methods are used to assess learners, and for program evaluation of curriculum? What are the results or findings reported from these learner assessments and evaluations?</td>
<td>- Most commonly used teaching setting include: All 14 cases (100%) used traditional teaching settings such as hospitals, medical schools, nursing homes, ambulatory care centers and national/regional/local conferences and meetings.</td>
</tr>
<tr>
<td></td>
<td>5. What methods and settings have been successful in reaching a wide disciplinary range of health professionals and health professionals working with clients in community-based including institutional settings</td>
<td>- Strengths include: 1) Effective use of traditional teaching settings; 2) Nine of 14 cases (64%) used both traditional and non-traditional settings and three cases were implementing home-based primary care (HBPC) models; and 3) All 14 cases used other teaching settings such as national/regional/local conferences and meetings that may reach a wide range of health professionals and practice settings.</td>
</tr>
</tbody>
</table>

This study, Dimension 3 refers to who, how, and where the GACA awardees taught regarding the 10 HA competencies.

Dimension 3 has 5 factors

**Strengths** include:

1. Teaching methods and processes used by the GACA awardees to deliver the curricula they developed.

**Gaps** include:

1. Teaching methods and processes used by the GACA awardees to deliver the curricula they developed.

**Results** of learner assessments were only reported as satisfactory so that unable to identify strengths or gaps.

**Results** of curriculum evaluation were reported as satisfactory so that unable to identify strengths or gaps.

Strengths of teaching methods include:

1. Eleven of 14 cases (79%) used online curricula to teach health professionals in reaching a wide range of HPs and settings including rural areas to flexibly accommodate convenient time and place at a self-paced learning for busy health professionals; 2) All 14 cases (100%) used all teaching methods including training of HCW at national/regional/local conferences and meetings.

**Strengths** of teaching settings include:

All 14 cases (100%) trained HCW at national/regional/local conferences and meetings. Their trainees may come from a wide range of health professional disciplines and practice settings.

No reported gaps/areas of improvement are reported in reaching wide disciplinary range of health professionals including health professionals working with older adults living at home setting. However, the results of study identified gaps/areas of improvement in:

1. All cases (100%) did not include training of direct caregivers/informal caregivers and in the IPT training; 2) Five of 14 cases (36%) only used traditional teaching settings; and 3) Three of 14 cases (21%) did not use online teaching method.
Main Question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development and implementation?

**Subquestion 1B:** What are the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) overall strengths and gaps in **who, what, where, and how** the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Factors</th>
<th>Summary Results of Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 4: Institutional Context:</strong> the impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery</td>
<td></td>
<td><strong>Institutional structural capacity:</strong></td>
</tr>
<tr>
<td><strong>Dimension 4 has 2 factors</strong></td>
<td>1. Barriers that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings</td>
<td><strong>Barriers:</strong></td>
</tr>
<tr>
<td></td>
<td>2. Facilitating factors that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings</td>
<td>• Limited institutional infrastructure of geriatric programs that can be leveraged for development and implementation of the HA teaching curriculum in reaching a wide range of HCW disciplines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Limited institutional infrastructure in the community to provide a wide range of teaching settings of both traditional and non-traditional teaching settings such as alternative community-based living facilities, day and home care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Instable human resources: High changes in senior leadership positions and high staff turn-over.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Institution’s inadequate administrative capacity to effectively support logistic of IPT training sessions and managing grants.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Facilitators:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strong institutions’ infrastructure of other geriatric programs that can be leveraged for development and implementation of the HA teaching curriculum in reaching a wide range of HCW disciplines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strong institutional infrastructure in the community to provide a wide range of teaching settings of both traditional and non-traditional teaching settings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Stable human resources and administrative capacity that facilitate in reaching a wide range of HCW disciplines and settings.</td>
</tr>
</tbody>
</table>
B. Discussion of Study Findings

Secondary quantitative and qualitative data were collected to answer the main study question 1: What are the factors affecting GACA HA teaching curriculum including the interprofessional team (IPT) training curriculum development, and implementation? Two subquestions further operationalize in answering the main study question and presented in Table V.

The study results are organized in accordance with study constructs (dimensions 2-4), factors (subdimensions), and measures for each factor.

1. Subquestion 1A: What are constructs of GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various teaching settings.

a. Dimension 2: This dimension refers to what is being taught by the GACA awardees regarding the 10 HA competencies that were developed from the literature review and the AGS multidisciplinary geriatric competencies (10 factors).

The study results show a similar pattern in what topics were being taught and not being taught within both the GACA 2004-2006 and the GACA 2007-2010 cohorts regarding the 10 HA competencies. In addition, topics of published journal articles, textbooks, and presentations by the GACA awardees regarding the 10 HA competencies mirrored the topics taught by them using various teaching methods, whether didactic lecture, experiential training, precepting or coaching,
a small or a large group, online teaching, or IPT-based training. Non-published presentations at national, regional, and local professional conferences, and meetings reflected this consistent range of topics as well. Thus, there were no great divergences within or across the cohorts in the particular areas of expertise reflected.

In Chapter I and Chapter II, the training needs and associated competencies for health care workers in the IPT-based approach were summarized: to provide well-coordinated patient-centered health care that emphasizes preventive health care to meet the needs of the rapidly growing number of older adults, particularly those with MCC. This study’s results show all 14 cases (100%) taught HA competencies 4, 5, 6, and 9: Managing chronic diseases and conditions; IDT-based care; connecting patients to social system resources and benefits; Evaluation and assessment-conducting an interprofessional (IP) and comprehensive geriatric assessment of patients.

In addition, 12 of 14 cases (86%) taught Competency 8 regarding assisting patients in competent coping efforts and processes topics; and 11 of 14 cases (79%) taught Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care that incorporates perspectives of clients/patients topics.

The GACA program assessment showed remarkable strengths, particularly in comparison to the recent survey conducted by the John A. Hartford Foundation (2014) regarding HA Competency 5: the IPT-based care, and HA Competency 9: Evaluation and assessment-conducting an IP and comprehensive geriatric assessment of patients. The results of the survey showed the majority of elderly patients (73%) would want coordinated care from a team of providers, but only 27% of patients received this kind of care. Of the patients who reported receiving coordinated team care, 83% percent said team care improved their health, and 48% of
survey respondents would consider switching primary care physicians if they heard about a provider who offers team care.

In addition, a national public poll was conducted by the John A. Hartford Foundation (2012) focusing on Americans age 65 and older to assess whether patients received 7 important medical services related to medication review, fall risk assessment and history, depression screening, referral to community-based health resources, and discussion of their ability to perform daily tasks and activities without help to support HA in the past 12-month period. The results of this national poll showed only 7% of older adults received all seven recommended services. All are critical elements of a standard geriatric assessment; 52% report receiving none or only one, and 76% received fewer than half. Again, a comparison to the GACA supported curricula show these needs reflected in an appropriately high emphasis on competencies 5 and 9, coordinated interprofessional care and assessment.

However, the study results showed fewer than 60% of these GACA grantee curricula cases addressed HA competencies 1, 2, 3, and 10. Eight of 14 cases (57%) taught Competency 1 regarding promoting health and preventing disease and injury; six of 14 cases (43%) taught Competency 2 regarding optimizing mental and physical function topics; five of 14 cases (36%) taught Competency 10 regarding caregiver support topics. Strikingly, moreover, none of the 14 cases (0%) taught Competency 3 regarding engaging with life.

In summary, the study results show all cases excelled in teaching managing chronic conditions and other conditions; conducting evaluation and assessment that deploys IP comprehensive geriatric assessment of patients; IPT-based care; and connecting patients to social system resources and benefits. However, less emphasis was placed on HA competencies 1, 2, 3, and 10 regarding promoting health and preventing disease and injury; optimizing mental and
physical function topics; caregiver support topics. In addition, none of the 14 cases (0%) taught HA Competency 3 regarding engaging with life.

The GACA awardees are highly trained, specialized, and established academic geriatricians. As a result, they may be more focused on comprehensive geriatric assessments, disease management and treatments, and IPT care coordination of older adults with complex health problems, rather than the medically simpler, primary care and preventive care-related topics that do not typically receive as much attention or research funding in academic medical centers.

Engagement with life includes older adults’ involvement in community life, social roles, and social relationships or the contribution of older persons to others, such as volunteer activities, paid work, caregiving, and social participation including church activities. Perhaps engaging with life, with a psychosocial emphasis, was not one of the high priority topics to teach their trainees for their clientele, in the biomedical environment of an academic medical center.

All 14 cases’ (100%) institutions received accreditation from the Accreditation Council for Graduate Medical Education (ACGME). As accredited institutions, they were receiving direct graduate medical education (DGME) funding from the Medicare program to train resident physicians in geriatrics. In addition, as teaching hospitals, they were receiving indirect medical education (IME) payments from the Medicare program for providing special patient care to geriatric patients with complex health problems. In addition, perhaps there are more financial incentives for health care providers as well as the institutions to focus on teaching regarding managing chronic conditions; conducting evaluation and assessment that deploy IP comprehensive geriatric assessment of patients; IPT-based care; and connecting patients to existing social system resources and (currently reimbursable) benefits for clients/patients than
promoting health and preventing disease and injury; optimizing mental and physical function topics; or caregiver support topics.

The Medicare and Medicaid programs invested tens of billions of dollars to fund graduate medical education (GME) since their inception in 1965 in supporting residency and fellowships for physicians after they receive a medical degree. In spite of such a high investment in physician training after their medical degree, it falls short in training and producing the types of physicians that the nation needs, particularly the needs of the rapidly growing older adult population (IOM, 2014). GME may need to be changed to facilitate HA concepts in teaching these doctors in diverse teaching settings (IOM, 2008). It may require a change in the Medicare program funding for GME of the current financial incentives to health care providers and their institutions (IOM, 2014).

Figure 6 provides an overview of the curriculum topics taught by two GACA cohorts regarding the 10 HA competencies and a comparison between these cohorts.
b. Dimension 3: The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. In this study, Dimension 3 refers to who, how, and where the GACA awardees taught regarding the 10 HA competencies. Dimension 3 has five factors.

Factor 1: Who is being taught by the GACA awardees regarding the 10 HA competencies?
The study results show all 14 cases (100%) collectively taught HA Competency 4: Managing chronic diseases and conditions; Competency 5: IDT-based care; Competency 6: Connecting patients to social system resources and benefits; and Competency 9: Evaluation and assessment—conducting an IP and comprehensive geriatric assessment of patients to medical students, faculty, residents, geriatric fellows, physicians, advanced practice nurses (APNs), pharmacists, chaplains, ethicists, social workers (SWs), dentist, licensed vocational nurses (LVNs), respiratory therapists (RTs), law enforcement, coroners, physicians, nurses, geriatric fellows, gastroenterology fellows, health professional (HP) faculty, allied health professionals (AHPs), physical therapists (PTs), occupational therapists (OTs), speech therapists (STs), physician assistants (PAs), psychologists, and dietitians/nutritionists.

Twelve out of 14 cases (86%) collectively taught HA Competency 8 regarding assisting patients in competent coping efforts and processes topics to medical students, faculty, residents, geriatric medicine, and psychiatry fellows, APNs, pharmacists, chaplains, ethicists, SWs, dentist, LVNs, RTs, law enforcement, coroners, physicians, nurses, geriatric fellows, HP faculty, AHPs, dietitians, PTs, OTs, STs, PAs, and psychologists.

Eleven of 14 cases (79%) collectively taught HA Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care that incorporates perspectives of clients/patients topics to medical students, faculty, residents, geriatric fellows, APNs, pharmacists, chaplains, ethicists, SWs, dentist, LVNs, RTs, law enforcement, coroners, physicians, nurses, geriatric medicine fellows, HP faculty, AHPs, dietitians/nutritionists, PTs, OTs, STs, PAs, psychologists, and physicians.

Eight out of 14 cases (57%) collectively taught HA Competency 1 regarding promoting health and preventing disease and injury topics to medical students and residents, faculty,
geriatric fellows, nurses, physicians, nutritionists, AHPs, PTs, OTs, STs, PAs, APNs, SWs, pharmacists, public health workers, psychologists, psychiatrists, chaplains, dietitians, and ethicists.

Six of 14 cases (43%) collectively taught HA Competency 2 regarding optimizing mental and physical function topics to medical students, residents, geriatric fellows, physicians, nurses, nutritionists, AHPs, psychologists, psychiatrists, public health, SWs, pharmacists, faculty, dietitians, PTs, OTs, STs, PAs, APNs, AHPs, ethicists, and chaplains.

Five of 14 cases (36%) collectively taught HA Competency 10 regarding caregiver support topics to medical students, nurses, nutritionists/dietitians, AHPs, pharmacists, psychologists, chaplains HP faculty, medical interns and residents, geriatric medicine, psychiatry fellows, SWs, APNs, ethicists, dentist, physicians LVNs, RTs, law enforcement, and coroners.

In summary, 9 of 10 HA competencies were taught to core health professionals that were identified by the Association of Schools of Allied Health Professions [ASAHP, 2014] and the AGS (2011).

However, a glaring gap was none of these 14 cases (0%) taught Competency 3 regarding engaging with life (please refer to the previous discussion in Dimension 2). In addition, none of the 14 cases (0%) included direct caregivers in training in these HA competencies. Though 11 of 14 cases (79%) taught Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care, none of these 11 cases included direct care workers or family caregivers in their training, including IPT.

These identified gaps are consistent with gaps identified by Eldercare Workforce Alliance (EWA; 2014), the Association of American Retired Persons (AARP), and United Hospital Fund (2012) for improving quality care for older adults. To provide well-coordinated
patient-centered health care, particularly for those with MCC, IPT must include health and social service professionals, direct care workers, and family caregivers. This collaborative approach needs to integrate family caregivers into the care team and engage them as partners in care. It is also consistent with the AARP (2012) policy position regarding the needs for a new model of care moving toward person- and family-centered care. The study shows that 2 of 3 (66%) older people with disabilities receive assistance at home, and their care exclusively from family members, mostly wives and adult daughters. Approximately one-quarter (26%) receive some combination of family care and paid help, and only 9% receive paid help alone (Doty, 2010). The family is the main source of help for the majority of older people with functional limitations in daily life and needs to be incorporated in the IPT team.

According to the Fiscal year 2012 Congressional budget justification for the HRSA, “In Academic Year 2009-2010, there were 84 non-竞争ing continuation awards. GACA awardees provided interdisciplinary training in geriatrics to approximately 60,000 health professionals. These awardees provided culturally competent quality health care to over 525,000 underserved and uninsured patients in acute care services, geriatric ambulatory care, long-term care, and geriatric consultation services settings” (HRSA, 2012). Based on these data, these 14 awardees may have collectively taught approximately 9,996 health professionals per year and may have provided geriatric patient care to 87,500 geriatric patients/clients per year.

Figure 7 provides an overview of the 10 HA competencies that were taught, and a comparison between these GACA cohorts from 2004-2006 and from 2007-2010.
**Figure 7. The 10 Healthy Aging Competencies Taught to Health Care Workers**

**Factor 2: What methods are being used to teach?**

The study results show 10 of 14 cases (71%) used all methods: 1) didactic sessions with presented lectures; 2) hands-on experiential training sessions; 3) precepting or coaching; 4) online curricula; 5) group discussion in a small or a large group; 6) IPT-based or individual projects; and 7) other methods such as presenting at national, regional, and local professional conferences and meetings. This may allow reaching a wide range of HCW disciplines from a variety of practice settings.
Three of 14 cases (21%) did not use online teaching methods, but 79% of cases used online teaching methods. These online curricula may be excellent ways of reaching a wide range of HPs and practice settings including rural areas and flexibly accommodating self-paced online training for busy health care workers in diverse practice settings. However, it may have a limitation in providing hands-on IPT interaction. For academic geriatricians, there are two primary online curricula archives and 11 cases archived on these sites: 1) the Portal of Geriatric Online Education (POGOe) and 2) MedEdPORTAL. These sites are open to all health professionals for learning. In addition, some of these online modules were available on their institutions’ websites, but they are limited in access. Figure 8 provides a number of archived online curricula on these two sites, and a comparison between these GACA cohorts from 2004-2006 and from 2007-2010.

Figure 8. Number of Archived Online Curricular by the Awardees
**Factor 3:** a. What settings are being used to teach? b. Where are those HCW trainees’ patients?

All 14 cases (100%) used traditional settings such as hospitals, medical schools, nursing homes, ambulatory care centers, and their trainees’ patients were in hospitals, patients’ homes, nursing homes, and alternative living facilities.

Nine of 14 cases (64%) used both traditional and non-traditional setting such as rehabilitation centers, alternative living facilities, and day and home care facilities.

The study conducted by University of California, San Francisco (2006) showed the national trends of future growth in long-term care services will be in assisted living, residential care, and home and community-based services. The study reports that consumers have expressed a preference for less restrictive settings of care over nursing home settings.

The results of this study show all 14 cases utilized traditional teaching settings, but only 64% utilized non-traditional settings. In light of the national trends concerning how consumers are more interested in living in less restrictive setting, these non-traditional teaching settings may need to be considered in the future.

Figure 9 provides an overview of teaching methods and settings used by two GACA cohorts from 2004-2006 and from 2007-2010 and their comparison.
Figure 9. Teaching Methods and Settings Used by the Awardees

**Factor 4:** a) What methods are used to assess learners, and for program evaluation of curriculum? b) What are the results or findings reported from these learner assessments and evaluations?

All 14 cases (100%) used pre- and post-learner assessments and reported satisfactory results; eight of 14 (57%) used diagnostic curriculum evaluation using surveys and interviews; six of 14 (43%) cases used summative evaluation using surveys and reported satisfactory results. These results are deemed as satisfactory unless any barriers or problems are reported. For this reason, this study was unable to identify any strengths to build upon or gaps to improve. It is an
important continuous quality improvement area in designing the HA teaching curriculum model for geriatric health professions education.

Figure 10 provides an overview of learner assessments and curriculum evaluation used by two GACA cohorts from 2004-2006 and from 2007-2010 and their comparison.

![Figure 10. Learners Assessments and Curriculum Evaluation Methods Used by the Awardees](image)

**Figure 10. Learners Assessments and Curriculum Evaluation Methods Used by the Awardees**

**Factor 5:** What methods and settings have been successful in reaching a wide
disciplinary range of HPs and HPs working with clients in variety settings?

Eleven of 14 cases (79%) used online curricula to teach HPs in reaching a wide range of HPs and settings including rural areas and flexibly accommodate self-paced online training for busy HCW in diverse practice settings.

All 14 cases (100%) trained HCW at the national, regional, and local conferences and meetings, and their trainees’ patients may be in any one of these settings. Attendees of these trainings may include a wide range of HCW and a wide range of their practice settings.

c. Dimension 4: Institutional context: The effects of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery. This dimension has two factors.

Factor 1: Barriers that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines and settings.

Three of 14 cases (21%) did not report any barriers, and 11 of 14 cases (79%) reported barriers. One of 14 cases (7%) reported delayed IRB in implementing the GACA-related teaching curricula; 1 of 14 cases (7%) reported delays in obtaining other funding that was related to the implementation of the GACA HA teaching curriculum; and 1 of 14 cases (7%) reported technical problems in the development and implementation of the GACA HA teaching curriculum (7%). For example, regarding technical difficulty in the development and implementation of online modules: 1 of 14 cases (7%) reported limits in the institutional infrastructure of geriatric programs and teaching settings to provide a wide range of non-traditional teaching settings in the community; 1 of 14 cases (7%) reported as ineffective the institution’s financial management of the award, delaying the project; 6 of 14 cases (43%)
reported human resource issues that affected reaching a wide range of disciplines and settings, such as short staffing due to medical leave, retirement, high staff turnover, and changes in senior management staff; and 4 of 14 cases (29%) reported difficulties in the logistics of scheduling the IDT sessions.

**Factor 2:** Facilitating factors that have been noted relating to the home institution of the GACA awardee in reaching HCW in a wide range of disciplines and settings

Twelve of 14 cases (86%) reported strong institutional infrastructure of other geriatric programs and other sources of funding to effectively leverage the GACA HA teaching curriculum development and implementation; 7 of 14 (50%) cases reported strong institutional infrastructure in the community to provide diverse teaching settings including both traditional and non-traditional settings such as assisted living facilities, nursing homes, and home care; and all 14 cases (100%) reported strong support of the institution in the development and implementation of the GACA HA teaching curriculum.

It is significant that 43% of these cases reported difficulties due to staffing—turnover certainly can impair the effectiveness of training. That half of the cases did not report strong infrastructure to provide diverse teaching settings is important, and there are some indications in the reported barriers that this was reflected there as well (though one may suspect there are more barriers in this area than people reported). There was a cluster that reported problems in scheduling IDT linked to this, which may reflect a more widespread challenge.

Figure 11 provides an overview of reported facilitators in developing and implementing the HA curriculum and using a wide range of teaching methods and settings by two GACA cohorts from 2004-2006 and from 2007-2010 and their comparison.
97

2. **Subquestion 1B**: The overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice are: 1) overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings.

a. **Dimension 2**: In this study, Dimension 2 refers to what is being taught by the GACA awardees regarding the 10 HA competencies (10 factors).

The study results show none of the 14 cases (100%) taught topics on engaging with life; 9 of 14 cases (64%) did not teach topics on caregiver support; 6 of 14 cases (43%) did not teach...
topics on Competency 1: Promoting health and preventing disease and injury; and Competency 2: Optimizing mental and physical function.

The 5 HA competency topics most commonly taught by the 14 cases include: Competency 4: Managing chronic diseases/conditions; Competency 5: Biopsychosocial team-based/IPT-based care; Competency 6: Connecting patients/clients to social system resources and benefits; Competency 8: Assisting clients/patients in competent coping efforts and processes; and Competency 9: Evaluation and assessment-conducting an interdisciplinary, comprehensive geriatric assessment of patients/clients using validated and reliable tools/instruments.

Topics of the 10 HA competencies that were most commonly not published in journal articles, textbooks, presentations, posters, or online teaching modules in 14 cases include: Competency 1: Promoting health and preventing disease and injury; Competency 2: Optimizing mental and physical function; Competency 3: Engaging with life; and Competency 10: Caregiver support.

Topics of the 10 HA competencies that were most commonly published in journal articles, textbooks, presentations, posters, or online teaching modules in the 14 cases include: Competency 4: Managing chronic diseases/conditions; Competency 5: Biopsychosocial team-based/IPT-based care; Competency 6: Connecting patients/clients to social system resources and benefits; Competency 8: Assisting clients/patients in competent coping efforts and processes; and Competency 9: Evaluation and assessment-conducting an interdisciplinary, comprehensive geriatric assessment of patients/clients using validated and reliable tools/instruments.

Strengths of 14 cases in teaching the 10 HA competencies topics 4, 5, 6, 8 and 9, that emphasized managing chronic conditions and conditions; conducting evaluation and assessment
that deploy IP comprehensive geriatric assessment of patients; IPT-based care; and connecting patients to social system resources and benefits.

Even though fewer than 60% of these cases addressed HA competencies 1, 2, 3, and 10, 57% of cases taught Competency 1 regarding promoting health and preventing disease and injury; 43% of cases taught Competency 2 regarding optimizing mental and physical function topics; and 36% taught Competency 10 regarding caregiver support topics.

The identified gaps across 14 cases regard HA Competency 3 that none of the 14 cases taught Competency 3 regarding engaging with life in Dimension 2 of the HA curriculum model for health professions.

Figure 12 provides an overview of the identified gaps in teaching the 10 HA competencies by two GACA cohorts from 2004-2006 and from 2007-2010 and their comparison.
As previously discussed, these identified gaps may be related to the current health care payment system and financial incentives in providing these services. The Medicare program provides DGME funding to train resident physicians in geriatrics. In addition, these teaching hospitals receive IME payments from the Medicare program for providing special patient care to geriatric patients with complex health issues (IOM, 2014). There may be more financial incentives for a teaching focus on disease management and treatment for these teaching hospitals and health professionals. Rather than teaching topics such as HA competencies on engaging with life, caregiver supports, optimizing mental and physical function, and promoting health and
preventing disease and injury (as opposing to treating them). GME funding from the Medicare program must reflect the needs of older American consumers in training physicians (IOM, 2014). It is also important to note that physicians still predominantly have the major leadership role in health profession education in geriatrics.

In addition, GME training sites may also have an important role, and they may focus more on traditional teaching settings. Many of the nontraditional teaching settings in the community may not be recognized for the Medicare program funding. That may reduce opportunities for resident physicians to be trained with other health care workers in the community, including direct care workers and informal caregivers.

The results of the workforce study conducted by University of California at San Francisco and funded by the HRSA National Center for Health Workforce Analysis showed the national trends on how consumers are more interested in living in less restrictive settings such as assisted living, home- and community-based services (University of California San Francisco, 2006). These non-traditional teaching settings may need to be considered as HCW training sites for physicians to interact with other HCW to foster IPT-based, patient- and family-centered approaches to facilitate HA of older adults residing in the community.

b. Dimension 3: The teaching methods and processes used by the GACA awardees to deliver the curricula they developed. In this study, Dimension 3 refers to who, how, and where the GACA awardees taught regarding the 10 HA competencies. Dimension 3 has 5 factors.

Factor 1: What are the overall strengths and gaps in who is being taught by the GACA awardees regarding 10 GACA HA competencies?
This section provides the overall pattern in the gaps, looking across 14 cases. It may repeat some information, but it is necessary for clarity.

Overall strengths of the GACA projects in training who is being taught regarding the 10 HA teaching competencies include: all 14 cases (100%) taught HA Competency 4: Managing chronic diseases and conditions; Competency 5: IPT-based care; Competency 6: Connecting patients to social system resources and benefits; and Competency 9: Evaluation and assessment-conducting an IP, comprehensive geriatric assessment of patients; and 12 of 14 cases (86%) taught Competency 8: Assisting patients in competent coping efforts and processes, topics to core health professionals identified by the Association of Schools of Allied Health Professions (ASAHP, 2014) and the AGS (2011). Fourteen cases collectively taught core health professionals such as medical students, residents, geriatric fellows, physicians, advanced practice nurses, pharmacists, chaplains, ethicists, social workers, dentists, licensed vocational nurses, respiratory therapists, law enforcement, coroners, physicians, nurses, geriatric fellows, gastroenterology fellows, health professional faculty, allied health professionals such as physical therapists, occupational therapists, speech therapists, physician assistants, psychologists, and dietitians/ nutritionists.

Overall gaps in training regarding who is being taught including IPT-based training are: no cases (100%) included training of direct caregivers and informal caregivers and also in the IPT training. Even though 11 of 14 cases (79%) taught Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care, none of these 11 cases included direct care workers, and informal family caregivers in their training including IPT.

**Factor 2:** Across the cases, what methods are being used to teach, and what are the overall strengths and gaps?
Three of 14 cases (21%) did not use online teaching methods.

Teaching methods that are most used by 13 of 14 cases (93%) include: 1) didactic; 2) experiential hands-on training; 3) precepting/coaching; 4) IPT-based training; and 5) others, such as national, regional, and local conferences and meetings.

Strengths of teaching methods used in the GACA project in teaching HCW include: 1) 10 of 14 cases (71%) used all methods including training of HCW at national, regional, local conferences and meetings; 2) an IPT-based training method was used by all 14 cases (100%); 3) online curricula were used by 11 of 14 cases (79%), reaching a wide range of HCW disciplines and settings, including rural areas, flexibly accommodating busy health professionals via convenient, accessible, self-paced learning.

Gaps of teaching methods in teaching HCW are not remarkable.

**Factor 3:** Overall, what settings are being used to teach?

Five of 14 (36%) cases did not use alternative community-based living facilities, day care or home care teaching settings.

Teaching settings that were most commonly used include hospitals; medical schools; nursing homes; ambulatory care centers; and other such as national, regional, local conferences and meetings. All 14 cases (100%) used these traditional teaching settings.

Strengths were: 1) all 14 cases effectively used traditional teaching settings; 2) 9 of 14 cases (64%) used both traditional and non-traditional settings, and 3 cases were implementing home-based primary care (HBPC) models; 3) all 14 cases used other teaching settings such as national/regional/local conferences and meetings that may reach a wide range of health professionals and practice settings; and 4) 11 of 14 cases (79%) utilized online training and
teaching settings, potentially including diverse settings where HCW trainees were accessing online HA teaching modules.

Gaps were: 5 of 14 (36%) cases did not use alternative community-based living facilities, day care or home care teaching settings. The training institution’s existing capacity and infrastructure of geriatric programs and related funding seem to have a very import role. It is important for both private and federal funders to consider this in investing any programs, and in planning for support of teaching in a wider range of non-traditional settings.

**Factor 4:** a) What methods are used to assess learners, and for program evaluation of curricula? b) What are the results or findings reported from these learner assessments and evaluations?

Results of learner assessments and for program evaluation of curriculum were only reported as satisfactory so that the researcher cannot identify strengths or gaps. This may be an important continuous quality improvement area in designing the HA teaching curriculum model for geriatric health profession education, and in designing better reporting structures for funded curriculum development projects.

**Factor 5:** Overall, what methods and settings have been successful in reaching a wide disciplinary range of health professionals including health professionals working with clients in community-based, including institutional, settings.

Strengths of teaching methods were: 1) 11 of 14 cases (79%) used online curricula to teach health professionals; and 2) all 14 cases (100%) used all teaching methods including training of HCW at national, regional, local conferences and meetings (Figure 8).
Strengths of teaching settings were that all 14 cases (100%) trained HCW at national, regional, local conferences and meetings. This allows their trainees to come from a wide range of health professional disciplines and practice settings.

No reported gaps/areas of improvement are reported by grantees in reaching a wide disciplinary range of health professionals, including health professionals working with older adults living in a home setting. However, the results of the study identified the following gaps/areas for improvement: 1) none of the cases included training of direct caregivers/informal caregivers in the IPT training; and 2) 5 of 14 cases (36%) only used traditional teaching settings. This sheds doubt on whether the training adequately prepared health professionals for working with older adults in a home setting.

**c. Dimension 4:** Institutional context: The effects of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery. This dimension has two factors.

**Factor 1:** Overall, barriers that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings.

To summarize, key barriers noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines and settings included: 1) limited institutional infrastructure of geriatric programs and funding streams that can be leveraged for development and implementation of the HA teaching curriculum; 2) limited institutional infrastructure in the community to provide a wide range of both traditional and non-traditional teaching settings such as alternative community-based living facilities, day care, and home care; 3) unstable human resources: high changes in senior leadership positions and high staff turn-over; and 4)
institution’s inadequate administrative capacity to effectively support logistic of IPT training sessions and managing grants.

**Factor 2:** Overall, facilitating factors that have been noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines/settings.

To summarize, facilitating factors noted relating to the home institution of the awardee in reaching HCW in a wide range of disciplines and settings were: 1) strong institutional infrastructure of other geriatric programs and other sources of funding that can be leveraged for development and implementation of the HA teaching curriculum in reaching a wide range of HCW disciplines; 2) strong institutional infrastructure in the community to provide a wide range of teaching settings of both traditional and non-traditional teaching settings; and 3) stable human resources and administrative capacity that facilitate in reaching a wide range of HCW disciplines and settings. These are the converse of the barriers noted, so there is consistency across the cases in what were reported as significant factors affecting successful development and implementation of the teaching curricula.

For examples of home institution support that facilitated the development and implementation of curricula: The Veterans Affair Medical Centers’ response to a national effort to focus on expansion of home-based and community services was a significant facilitating factor in providing diverse teaching settings. Three of 14 cases were modeling home-based primary care (HBPC) funded by the Veterans Affairs. HBPC provided the foundation in the development and implementation of an effective role model for interdisciplinary geriatric education, HBPC, and investigation. This HBPC model was designed to enhance the development of academic-community partnerships with concomitant educational and clinical opportunities for HCW and practicing providers, as well as opportunities for collaboration.
Table VI provides an overview of other sources of geriatric program funding during their award period for 14 cases used for this study.

Table VI. Presence of Other Sources of Geriatric Program Funding During Their Award Period

<table>
<thead>
<tr>
<th>Case</th>
<th>Geriatric Training for Physicians, Dentists, and Behavioral and Mental Health Providers (GTPD)</th>
<th>Geriatric Education Centers</th>
<th>Comprehensive Geriatric Education Program (CGEP)</th>
<th>Veterans Affairs Funding’s Geriatric Research Education and Clinical Centers (GRECCs), Home-Based Primary Care Program</th>
<th>Medicare Graduate Medical Education</th>
<th>National Institute of Aging, National Institute of Cancer, Agency for Healthcare Research and Quality, Department of Justice</th>
<th>Private Foundation such as John A. Hartford Foundation, Donald W. Reynolds Foundation, and Archstone Foundation, and Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>2007-2010 GACA Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
</tr>
</tbody>
</table>
C. **Limitations and Generalizability**

The study has several limitations: 1) overall, sample size is small. Only 14 cases are used; 2) due to administrative-induced limitation, there may be a sample selection bias. For example, All samples’ institutions are currently not receiving funding from Title VII and Title VIII geriatric programs in the HRSA BHW; 3) all samples are physician disciplines only, but required to teach multidiscipline including physicians in geriatrics; and 3) due to cases of administrative-induced limitation, PI did not conduct the informant interviews to clarify any questions regarding what is not in the reviewed reports, and what are underlying reasons for inclusions or omissions.

In spite of these limitations, this study may have good generalizability, particularly for geriatric faculty in schools of medicine, teaching hospitals, and medical centers. All 14 cases were full-time faculty at schools of medicine that received accreditation from the Accreditation Council for Graduate Medical Education (ACGME). As accredited institutions, these institutions were receiving GME funding from the Medicare program. They were receiving DGME funding from the Medicare program to train resident physicians in geriatrics. In addition, as teaching hospitals, they were receiving IME payments from the Medicare program for providing special patient care to geriatric patients with complex health problems. DGME and IME from the Medicare funding streams are major incentives and enabling factors for GACA awardees, and for schools of medicine, teaching hospitals, and medical centers in general, to teach resident physicians, chief residents, and geriatric fellows. It may be one of the important contributing factors for a common pattern that was observed across two GACA cohorts and 14 cases regarding who, what, where, and how the GACA awardees trained health care workers. This common pattern was also confirmed in comparing two GACA cohorts from 2004 to 2006 and the GACA cohort from 2007 to 2010 regarding the 10 HA competencies.
D. Conclusions

The study developed a HA teaching curriculum model and operationalized this model as an assessment tool to assess a particular program to identify the program’s strengths to further build upon, as well as gaps for improvements. A fully operationalized HA teaching curriculum was applied to two GACA cohorts to assess the program and also to assess the utility of the HA teaching curriculum as a program assessment tool. A HA teaching curriculum model incorporated the main study question that examined the factors affecting the GACA funded HA teaching curricula, including IPT training, curriculum development, and implementation. The main question was further operationalized by two subquestions to answer the main study question: 1) constructs of the GACA HA teaching curriculum including the IPE content and how the content has been delivered in practice, specifically examine who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods) by the GACA awardees; and factors that facilitate or hinder success of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings; 2) the overall strengths and gaps of GACA HA teaching curriculum including the IPE contents and how the content has been delivered in practice, specifically examining overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and overall strengths and gaps of the GACA awardees in reaching a wide range of HCW disciplines and conducting IPE in various settings (Appendix A).

The findings of this study support the constructs within the HA teaching curriculum conceptual model including the IPE content. These constructs are indeed relevant and can be applied to how the content has been delivered in practice. The application of the template based on the model to the 14 GACA cases also supports the following conclusion of the study.
The study findings show a common pattern across 14 GACA cases in what topics were being taught and not being taught, and also comparing the GACA cohort from 2004 to 2006 and the GACA cohort from 2007 to 2010 regarding the 10 identified HA competencies. It may be because all 14 GACA awardees are academic medical institutions and received accreditation from the Accreditation Council for Graduate Medical Education (ACGME), and are facing similar facilitating factors and barriers relating to funding, whom they train, the settings in which they usually train, and whom they serve. However, it also strengthens the likelihood that this pattern applies to other, similar institutions; it is these academic medical institutions that are taking the lead and defining the cutting edge for training geriatric health professionals in the United States. So, identified weaknesses are weaknesses likely to affect geriatric health professional training in the United States in general.

Similarly, it is also relevant to the state of geriatric training in general, at least at the point of time on which these cases focus, that the study found that all 14 cases excelled in teaching HA competencies 4, 5, 6, and 9: Managing chronic diseases and conditions; IDT-based care; Connecting patients to social system resources and benefits; Evaluation and assessment-conducting an IP, and Comprehensive geriatric assessment of patients. In addition, the majority of the 14 cases (86%) taught Competency 8 regarding assisting patients in competent coping efforts and processes topics; and 11 of 14 cases (79%) taught Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care that incorporates perspectives of clients/patients topics. However, less teaching emphasis (less than 60% of 14 cases) was placed on HA competencies 1, 2, 3, and 10: Promoting health and preventing disease and injury; Optimizing mental and physical function topics; Engaging with life; and Caregiver support topics. Therefore, there is room for improvement in teaching HCW in HA competencies
in 1, 2, 3, and 10. Perhaps, the current GME financial incentives from Medicare to focus more on coordinated disease management and treatments than disease prevention and promotion need to be changed to reflect current and emerging needs of older Americans.

The study findings show two glaring gaps:

First, none of the 14 cases taught HA Competency 3, Engaging with life. Engagement with life includes older adults’ involvement in community life, social roles, and social relationships or the contribution of older persons to others, such as volunteer activities, paid work, caregiving, and social participation including church activities. The GACA awardees are highly trained and established academic geriatricians. Due to their exceptional expertise in geriatrics, they are called upon for, and more focused on, teaching comprehensive IPT geriatric assessments, disease management and treatments, and IPT care coordination of older adults with complex health problems. However, the emphasis in the literature on engaging with life brings into question whether this needs to be a much higher priority topic for the geriatric population of the United States to be supported in healthy aging. If these elite institutions are not fostering such training, who is?

Second, all 14 awardees (100%) collectively taught the 9 HA competencies to core health professionals that were identified by the Association of Schools of Allied Health Professions [ASAHP, 2014] and the AGS (2011). However, none of these 14 cases included direct caregivers in training these HA competencies. Though 11 of 14 cases (79%) taught Competency 7 regarding care planning/coordination across the care spectrum with client/patient-centered care, none of these 11 cases included direct care workers or family caregivers in their training including IPT. This finding is consistent with the gap identified by EWA (2014), AARP, and United Hospital Fund (2012) for improving quality care for older adults. To deliver well-
coordinated patient-centered health care, particularly for those with MCC, IPT may need to include not only health and social service professionals, but direct care workers, and family caregivers as well. This collaborative approach needs to integrate family caregivers into the care team and engage them as partners in care.

It is also consistent with the AARP (2012) policy position regarding the needs for a new model of care moving toward person- and family-centered care. The study conducted by Doty (2010) showed that two of three (66%) older people with disabilities who receive assistance at home and their care was obtained exclusively from family members, mostly wives and adult daughters. Approximately one-quarter (26%) receive some combination of family care and paid help, and only 9% receive paid help alone. The family is the main source of help for the majority of older people with functional limitations in daily life and needs to be incorporated in the IPT team.

Overall, strengths of teaching methods used in the GACA cases include: 1) a majority of 14 cases (71%) used all methods to reach a wide range of HCW disciplines and practice settings, including online learning used to reach rural areas and busy health professionals. For academic geriatricians, there are two primary online curricula archives: a) the Portal of Geriatric Online Education (POGOe) and b) MedEdPORTAL. The majority of the 14 cases (79%) are archived on these sites. These sites are open to all health professionals for learning, and this also allows effects of the funded programs even after the project period; 2) all 14 cases used an IPT-based training method that is the essential foundation of well-coordinated patient-centered care, particularly those older adults with MCC; 3) used other methods such as presentations at the national/regional/local conferences and meetings, and it may allow reaching a wide range of
HCW disciplines from a variety of practice settings. Overall, gaps in teaching methods were not remarkable.

Overall, strengths of teaching settings used include: 1) all 14 cases effectively used traditional teaching settings such as medical schools, hospitals, clinical ambulatory centers, and nursing homes; 2) the majority of the 14 cases (64%) used both traditional and non-traditional settings, and 3) cases implemented home-based primary care (HBPC) models; and 3) all 14 cases used other teaching settings such as national/regional/local conferences and meetings that may reach a wide range of health professionals and practice settings. In light of the national trends on how consumers are more interested in living in less restrictive settings, there is room for improvement for all cases to use both traditional and non-traditional teaching settings such as alternative community-based living facilities, day care, and home care.

As noted above, results of learner assessments and for program evaluation of curriculum were only reported as satisfactory so that the researcher was unable to identify strengths or gaps. This may be an important continuous quality improvement area to include or require in future detailed outcome reports of learner assessments and the program evaluation of HA curricula.

Key factors affecting development and implementation of the GACA supported curricula, mentioned as both barriers and facilitating factors, included: 1) the institutional infrastructure for geriatric programs and funding streams that can be leveraged for the development and implementation of the HA teaching curriculum; 2) the institutional infrastructure in the community, determining its capacity for providing a wide range of both traditional teaching settings and non-traditional teaching settings such as alternative community-based living facilities, day care, and home care; 3) human resources, whether unstable or stable: high changes in senior leadership positions and high staff turnover vs. human resources and administrative
capacity that facilitate reaching a wide range of HCW disciplines and settings. In addition, institutions’ inadequate administrative capacity to effectively support logistics of IPT training sessions and managing grants was noted as a barrier.

E. Utility of the Healthy Aging Teaching Curriculum Model

The study is intended to include developing a HA teaching curriculum model for health professions developed from the literature review, and it is applicable to all health professions. In addition, the study developed a template based on this HA teaching curriculum model as an assessment tool, and applied it to assess a particular program to identify strengths of the program as well as areas for improvement. A fully operationalized document review template (Appendix A) was developed and applied to two previous GACA cohorts. Using a HA teaching curriculum model as an assessment tool allowed a systematic investigation of the program. This study’s findings show this tool is fully operationalized in detail and simple to use for assessing a HA teaching curriculum model for health professions. It will be an excellent tool for self-assessment of a program and usable for continuous quality improvement of HA teaching curricula for health professions. The document review template also can be modified to custom fit a particular program, for instance, by modifying the competencies based on specific program objectives.

F. Recommendations

Based on the study findings, the following recommendations are made:

1. Use a HA teaching curriculum model in developing and implementing a HA teaching curriculum for health profession education, and as an assessment tool to assess strengths and gaps of the program for health profession education in geriatrics.
This HA teaching curriculum model is developed for health professions from the literature review, and it is applicable to all health professions. The study findings support the utility of HA constructs within the HA teaching curriculum conceptual model including the IPE content. These constructs are indeed relevant and useful in operationalizing this HA teaching curriculum model. In addition, the study findings show a HA teaching curriculum model, as a HA teaching curriculum assessment tool, is fully operationalized in detail and simple to use in assessing a HA teaching curriculum model for health professions. Based on best practices for supporting optimum aging identified in the literature, it can be used by directors and teachers of a program as a self-assessment tool, as well as by funders.

2. **Private and federal funders should take further leadership to incentivize training HCW in HA competencies that are focusing on health promotion and disease prevention, and social wellbeing of older adults, such as engaging with life.**

The study findings confirm that topics being taught to HCW focus more on disease management and treatment rather than health promotion and disease and injury prevention. In addition, none of study cases taught HA competency 3, “Engagement with Life”. Engaging with life is an important aspect of social wellbeing of older adults. The current health care service payment system does not incentivize training HCW in all HA competencies and fails adequately to support training in health promotion and disease prevention in caring for older adults. For example, one of the main funding streams, GME funding from the Medicare, incentivize providing special patient care to geriatric patients with complex health issues (IOM, 2014), and disease management and treatment rather than focusing on elder health promotion and prevention of disease and injury, and social wellbeing of older adults such as engaging with life. Based on the study findings, this study recommends private and federal funders should take
further leadership to incentivize training HCW in HA competencies that are focusing on health promotion and disease prevention, and social wellbeing of older adults, such as engaging with life. However, without financial incentives from private and federal funders, the vision of supporting HA through health profession training may not be fully realized for a long time to come. It requires a multi-sectoral strategy for partners to leverage knowledge, expertise, and resources. By building on multi-disciplinary strengths, it will also allow each partner to work toward the common shared goal to improve the health of older adults and the quality of their lives.

3. **Expand teaching settings to reflect older adults preference in living and needs.**

   The study findings show only 64% of 14 cases utilized non-traditional teaching settings. The national trend shows how older adults are more interested in living in less restrictive setting, and these non-traditional teaching settings may need to be considered in the future (University of California San Francisco, 2006). IOM (2008) also recommended that hospitals should encourage the training of health professionals in all settings where older adults receive care, including nursing homes, assisted-living facilities, and patients’ homes.

4. **Include direct care workers in training and incorporate them in the IPT as a part of integral IPT members.**

   The study findings show that none of the 14 cases included direct caregivers in training these HA competencies. Direct care workers may have an important role in interdisciplinary teamwork, contributing first-hand information and direct experience. A direct care worker may fill crucial gaps in care. Because of their regular in-person interaction with older adults, often over an extended period of time, all home care workers are in a unique position to identify shifts
in their health. Direct care workers may help in observing, recording, and report any changes in an older adult’s status or function to the appropriate team member. Early detection of these changes may have an important role in caring for older adults with MCC.

The identified gaps are consistent with gaps identified by EWA (2014), AARP, and United Hospital Fund (2012) for improving quality care for older adults.

5. Include family caregivers in the IPT.

To provide well-coordinated patient-centered health care, particularly for those with MCC, IPT must include health and social service professionals, direct care workers, and family caregivers. This collaborative approach needs to integrate family caregivers into the care team and engage them as partners in care. It is also consistent with the AARP (2012) policy position regarding the needs for a new model of care moving toward person- and family-centered care. The family is the main source of help for the majority of older people with functional limitations in daily life and may need to be incorporated in the IPT team to ensure well-coordinated patient- and family-centered care.

6. Continue to utilize and build on what is successful in HA teaching methods such as an IPT-based training method; online teaching and presenting at national, regional, and local conferences and meetings to reach a wide range of HCW disciplines and various settings.

The study findings show the overall strengths in HA teaching methods: 1) an IPT-based training method that is the essential foundation of well-coordinated patient-centered care, particularly those older adults with MCC; 2) online modules increase training flexibility and increase the ability of academic medical centers to reach a wide range of HPs and settings,
including rural areas; and 3) presentations and poster sessions also allow reaching a wide range of health professional disciplines and practice settings. The study recommends to continue to build upon these strengths in HA teaching methods.

G. Implications to Geriatric Programs

The conceptual model synthesized from the literature and developed in this study is applicable to HA teaching curricula for health professions in geriatrics, and it can be easily used as an assessment tool to assess a particular program developing or implementing a HA teaching curriculum.

Even though the findings of this study have their limitations, regarding drawing conclusions for all GACA grantees of geriatric health professions training generally, generalizability to other geriatric training programs may be good, particularly regarding faculty in schools of medicine, teaching hospitals, and medical centers. All 14 cases were full-time faculty at a school of medicine that received accreditation from the Accreditation Council for Graduate Medical Education (ACGME). As accredited institutions, these institutions were receiving GME funding from the Medicare program and operate under similar incentives and constraints as other accredited programs. The study findings show a consistent, common pattern across 14 GACA cases in what topics were being taught and not being taught, and also confirmed this common pattern comparing two GACA cohorts from 2004 to 2006 and the GACA cohort from 2007 to 2010 regarding the 10 HA competencies. Therefore, the recommendations based on the study findings may add a voice to improve HA competencies of HCW in geriatrics to facilitate older adults to achieve an improved quality of life.
APPENDICES

Appendix A-1: Document Review Template

**Subquestion 1A:** What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 2:** The content of the competencies, including knowledge, skills, and attitudes, that are needed by the health workers caring for the elderly. In this study, Dimension 2 refers to what are being taught by HP educators regarding the 10 healthy aging competencies.

**Dimension 2 has 10 factors:** The 10 HA competencies from HA/SA factors identified from the literature review (LR) and the American Geriatrics Society (AGS) multidisciplinary geriatric competencies.

<table>
<thead>
<tr>
<th>Dimension 2 Measures</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A-2-1a: Curricula Topics Taught on Promoting Health and Preventing Disease and Injury Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-2a: Curricula Topics Taught on Optimizing Mental and Physical Function Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-3a: Curricula Topics Taught on Engaging With Life Topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-4a: Curricula Topics Taught on Managing Chronic Diseases and Conditions Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-5a: Curricula Topics Taught on IPT-based Care Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-6a: Curricula Topics Taught on Connecting Patients to Social System Resources and Benefits Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-7a: Curricula Topics Taught on Care Planning/Coordination Across the Care Spectrum with Client/Patient-centered Care That Incorporate Perspectives of Clients/Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-8a: Curricula Topics Taught on Assisting Patient in Competent Coping Efforts and Processes Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-9a: Curricula Topics Taught on Evaluation and Assessment-Conducting an IPT, Comprehensive Geriatric Assessment of Patients Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-10a: Curricula Topics Taught on Caregiver Support Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**
**Appendix A-2: Document Review Template**

**Subquestion 1A:** What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice?
1) Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 2:** The content of the competencies, including knowledge, skills, and attitudes, that are needed by the health workers caring for the elderly
In this study, Dimension 2 refers to what are being taught by HP educators regarding the 10 healthy aging competencies.

**Dimension 2 has 10 factors:** The 10 HA competencies from HA/SA factors identified from the literature review (LR) and the American Geriatrics Society (AGS) multidisciplinary geriatric competencies.

<table>
<thead>
<tr>
<th>Review Date:</th>
<th>Project Period:</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 2 Measures</strong></td>
<td></td>
<td></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---------</td>
</tr>
<tr>
<td>1A-2-1b: Published Journal Articles/Textbooks/ Presentations Topics on Promoting Health and Preventing Disease and Injury Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-2b: Published Journal Articles/Textbooks/ Presentations Topics on Optimizing Mental and Physical Function Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-3b: Published Journal Articles/Textbooks/ Presentations Topics on Engaging With Life Topic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-4b: Published Journal Articles/Textbooks/ Presentations Topics on Managing Chronic Diseases and Conditions Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-5b: Published Journal Articles/Textbooks/ Presentations Topics on IP Team-Based Care Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-6b: Published Journal Articles/Textbooks/ Presentations Topics on Connecting Patients to Social System Resources and Benefits Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-7b: Published Journal Articles/Textbooks/ Presentations Topics on Care Planning/Coordination Across the Care Spectrum with Client/Patient-centered Care That Incorporate Perspectives of Clients/Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-8b: Published Journal Articles/Textbooks/ Presentations Topics on Assisting Patient in Competent Coping Efforts and Processes Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-9b: Published Journal Articles/Textbooks/ Presentations Topics on Evaluation and Assessment-Conducting an IP, Comprehensive Geriatric Assessment of Patients Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-2-10b: Published Journal Articles/Textbooks/ Presentations Topics on Caregiver Support Topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**
Appendix A-3: Document Review Template

**Subquestion 1A:** What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 3:** The teaching methods and processes used by HP educators to deliver the curricula they developed
In this study, Dimension 3 refers to who, how, and where HP educators taught regarding the 10 healthy aging competencies

**Dimension 3 has 5 factors:**

**Factor 1:** What were being taught by HP educators regarding the 10 HA competencies?

**Review Date:**

<table>
<thead>
<tr>
<th>Project Period</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 3 Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-1a: What Disciplines Were Taught on Promoting Health and Preventing Disease and Injury Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-1b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-1c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-2a: What Disciplines Were Taught on Optimizing Mental and Physical Function Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-2b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-2c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-3a: What Disciplines Were Taught on Engaging With Life Topic?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-3b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-3c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-4a: What Disciplines Were Taught on Managing Chronic Diseases and Conditions Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-4b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-4c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-5a: What Disciplines Were Taught on IPT-based Care?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-5b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-5c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-6a: What Disciplines Were Taught on Connecting Patients to Social System Resources and Benefits Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-6b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-6c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-7a: What Disciplines Were Taught on Care Planning/ Coordination with Client/Patient-centered Care That Incorporate Perspectives of Clients/Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-7b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-7c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-8a: Who Were Taught on Assisting Patient in Competent Coping Efforts and Processes Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-8b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-8c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-9a: Who Were Taught on Evaluation /Assessment- Conducting an IP, Comprehensive Geriatric Assessment of Patients Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-9b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-9c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-10a: What Disciplines Were Taught on Caregiver Support Topics?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-3-10b: Was it IPT?</td>
<td>Yes</td>
<td>No</td>
<td>1A-3-10c: If yes, which disciplines are in the IPT?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**
### Appendix A-4: Document Review Template

**Subquestion 1A:** What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice?

1) Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) Factors that facilitate or hinder success of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 3:** The teaching methods and processes used by HP educators to deliver the curricula they developed

In this study, Dimension 3 refers to who, how, and where HP educators taught regarding the 10 healthy aging competencies

**Dimension 3 has 5 Factors:**

- **Factor 2:** What methods were used to teach?
- **Factor 3:** What settings are being used to teach?
- **Factor 4:** What methods are used to assess learners, and for program evaluation of curriculum?
- **Factor 5:** What methods and settings have been successful in reaching a wide disciplinary range of health professional and health professionals working with clients in community-based including institutional settings?

<table>
<thead>
<tr>
<th>Review Date:</th>
<th>Project Period:</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 3 Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-2 (1-7):</strong> What Methods Were Used to Teach HCW Regarding the 10 HA Competencies?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select all applicable methods listed below:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Didactic sessions with presented lectures; 2. Hands-on experiential training sessions; 3. Precepting or coaching; 4. Online curricula; 5. Group discussion in a small or a large group; 6. Interdisciplinary team-based or individual projects; 7. Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-3 (1-7):</strong> Type of setting used to teach. What Setting Used to Teach HCW?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select all applicable settings listed below:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-3 (1-7):</strong> Where those HCW trainees’ patients are in? Select all applicable settings listed above:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-4 (1):</strong> Types of learner assessment methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-4 (2):</strong> Results of learner assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-4 (3):</strong> Types of program evaluation of curriculum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-4 (4):</strong> Findings of program evaluation of curriculum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-5 (1):</strong> Teaching methods reported by HP educators as successful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1A-3-5 (2):</strong> Teaching settings reported by HP educators as successful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**
### Appendix A-5: Document Review Template

**Subquestion 1A:** What are constructs of HA teaching curriculum including the IPE content and how the content has been delivered in practice? 1) Who, what, where, and how: who is being taught, what is taught (topics), where (in what settings), and how the HA teaching curriculum is being taught (methods); and 2) factors that facilitate or hinder success of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 4:** Institutional Context: the impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery

**Dimension 4 has 2 factors: Factor 1:** Barriers that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings; **Factor 2:** Facilitating factors that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings

<table>
<thead>
<tr>
<th>Review Date:</th>
<th>Project Period:</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 4 Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-4-1: Reported barriers in developing and implementing the HA curriculum and using a wide range of teaching methods and settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A-4-2: Reported facilitating factors in developing and implementing the HA curriculum and using a wide range of teaching methods and settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A-6: Document Review Template

**Subquestion 1B:** What are the overall strengths and gaps of HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) Overall strengths and gaps of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 2:** The content of the competencies, including knowledge, skills, and attitudes that are needed by the health workers caring for the elderly. In this study, Dimension 2 refers to what are being taught by HP educators regarding the 10 healthy aging competencies

**Dimension 2 has 10 factors:** The 10 HA competencies from eight common HA/SA factors identified from the literature review and the AGS multidisciplinary geriatric competencies

<table>
<thead>
<tr>
<th>Review Date:</th>
<th>Project Period:</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 2 Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1a:</td>
<td>Curricula topics not taught by HP educators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1b:</td>
<td>Top 5 curricula topics most frequently taught by HP educators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1c:</td>
<td>Published journal articles/textbooks/presentations/online teaching modules topics not covered by HP educators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1d:</td>
<td>Published journal articles/textbooks/presentations/online teaching modules topics most covered by HP educators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1e:</td>
<td>Strengths in teaching the 10 HA competencies topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-2-1f:</td>
<td>Gaps in teaching the 10 HA competencies topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary**
## Appendix A-7: Document Review Template

**Subquestion 1B:** What are the overall strengths and gaps of HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) Overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) Overall strengths and gaps of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

**Dimension 3:** The teaching methods and processes used by HP educators to deliver the curricula they developed. In this study, Dimension 3 refers to who, how, and where HP educators taught regarding the 10 HA competencies

**Dimension 3 has 5 factors:**

**Factor 1:** Who are being taught by HP educators regarding the 10 HA competencies?

**Factor 2:** What methods are being used to teach?

**Factor 3:** What settings are being used to teach?

**Factor 4:** What are the results or findings reported from these learner assessments and evaluations?

**Factor 5:** What methods and settings have been successful in reaching a wide disciplinary range of health professional and health professionals working with clients in community-based including institutional settings

### Review Date:  Project Period:  Case Number 1 2 3 4 5 6 7  Summary

#### Dimension 3 Measures

| 1B-3-1a: Strengths of the program in utilizing methods to train who are being taught including IPT training and community-based health professionals training |  |
| 1B-3-1b: Gaps of the program in training who are being taught including IPT-based and community-based health professionals training |  |
| 1B-3-2a: What teaching methods are not used by HP educators? |  |
| 1B-3-2b: What methods are most used by HP educators? |  |
| 1B-3-2c: Strengths of methods used in the program in teaching HCW |  |
| 1B-3-2d: Gaps of methods in the program in teaching HCW |  |
| 1B-3-3a: What settings are not used by HP educators? |  |
| 1B-3-3b: What are most commonly used setting in teaching HCW? |  |
| 1B-3-3c: Strengths of the program in using teaching settings |  |
| 1B-3-3d: Gaps of the program in using teaching settings |  |
| 1B-3-4a: Identified program strengths from the results of learner assessments; |  |
| 1B-3-4b: Identified program strengths from the findings of program evaluation of curriculum; |  |
| 1B-3-4c: Identified gaps/areas of improvement from the results of learner assessments; |  |
| 1B-3-4d: Identified gaps/areas of improvement in the findings of program evaluation of curriculum |  |
| 1B-3-5a: Strengths of teaching methods currently used by HP educators in reaching wide disciplinary range of health professionals including health professionals working with older adults living at home setting; |  |
| 1B-3-5b: Strengths of teaching settings currently used by HP educators in reaching wide disciplinary range of health professionals including health professionals working with older adults living at home settings; |  |
| 1B-3-5c: Reported gaps/areas of improvement in reaching wide disciplinary range of health professionals including health professionals working with older adults living at home setting |  |

**Summary**
Subquestion 1B: What are the overall strengths and gaps of HA teaching curriculum including the IPE contents and how the content has been delivered in practice? 1) overall strengths and gaps in who, what, where, and how the HA teaching curriculum is being taught; and 2) overall strengths and gaps of HP educators in reaching a wide range of HCW disciplines and conducting IPE in various settings.

Dimension 4: Institutional Context: the impact of local academic institutions and teaching hospital structure and culture on the shaping of the geriatric teaching curriculum design and delivery

Dimension 4 has 2 factors: Factor 1: Barriers that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings; Factor 2: Facilitating factors that have been noted relating to the home institution of HP educators in reaching HCW in a wide range of disciplines/settings

<table>
<thead>
<tr>
<th>Review Date:</th>
<th>Project Period:</th>
<th>Case Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimension 4 Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-4-1: The program gaps/barriers regarding the institution of HP educators to facilitate in reaching HCW in a wide range of disciplines/settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B-4-2: The program strengths/facilitators regarding the institution of HP educators to facilitate in reaching HCW in a wide range of disciplines/settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Geriatric Academic Career Awards Cohort Between 2004-2006 Grant Cycle (7 cases)

The program was not funded in 2006.

*These grantees are currently not receiving funding from Title VII and Title VIII geriatric programs in the Bureau of Health Workforce, the Health Resources Services Administration*

<table>
<thead>
<tr>
<th>Case Number</th>
<th>State Served</th>
<th>Awardee Discipline</th>
<th>Awardee Training Focus</th>
<th>Awardee Teaching Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Region IX</td>
<td>Physician</td>
<td>Interdisciplinary Team Palliative Care (IPTPC), EOL, PM, MM, Elder Abuse, Legal ramifications of elder abuse</td>
<td>ACE Unit, Elder Abuse Forensic Center, I/OPPC Unit, I/OPGC Unit, Day and Home Care (DHC),</td>
</tr>
<tr>
<td>2</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT Geriatric Gastroenterology (GG)</td>
<td>ACE Unit, Ambulatory Care Unit (ACU), I/OPGC Unit, Community Care Programs (CCP), Extended Care Facilities (ECF), DHC, GRECC</td>
</tr>
<tr>
<td>3</td>
<td>Region II</td>
<td>Physician</td>
<td>IPT PC and EOL of Advanced Dementia Patients, Evidence Based Practice, Ethics</td>
<td>ACE Unit, I/OPPC Unit, DHC, Rehabilitation Unit (RU)</td>
</tr>
<tr>
<td>4</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT Community and Home-Based Primary Care (CHBPC), Evidence Based Practice, Multidisciplinary Home Care On-Line Curriculum</td>
<td>Geriatric Evaluation and Management (GEM) Unit at VAMC, GRECC, ACE Unit, I/OPGC Unit, DHC, Transition Care Unit (TCU), Long-Term Care/Nursing Home (LTC/NH), ECF</td>
</tr>
<tr>
<td>5</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT Goal-setting for Aging Patients (GAP), Program of All-Inclusive Care for the Elderly (PACE), Continuous Quality Improvement (CQI), IPTPC, PM, Cultural Competency in EOL</td>
<td>ACE Unit, ACU, I/OPPC Unit, LTC/NH, I/OPGC Unit</td>
</tr>
<tr>
<td>6</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT Geriatric Competencies for specialty component aimed at orthopedic, gynecology, and physical therapy graduate students.</td>
<td>ACE Unit, GEM Unit at VAMC I/OPGC Unit, LTC/NH</td>
</tr>
<tr>
<td>7</td>
<td>Region VI</td>
<td>Physician</td>
<td>IPT Community and Home-Based Primary Care (CHBPC), CHBPC CQI</td>
<td>ACE Unit, GEM Unit at VAMC I/OPGC Unit, Day and Home Care, ECF</td>
</tr>
</tbody>
</table>
Appendix C. Document Review Sample Selection Matrix, September 2007-September 2010

**Geriatric Academic Career Awards Cohort Between 2007-2010 Grant Cycle (7 cases)**

*These grantees are currently not receiving funding from Title VII and Title VIII geriatric programs in the Bureau of Health Workforce, the Health Resources Services Administration*

<table>
<thead>
<tr>
<th>Case Number</th>
<th>State Served</th>
<th>Awardee Discipline</th>
<th>Awardee Training Focus</th>
<th>Awardee Teaching Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Region V</td>
<td>Physician</td>
<td>Interdisciplinary Team Palliative Care (IPTPC), End of Life (EOL), Pain Management (PM), Medication Management (MM), Symptom Management, Pain, and Quality of Life (SYMPAQ)</td>
<td>Acute Care of the Elderly (ACE) Unit, In/Out Patient PC (I/OPPC) Unit, Geriatric Behavioral/ Mental Health (GBMH) Unit, In/Out Patient Geriatric Consultation (I/OPGC) Unit</td>
</tr>
<tr>
<td>2</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT Transitional Care (IPTTC), Chief Resident Immersion Training, Delirium, Injury/Disease Prevention</td>
<td>Geriatric Evaluation and Management (GEM) Unit at the VA Medical Center (VAMC), GRECC, ACE Unit, I/OPGC Unit, Transition Care Unit (TCU), Long-Term Care/ Nursing Home (LTC/NH)</td>
</tr>
<tr>
<td>3</td>
<td>Region VII</td>
<td>Physician</td>
<td>IPTTC, Cultural Competency (CC) and Health Literacy (HL) in Geriatric Communication, PC, Dementia, Problem-Based Learning (PBL)</td>
<td>ACE Unit, I/OPGC Unit, GEM Unit at the VAMC, GRECC</td>
</tr>
<tr>
<td>4</td>
<td>Region V</td>
<td>Physician</td>
<td>IPT PC, EOL for patients with Alzheimer’s disease (AD), Geriatric Interdisciplinary Team Training (GITT)</td>
<td>ACE Unit, I/OPPC Unit, LTC/NH, Rehabilitation Unit (RU), GBMH Unit</td>
</tr>
<tr>
<td>5</td>
<td>Region I</td>
<td>Physician</td>
<td>IPT Geriatric Competencies, IT Communication</td>
<td>ACE Unit, I/OPGC Unit, University Medical School (UMS)</td>
</tr>
<tr>
<td>6</td>
<td>Region III</td>
<td>Physician</td>
<td>Dementia Delirium, Nutrition, Normal vs. Abnormal Aging, Hip Fracture Management, IPT House calls, Geriatric Communication</td>
<td>Day and Home Care (DHC), ACE Unit, I/OPGC Unit</td>
</tr>
<tr>
<td>7</td>
<td>Region VI</td>
<td>Physician</td>
<td>IPTPC, EOL, Cultural and Linguistic Competencies (CLC), Dementia, Self-Care, Communicating with Caregivers</td>
<td>GRECC, Reynolds Geriatric Education Center, DHC, I/OPPC Unit, GEM Unit, LTC/NH</td>
</tr>
</tbody>
</table>
Appendix D. Notice of Determination of Human Subject Research

Notice of Determination of Human Subject Research

October 23, 2014
20141020-85671-1
Young Song, DrPH
Community Health Sciences
21930 Greenbrook Drive
Boyds, MD 20841

RE: Protocol # 2014-1020
Exploring the Geriatric Academic Career Award Program Healthy Aging Teaching Curriculum

Sponsor: None

Dear Young Song:

The UIC Office for the Protection of Research Subjects received your “Determination of Whether an Activity Represents Human Subjects Research” application, and has determined that this activity DOES NOT meet the definition of human subject research as defined by 45 CFR 46.102(f).

You may conduct your activity without further submission to the IRB.

If this activity is used in conjunction with any other research involving human subjects or if it is modified in any way, it must be re-reviewed by OPRS staff.

Phone: 312-996-1711 http://www.uic.edu/depts/ovcr/oprs/ Fax: 312-413-2929
August 19, 2014

Young Song, MS, MPH, RD
Doctoral Candidate
University of Illinois-Chicago, School of Public Health
21930 Greenbrook Dr., Boyds, MD 20841
206-661-8916, ysong38@uic.edu

Dear Ms. Song:

This will acknowledge receipt of your Freedom of Information Act (FOIA) request received by this office on August 19, 2014. Your request has been assigned a case number (14F335) based on its receipt in this office and is being processed as expeditiously as possible. The actual processing time will depend on the complexity of your request and whether sensitive records, voluminous records, extensive search, and/or consultation with other Department of Health and Human Services (DHHS) components or other executive branch agencies are involved. There may be a charge for these records and, in some cases, the charges may be substantial.

You have been classified in the following manner: Category 3—Other Category. Category 3 requesters are charged for search time, document review, and duplication. In all cases, if the total fee does not exceed $25.00, we will not charge any fee at all.

It is your responsibility to notify our office of any changes in your contact information (i.e., mailing address, telephone numbers, and/or email address). Any returned correspondence due to “unknown address” is considered sufficient reason to close your request.

The FOIA and the DHHS Freedom of Information regulations allow agencies to recover part of the costs of processing FOIA requests. The FOIA and the DHHS regulations are available at the following web address: http://www.usdoj.gov/oip/foiastat.htm and http://www.hhs.gov/foia/45cfr5.html.

You may contact this office 20 working days from the date of this letter to find out the status of your request. When making an inquiry, please refer to case number 14F335.

Sincerely,

HRSA Freedom of Information Office
Room 6C-18, Parklawn Building, 5600 Fishers Lane, Rockville, MD 20857
(301) 443-2865, FOIA@HRSA.gov
CITED LITERATURE


Cho, J., Martin, P., & Poon, L. W. (2011, November). The older they are, the less successful they become? Findings from the Georgia Centenarian Study. Presented at the annual meeting of the Gerontological Society of America, Boston, MA.

133


VITA

Young Song, DrPH, MS, RD
CAPT, United States Public Health Service Commissioned Corps
21930 Greenbrook Drive, Boyds, MD 20841
Cell: 206-661-8916 Work: 301-443-335 E-Mail: ysong38@uic.edu

EDUCATION

DrPH, Public Health Leadership, University of Illinois at Chicago, 2015
MPH, Maternal and Child Health Management, University of Illinois at Chicago, 1987
MS, Nutrition and Food Sciences, Wayne State University, 1982
BS, Health Sciences, Grand Valley State University, 1980

PROFESSIONAL EXPERIENCE

Senior Program Management Consultant
Health Resources and Services Administration
Bureau of Health Workforce
Division of Medicine and Dentistry;
5/2014-Present (It is the same position as below, but reflecting the recent reorganization)

Senior Program Management Consultant
Health Resources and Services Administration
Bureau of Health Profession
Division of Diversity and Interdisciplinary Education;
5/2012-5/2014
Provided leadership and oversee overall aspects of the Geriatric Academic Career Awards Program with a $5 million budget and portfolio of 50 grants to develop junior faculty in geriatrics to train the national health care workforce to meet the growing health care needs for older Americans.

Chief, Geriatrics and Allied Health Branch
Health Resources and Services Administration
Bureau of Health Profession
Division of Public Health and Interdisciplinary Education;
2/2011-4/2012
Provides leadership and oversees overall aspects of six major national programs: four geriatric programs; one graduate psychology program; and one chiropractic demonstration research program with a $45 million budget and portfolio of 196 grants designed to improve the number, quality and distribution of the health care workforce to improve health care access, quality, diversity, health outcomes and health disparities for underserved and vulnerable populations.
Senior Program Management Consultant
Health Resources and Services Administration
Bureau of Health Profession
Division of Diversity and Interdisciplinary Education;
9/2008 - 1/2011
Provided leadership and oversaw overall aspects of two major national geriatric programs with a $13 million budget and portfolio of 100 to effectively train physicians nationwide to meet the increased health care needs for emerging 78 million baby boomers.

Senior Program Management Consultant
Health Resources and Services Administration
Bureau of Health Profession
Division of Nursing;
Provided leadership and oversaw overall aspects of four major national programs: two geriatric programs and two advance nurse and nurse faculty programs with a $44 million budget and portfolio of 230 grants to improve health care access, quality, diversity, health outcomes and health disparities for underserved and vulnerable populations.

Senior Program Management Consultant
Health Resources and Services Administration
Bureau of Health Profession
Division of State, Community and Public Health;
Provided leadership and oversaw overall aspects of the complex Allied Health Project Program that encompasses over 200 different health disciplines that make up 60% of the total healthcare workforce. This program operated under a $6 million budget and portfolio of 56 grants to address the national allied health professions workforce to improve health care access, diversity and quality.

Chief, Dietetic and Public Health Nutrition Department
US Public Health Service, Indian Health Services
Mescalero Indian Hospital (MIH);
Provided leadership as Chief of Dietetic and Public Health Nutrition Department to oversee operation of the hospital dietetic services and public health programs on the Mescalero Indian Reservation with $5 million budget and 15 staff. Developed the MIH quality assurance and continuous quality improvement program that was adopted as a national model by the JCAHO and throughout the IHS.

Executive Director
Health and Nutrition Services of Racine County;
Provided leadership as Executive Director and responsible for countywide public health programs and overall operation of public health programs with $25 million budget and over 30 agency staff.
Nutrition Program Director
Robeson County Health Department;
Provided leadership and oversaw the overall implementation of multiple county wide nutrition programs with $3 million budget and 12 staff.

LEADERSHIP RELEVANT ACCOMPLISHMENTS

- Holds Rank 06, Director, Active Duty USPHS Commissioned Corps Officer, 2008
- Rated with outstanding job performance for the past 23 years in the USPHS
- Led new performance measures development ad hoc committee, BHP, HRSA, 2011
- Led geriatric mental and behavioral data collection ad hoc committee for the IOM report to the Congress, 2011
- Led and completed the Allied Health Projects Program (AHPP) Evaluation over a 7 year period (FY 1999-FY 2005) to assess program effectiveness, BHP, HRSA, 2007
- Developed two model programs: Health professions diversity, and practice of the total quality management for program administration, BHP, HRSA, 2002-2006
- Led the patient navigator taskforce team from intra-agency offices and other federal agencies to design and develop a new national program: the Patient Navigator Outreach and Chronic Disease Prevention Demonstration Projects, BHP, HRSA, 2006
- Led the Graduate Psychology Education Program taskforce team to develop and establish the program, BHP, HRSA, 2001
- Led partnership with the Office of Minority Health, HRSA to implement the Indian Tribal Councils Consultation Meeting to improve diversity, BHP, HRSA, 2001
- Led partnership with the American Dietetic Association (ADA) and developed and published “ADA Diversity Mentoring Tool Kit,” BHP, HRSA, 2000.
- Led partnership with the Office of the White House Initiative on Asian Americans and Pacific Islanders to create a list of AAPI serving institutions first time in history, BHP, HRSA, 2000
- Developed the quality assurance and continuous quality improvement program that was adopted as a national model by the JCAHO and the Indian Health Service, 1996

LEADERSHIP AND OTHER RELEVANT TRAINING

Executive Coaching Program Completion Certificate, 2011
- Essential Supervisory Skills I, II, and III Completion Certificate, 2011
- EEO Compliance Training for Managers and Supervisors Certificate, 2010
- HHS Appropriation Law Certificate, 2011
- Ethics Training Certificate, 2010-2014
- Contracting Officers’ Technical Representative Certificate, 2009 - 2013
- Federal Budget Process HRSA through the Health and Human Services University, 2006
- Basic and Advanced Grant Management and Project Officer Training Certificates, 2002
- Public Health Program Policy and Planning, 2000
- Public Health Management Concepts, 2001

HONORS AND AWARDS

- PHS Achievement Medal, 2011
- PHS Unit Commendation, 2010
- PHS Commendation Medal, 2009
- PHS Outstanding Service Medal, 2007
- PHS Outstanding Unit Citation, 2007
- PHS Commissioned Corps Training Ribbon, 2007
- Crisis Response Service Award, 2006
- Appreciation Award Plaque, Bureau of Health Professions, HRSA, 2006
- PHS Outstanding Service Medal, 2001
- PHS Commendation Medal, 2001
- PHS Achievement Medal, 1998
- PHS Bicentennial Unit Commendation, 1998
- PHS Regular Corps Ribbon, 1997
- PHS Citation, 1995
- PHS Achievement Medal, 1993
- PHS Isolated Hardship Award, 1992

UNIFORMED SERVICE TRAINING AND DEPLOYMENT READINESS

- Completed the required FEMA Courses
- Completed required courses for Field Medical Readiness Badge (Field Issues: 10 courses; Special Environments: 9 courses; International Responses: 4 courses)
- Met deployment readiness, 2004-Present
- 2 weeks deployment during the hurricane Katrina, 2005

UNPUBLISHED PUBLICATION

- Co-Authored the International Public Health Textbook and wrote the following chapters:
  - Why The History of International Health is Important
  - Maternal and Child Health
  - World Patterns of Mortality And Morbidity including global epidemic of HIV/AIDS
  - Primary Health Care
PROFESSIONAL PRESENTATIONS

- Presentation on overview of the new performance measures of the Geriatrics and Allied Health Branch before the Advisory Committee on Interdisciplinary, Community-Based Linkages, 2011
- Presentation on overview of the Geriatrics and Allied Health Branch programs to bureau staff, 2011
- Presentation on the geriatric programs at the American Geriatrics Society, 2009
- Presentation of geriatric programs at the BHP, HRSA, All Programs Conference, 2008
- Presentation of the Geriatric Academic Career Award Program at the American Geriatrics Society, 2008
- Presentation at the Annual American Public Health Association on Retaining Wisdom in Nursing Workforce, 2007
- Presentation on Health Weight for Life at the National Women’s Health Day, 2007
- Presentations on Grant Writing Tips at the National Technical Assistance Workshop, Division of Nursing, Bureau of Health Professions, HRSA, 2006-2007
- Presentation at the All Grantee Conference, Bureau of Health Professions, HRSA in 2005.
- Presentations at the Annual Conference of the Association of Schools of Allied Health Professions on Allied Health Professions (AHP) workforce issues, clinical education standards, credentialing AHP and AHP funding opportunities, 1999-2005
- Presentations at the Annual Conference of the American Association of Community College on allied health professions workforce issues, credentialing allied health professions and funding opportunities, 1999-2005
- Presentations at the Annual Conference of the Council for Resource Development on allied health professions workforce issues, credentialing allied health professions and funding opportunities, 1999-2005
- Presentation at the Annual Conference of the National Network for Health-Care Programs in Two Year Colleges on allied health professions workforce issues, credentialing allied health professions and funding opportunities, 1999-2005
- Presentations at the Annual Conference of the National Conference Association of Allied Health on allied health professions workforce issues, credentialing allied health professions and funding opportunities, 1999-2005
- Presentations on Career in Health Professions for Hispanic High School Students, Office of Minority, HRSA in 1999-2005

PROFESSIONAL MEMBERSHIP AND ACTIVITIES

- Member of the Promotion Board Committee, USPHS, 2010-Present
- Bureau of Health Professions Representative, Public Health Workforce Workgroup, Health People 2020, 2010
- Member of the Dietetic/Nutrition Professional Action Committee, USPHS, 2007-Present
- Member of the Professional Development/Mentoring Subcommittee, USPHS, 2007-Present
- Member of the Recruitment Subcommittee, USPHS, 2007-Present
- Member of the Asian Pacific American Officers Committee, USPHS, 2007- Present
Member of the Awards and Recognition Committee, Asian Pacific American Officers Committee, USPHS, 2007
Public Health Education and Health Promotion Subcommittee Member, American Public Health Association (APHA), 2007
Member of the Honor Award Committee, Office of Commissioned Corps Affairs, HRSA, USPHS, 2006-2012
HRSA Scholars Selection Committee, 2006
HRSA Comprehensive Data Information Strategy Focus Group Committee, HRSA, 2006
Contracts Technical Review Committee, Division of Nursing, BHP, HRSA, 2006
HRSA System of Records Notices Committee, BHP, HRSA, 2006
Site Visit Policy Development Task Force, BHP, HRSA, 2005
Comprehensive Performance Measurement System Development Committee, HRSA, 2005
Bureau of Health Professions Peer Review Process Improvement Task Force, 2005
Health Resources and Services Administration Cultural Competency Policy Committee, 2004
Member of the Deployment Readiness Force, USPHS, 2004-Present
Member of the American Dietetic Association (ADA) Future Practice Roles Task Force, 2002-2005
Member of the Dietetic Appointment Board, USPHS, 2002-Present
Member of the ADA Minority Diversity Steering Committee, 2001-2002
Member of the ADA Reengineering Dietetic Education and Credentialing Task Force, 2001
Member of the American Public Health Association, 1998-Present
Nutrition Consultant to the Immigration and Naturalization Services, 1996-1998
Member of the Commissioned Officer Association, USPHS, 1992-Present
Member of the National IHS Health Facility Planning Work Group, 1996-1998
Nutrition Instructor at the New Mexico State University, 1996-1997
New Mexico Public Health Nutrition Practice Group Coordinator, 1995-1998
Member of the Community Health Advisory Board on the Apache Reservation, 1992-1998
Member of the American Dietetic Association, 1987- Present

VOLUNTEER ACTIVITIES

Serve as a formal and an informal mentor to junior US Public Health Service Officers, health professionals and students, 1999-Present
Bone Marrow Drive Volunteer, New Covenant Fellowship Church
Health Career Counseling for High School, College and Graduate Students, New Covenant Fellowship Church