

# **IDENTIFYING CARE BARRIERS AND HEALTH INFORMATION TECHNOLOGY DESIGN CONSIDERATIONS TO FACILITATE SOCIOTECHNICAL SYSTEM REDESIGN OF INFORMAL CAREGIVERS OF PERSON(S) WITH DEMENTIA**

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There are an estimated 16.1 million informal caregivers providing care to persons with Alzheimer's disease or related dementias (PwD) in the United States [1]. Informal caregivers of PwD (referred to as "caregivers") are untrained and unpaid individuals who provide care to manage behavioral and psychological symptoms of dementia (BPSDs) [2]. Unsuccessful management of BPSDs can yield negative care-related outcomes such as increased caregiver stress and burden, delayed responses to BPSDs, and premature long-term care facility placement [2-4]. Management of BPSDs are negatively impacted by care system barriers. However, overcoming care barriers can be referred to as caregiver resiliency, which is the ability of a system (e.g., caregiver work system) to sustain required performance under expected or unexpected conditions [5,6]. Existing knowledge gaps around management of BPSDs have led to limited nonpharmacological treatment options [7] which also impact delivery of care from caregivers. As a result, further understanding of the system around the informal caregiver is needed to help address BPSD management strategies and overcome care barriers by making the care system around the caregiver more resilient. This research aims to conceptualize how informal caregivers of PwD overcome care barriers to manage BPSDs and how health information technology (HIT) can support the sociotechnical work system of caregivers. Application of a sociotechnical systems (STS) approach provides a framework for identification of care system barriers that impact the care process and care-related outcomes. Within informal care settings, one STS approach is the Patient Work System (PWS) which outlines four system elements that influence care: person(s), tasks, tools/technology, and context. Understanding the impact of these system elements on the care process is important to redesigning the system around informal caregivers to enhance caregiver resiliency. A thematic analysis [8] guided by the PWS and a supplemental Epistemic Network Analysis [9] of semi-structured interviews with caregivers (N=30) will be conducted. This analysis facilitates the conceptualization of the barriers impacting resiliency, management of BPSDs, and viable adaptations utilizing HIT tools or technology to overcome barriers. HIT design considerations can then be developed to be incorporated within future redesigns of the work system surrounding informal caregivers.

These design considerations should help make the process of BPSD management more resilient by supporting the informal caregiver in overcoming existing barriers, preparing to address future BPSDs, and enhancing interconnectivity between informal and formal care environments to facilitate care transitions provide a more holistic care experience.