CareGeneral
Feasibility Study

Final Report

June 2014
About the Partner Organizations and Key Contributors

**Mather LifeWays Institute on Aging** (Evanston, IL) is the research and education arm of Mather LifeWays, a 70+ year old, non-denominational, not-for-profit organization whose mission is to create Ways to Age Well\textsuperscript{SM}. The Institute on Aging serves as a thought leader in the field of aging by designing and conducting national applied research, pilot demonstration projects, and education initiatives.

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**CareGeneral, LLC** (Miami, FL) helps working caregivers better manage the demanding, stressful and confusing process of elder caregiving. By providing care coordination tools with direct and immediate online access to professional care support, CareGeneral provides a total care management portal that reduces time requirements and associated stress while improving productivity, personal well-being and organizational commitment.

- R. Dirk Peters, CEO/Founder, CareGeneral, LLC

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- Stephanie Swerdlow, Elder Options, Inc., Hollywood, Florida
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Executive Summary

Mather LifeWays Institute on Aging partnered with CareGeneral, LLC. to collaborate on a feasibility study to test the acceptability, usability, and potential efficacy of a web-based technology called CareGeneral — a new care management tool specifically designed to simplify, centralize and coordinate the care process to enhance communication and coordination, minimize caregiving errors, and alleviate stress. Delivered through a secure web and mobile application, care plans, medications, files notes, medical monitoring results and tasks are securely stored online, updated and shared in real-time with designated care team members. CareGeneral was designed to keep family caregivers organized and informed, and put them in control of care even when they cannot be with their care recipient(s). The development of CareGeneral was data-driven based on the results of previous studies examining caregiver technology use and receptivity to new technologies.

Results from a recent study conducted by the Pew Research Center (2013)\(^1\) demonstrated that many family caregivers navigate their caregiving situations with the help of technology. Common is the use of the Internet to acquire information about a diagnosis, seek support, and gather general health information. In 2011\(^2\) the National Alliance for Caregiving and United Healthcare partnered to explore family caregivers’ receptivity to specific types of technology. They found that the top three technologies with the greatest potential in terms of helpfulness and minimal presence of barriers to use are those systems that offer personal health record tracking, caregiving coordination, and medication support. CareGeneral is an integrative system that was specifically designed to help caregivers achieve each of these goals. The study also identified two other systems that offer moderate potential: symptom monitoring and an interactive system for physical, mental and leisure activities. CareGeneral incorporates these systems as well, and additionally provides caregivers with online access to expert help from a team\(^3\) of Certified Geriatric Care Manager.

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2 Retrieved from: http://www.caregiving.org/data/FINAL_eConnected_Family_Caregiver_Study_Jan%202011.pdf
3 Elder Options, Inc. is a professional geriatric care management company whose care managers are Certified Geriatric Care Managers and members of the National Association of Professional Geriatric Care Managers.
The results of this study provide a 360-degree view of CareGeneral and its capacity for meeting the needs of family caregivers who are seeking technologies to assist them in caregiving coordination and management to help them improve care quality and diminish burdens associated with caregiving, including workplace presenteeism, anxiety, diminished confidence, and inefficiency. The findings are informational to organizations and individuals who work with and provide services to family caregivers and are seeking ways to help family — or professional — caregivers coordinate care and organize health information.

Five Key Findings

Guiding Research Questions

Do working family caregivers and their secondary caregivers find CareGeneral acceptable and easy to use?

Is CareGeneral effective in helping working family caregivers manage and coordinate their caregiving responsibilities?

1. A strong majority of caregiver respondents agreed or strongly agreed that CareGeneral was easy to use (92%) and navigate (81%).

Overall, caregivers described the tool as “intuitive,” “well thought out,” and “self-explanatory.” Technical assistance requests were typically due to software programming errors that were remedied by the development team. Some participants needed assistance with creating or editing tasks in the task management system (TMS). These requests came from participants who had few or no reoccurring caregiving tasks and found it difficult to locate tasks in the list-display in which they are organized in TMS. This early feedback about the task management system resulted in the creation of the Calendar view option to provide participants a more intuitive visual display of their caregiving tasks and appointments.

Other concerns regarding ease of use related to access, as some participants had difficulty accessing the tool while they were at work because of security issues (e.g., Internet firewalls), or using the tool from home or work proved difficult because of time constraints, unreliable Internet access, or outdated software. For example, some participants had difficulty early on in the study because they were using an outdated Internet browser that did not support CareGeneral.
2. Overall, a strong majority of caregiver respondents (89%) agreed that they enjoyed the overall look and appearance of the website.

Caregivers liked the way CareGeneral was created in terms of design. Some participants reported wanting to see less text upon login. For example, the number of items listed within the Care Plan column appeared “overwhelming” to some participants and they reported feeling less motivated to use the site or input information into the care plan (e.g., health information, medications, etc.) as a result. To address this concern, a less text heavy landing or “home” page was created for the site at the end of the study.

3. Caregiver respondents are very likely (62%) to recommend CareGeneral to other caregivers and family members.

The majority of caregiver respondents recommended CareGeneral, however, any hesitancy to recommend the tool related to the comprehensiveness of the tool. Some participants suggested that they or other caregivers they knew were “not there yet” in terms of needing a tool like CareGeneral to help them manage their caregiving responsibilities. They reported their caregiving responsibilities being less complex than CareGeneral was developed to address. However, these participants all stated that CareGeneral was something that would “become more crucial to use in the future” as their care recipients caregiving needs increased. To make CareGeneral more appealing to caregivers with fewer complex or structured caregiving situations additional features like a place for caregivers to have general discussions was created. The Discussions page allows Care Managers to request support or assistance with a task from other caregivers, rather than explicitly assign a task to a caregiver through TMS. This feature and the calendar view, paired with TMS, provide users with the ability to use CareGeneral more casually or as a sophisticated tool for task management when multiple caregivers are involved and a structured daily schedule needs to be adhered to.

4. Eighty-three percent of Care Managers who accessed Expert Help from a Geriatric Care Manager reported that they agreed or strongly agreed that having online access to a Geriatric Care Manager helped them to feel more confident about their caregiving; and 67% agreed or strongly agreed that the Geriatric Care Manager helped them develop their care plan(s).

This finding is consistent with that of other studies testing the efficacy of Geriatric Care Management programs. In 2008 the National Alliance for Caregiving and the Center for Productive Aging at Towson University teamed up to compare the effectiveness of two corporate eldercare programs, a Geriatric Care Management (GCM) program and a resource and referral program. As a result of using GCM, users reported feeling a sense of “validation”

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regarding their situations, feelings, and their need to talk about caregiving challenges. Users from both groups in this study appreciated feelings of being supported, of not being alone, and of having someone knowledgeable to talk with about their needs.

5. The majority of caregiver respondents agreed that CareGeneral helped reduce workplace presenteeism; and helped them be more efficient, feel less stress or anxiety, and improve coordination and communication with other caregivers.

An important goal of this study was to assess whether or not CareGeneral meets caregivers’ needs of saving time, managing the logistics of caregiving more easily and, increasing feelings of effectiveness as a caregiver as these needs have been previously reported\(^5\) as being primarily important in terms of focus for technology development related to caregiving.

The majority of respondents from this study reported that using CareGeneral helped them better concentrate at work, take fewer breaks, feel less stress and anxiety, and feel more confident that their care recipient’s care needs were sufficiently being met while they were away. These findings indicate that CareGeneral helps caregivers meet important time-saving and self-efficacy goals that prior research demonstrates is linked to caregivers’ perceptions of positive aspects of the caregiving experience.\(^6\) Positive feelings about the caregiving experience are associated with less caregiver burden and burnout, and may have the potential for reducing hospitalizations among care recipients. These outcomes are of significant importance to healthcare organizations as current policy requires fewer hospital stays and diminished emergency room visits.

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Reading this Report

This report is based on survey responses from a convenience sample of 37 working family caregivers (referred to as Care Managers throughout this report; n = 18) and Secondary Caregivers (identified by the Care Manager as another individual, paid or unpaid, who is also involved in providing care to the same care recipient; n = 19) who were providing care to an individual 50 years or better. This report is primarily based on survey results with data collected from phone interviews (n = 31) referenced whenever relevant to explaining or clarifying survey results.

Aside from the summary section, each section of the report begins with a bulleted list of key findings or Highlights followed by more specific descriptions of data answering key questions related to the usage, acceptance and usability, and potential efficacy of CareGeneral. Figures and tables are provided throughout to provide a visual display or additional information for the data that are described within the text.
Part 1: Overview of the Study and Methodology

Highlights of Part 1

- Feasibility studies often serve as the first phase in testing the efficacy of innovative technological interventions like CareGeneral. User feedback provides crucial information about the potential strengths and weaknesses of an intervention tool, helping to clarify which elements and features have the best potential for achieving the proposed outcomes. In business and development, feasibility studies are an important step in demonstrating the investment potential of a product. The purpose of this feasibility study was to evaluate the usability, acceptability, and potential efficacy of the CareGeneral website based on feedback from a user group of working family caregivers serving as the primary caregiver (i.e., Care Managers) of an older adult and another member of their caregiving team (i.e., a secondary caregiver).

- The CareGeneral feasibility study was conducted from January-May 2014 with a total sample of 37 caregivers who were providing care to an older adult age 50 or better. These 37 caregivers represented 18 caregiving teams. Eighteen of the 37 caregivers were working family caregivers who self-identified as primary caregivers or “Care Managers.” Each Care Manager recruited at least one member of their caregiving team to participate in the study with them as “Secondary Caregivers” (n =19). Sixteen of the 19 Secondary Caregivers were also family members of the care recipient(s), one of whom was paid to provide care. The remaining three Secondary Caregivers were not family and were privately paid to provide care to the care recipient.

How was the study developed?
The study consisted of surveys and brief phone interviews focusing on the following key areas on caregiving and evaluation of CareGeneral as a care management tool:

- Caregiver and care recipient background;
- Caregiver stress and burden;
- User satisfaction and recommendations;
- Potential efficacy

Survey categories and questions were derived from a comprehensive literature search of a number of published feasibility studies relating to technology and web design. Surveys were administered at two time points, but only 15 Care Managers were surveyed at Time 1.
Phone interviews were also conducted at two time points, but among a subsample of respondents (n = 20). A total of 31 phone interviews were conducted; not all participants completed both phone interviews. The first survey and phone interviews were conducted to provide developers with initial, immediate feedback and reactions from users about CareGeneral to obtain suggestions from users about design and layout, and troubleshoot technological issues. This initial data collection also allowed the researcher to establish rapport with respondents to minimize attrition.

**How were study participants recruited?**

Working family caregivers who self-identified as the primary caregiver or “Care Manager” of an older adult age 50 or better were the target respondent group for the study. Additional criteria for inclusion required that study volunteers be age 18 or better, working at least part-time, have a working email address, and regular access to a computer/tablet and Internet, and a second adult caregiver with email/computer/Internet access who was willing to participate in the study with them.

To reach this population, monthly announcements were included in Mather LifeWays Institute on Aging aginginaction and InvestigAge e-newsletters, which has over 10,000 national subscribers of aging services professionals and family caregivers. The USDA Cooperative Extension sent announcements via email to the youth and family county extension faculty from all land grant universities in the United States. As well, e-blast announcements about the study were sent to employee lists at IBM, Exxon, and Merck whose employees participate in Mather LifeWays Institute on Aging online caregiving courses via their company’s EAP benefits. Finally, the opportunity to volunteer as a participant for this study was advertised through the Alzheimer’s Association’s TrialMatch website which links caregivers of individuals with Alzheimer’s disease with opportunities to participate in caregiving research and clinical trials.

**How were the data analyzed?**

The majority of findings are based on univariate analyses (e.g., means, medians, modes, sums). Where bivariate analyses were conducted to account for differences within groups, statistical significance is indicated and the significance level (or p-value) is included in parentheses (e.g., p = .05). The p-value is a measure of the strength of results from a statistical test. Generally, a lower p-value represents stronger evidence of a statistically significant difference. For example, a p-value of 0.01 indicates a 1 in 100 chance that significant differences are due to chance alone, while a p-value of 0.001 indicates a 1 in 1,000 chance.

Percentages and sums are rounded to the nearest whole number, thus totals may not always add up to 100%.
Part 2: Characteristics of Care Managers, Secondary Caregivers, & Care Recipients

Highlights of Part 2

- Eighty-seven percent of all caregiver respondents (n=37) participated in paid employment working an average of 33 hours per week.
- On average, caregiver respondents contributed 22 hours per week providing care to their care recipient(s).
- One hundred percent of Care Managers have had to arrive at work late, leave work early, or leave work during the day to meet caregiving demands. Twenty-eight percent have had to take a leave of absence, and 22% have had to take a less demanding job or move from full-time to part-time to meet caregiving demands.
- When asked to rate caregiver stress on a scale of 1 (lowest) to 5 (highest), Care Managers scored emotional stress the highest (avg = 4), followed by care coordination (avg = 3), financial stress (avg = 2, and physical stress (avg = 2).
- Twenty-eight percent of Care Managers said it was difficult or very difficult to coordinate caregiving responsibilities among the various professional and non-professional caregivers, family members, and volunteers who are involved in the care provision of their older adult loved one.

Demographic Summary

- Seventy-six percent of caregiver respondents were providing care to a parent.
- Most caregiver respondents did not live with their care recipients. Forty percent of Care Managers lived with their care recipients compared to 16% of Secondary Caregivers.
- Among caregiver respondents who lived apart from their care recipients, 50% lived at a distance of more than 10 miles away.
- On average, Care Managers lived 110 miles away from the loved ones for whom they were managing care.
- The modal response (67%) for care recipients’ health status or diagnosis was dementia/Alzheimer’s disease or “old age.”
- The majority of care recipients were female (72%) with an average age of 81 years (range = 60-95).
- The average care recipient was receiving care from five caregivers. The majority (80%) of these caregivers were unpaid.
- Care recipients received an average of 66 hours per week of caregiving support from their caregivers.
### Table 1.
**Sample Demographics of Care Managers & Secondary Caregivers**

<table>
<thead>
<tr>
<th></th>
<th>Care Manager (N = 18)</th>
<th>Secondary Caregiver (N = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td>89%</td>
<td>90%</td>
</tr>
<tr>
<td>(% female)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>52 (range = 22-62)</td>
<td>44 (range = 25-60)</td>
</tr>
<tr>
<td>(average yrs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship Status</strong></td>
<td>50%</td>
<td>58%</td>
</tr>
<tr>
<td>(% married)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>89%</td>
<td>90%</td>
</tr>
<tr>
<td>(% white)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>50%*</td>
<td>47%**</td>
</tr>
<tr>
<td>(% &lt; 50K/year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>(% college graduate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Employment</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>100%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>68%&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>(% employed part or full-time)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Paid Working Hours</strong></td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>(average hrs/wk if employed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weekly Caregiving</strong></td>
<td>28</td>
<td>16</td>
</tr>
<tr>
<td>(average hrs/wk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Caregiving Years</strong></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>(average yrs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- *calculations exclude participants who did not respond (n =2).
- **calculations exclude participants who did not respond (n =4).
- <sup>a</sup>employment was defined as any paid employment, part or full-time, *not including* any payment you may receive for providing care to the care recipient(s) designated for this study.
- <sup>b</sup>employment was required for study participation as Care Manager.
- <sup>c</sup>n=13
Part 3: Ways of Coordinating Care

Highlights of Part 3

- Eighty-three percent of Care Managers use some type of calendar or organizer to manage or coordinate caregiving tasks.
- Care Managers used a complex constellation of calendars and organizers to manage caregiving tasks and activities: shared electronic calendars; shared paper calendars/agendas/day planners; and personal electronic calendars. Sixty-seven percent of Care Managers reported using hardcopy systems (i.e., paper).
- All Care Managers reported the use of at least one type of digital or electronic technology to communicate with other caregivers about caregiving tasks. Phone calls and voicemails were used by most Care Managers (83%) followed by email correspondence (56%) and text messaging (50%).

How do caregivers coordinate and communicate with one another about caregiving responsibilities?

Prior to using CareGeneral, Care Managers were asked to describe the method(s) of communication they used to share information with other caregivers or family members about their elder loved ones’ care needs. The majority (94%) of Care Managers described a communication process that involved the use of multiple modalities involving a combination of face-to-face, electronic, and handwritten communication. Email, text messages, and phone conversations were popular strategies for sharing information as well as using a shared desk or wall calendar, posting sticky notes, or using a common notebook/binder to share information or log activities, appointments, and other health data (e.g., daily blood pressure readings). These hardcopy ledgers and calendars typically remained at the care recipient’s home and caregivers reviewed and recorded new information each time they visited. One Care Manager reported that she and her caregiving team started a “private family Facebook” account to communicate caregiving needs and updates about the care recipient. Another Care Manager cited that she used Evernote software to manage and organize caregiving responsibilities.
Many Care Managers described how digital or electronic calendars were adapted for use when their care recipients required more care and thus management of their care became more complicated, requiring a more organized and efficient approach; however, handwritten communications, emails, and phone calls or texts were used in tandem with various shared or personal electronic calendars/organizers (e.g., Google calendar, Outlook, iCalendar).

**Figure 1.**
Care Manager Communication Strategies

<table>
<thead>
<tr>
<th>Communication Strategy</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website or software</td>
<td>11%</td>
</tr>
<tr>
<td>Hardcopy notes/calendars/charts</td>
<td>39%</td>
</tr>
<tr>
<td>Face-to-face</td>
<td>33%</td>
</tr>
<tr>
<td>Email</td>
<td>56%</td>
</tr>
<tr>
<td>Text</td>
<td>50%</td>
</tr>
<tr>
<td>Phone</td>
<td>83%</td>
</tr>
</tbody>
</table>
Part 4: CareGeneral Site Usage

**Highlights of Part 4**

- The vast majority of caregiver respondents (89%) accessed CareGeneral from a personal computer or laptop.
- More caregiver respondents accessed CareGeneral from home (73%) compared to work (24%) or “on the go” via a mobile device (3%).
- On average, users spend 13 minutes per visit to the CareGeneral site.
- Most caregiver respondents used the Task Management System 1-3 days per week.
- Care plan completion rates were high for the majority of care plan categories.
- Some Care Managers utilized Expert Help from a Geriatric Care Manager (33%) uploaded Files (22%), or created Reports (22%).

**How do caregivers visit the site?**

The most commonly used platform/device to access CareGeneral was via web browser on a personal computer or laptop (89%).

**Figure 2.**

Device Platform Use

- Tablet App: 11%
- iPhone App: 14%
- Browser via iPhone: 8%
- Browser via tablet: 11%
- Browser via personal computer or laptop: 89%
When and where do caregivers visit the site?

In terms of location, 73% of caregiver respondents reported that they most often accessed CareGeneral from home. Twenty-four percent reported that they most often accessed CareGeneral from work, and a small percent reported that they accessed the site most often while they were “on the go” utilizing a mobile phone (3%).

How often do caregivers visit the site?

- During the course of the feasibility study the CareGeneral site was visited by all users* 385 times.
- The average visit lasted 13:29 minutes.
- On average, users viewed 14 different pages per visit.
- Fifty-five percent of users returned to the site every day or every other day.

NOTE: *Users include all Care Managers, Secondary Caregivers, and any additional caregivers or family members whom study respondents may have invited to join their CareGeneral account during the course of the study.

What CareGeneral features do caregivers use?

Caregiver respondents were asked a series of questions about the task management system (TMS), including the amount of time they spent using TMS to manage or complete caregiving tasks, events, activities, etc. and if they used TMS to manage specific aspects of care.

Figure 3. illustrates that the majority (81%) of care respondents used TMS 1-3 days per week to manage caregiving responsibilities.
Caregiver respondents were asked to select “yes” or “no” regarding whether or not they used various features of TMS to manage specific aspects of care for their care recipient(s). A majority of caregiver respondents (89%) confirmed that they used TMS for scheduling and managing events, social activities and appointments, followed by 84% confirming that they used the TMS system to post comments to other caregivers or family members about the care recipient’s caregiving needs, health status, etc. Additionally, 65% of caregiver respondents used the calendar view to manage tasks, and 60% confirmed that they used TMS to manage the care recipient’s home care needs (e.g., housekeeping, laundry, pet care, paying bills, etc.). See Figure 4.

**Figure 4.**
Task Management System Feature Usage

- **Calendar View:** 65%
- **Comments/Updates:** 84%
- **Home Care:** 60%
- **Personal Care:** 41%
- **Events, Social Activities, & Appointments:** 89%
- **Medical Monitoring:** 27%
- **Medications:** 24%
Nearly 100% of caregiver respondents entered personal health information about the care recipient into the Care Plan. *Medical conditions* was the category that the largest majority (92%) of caregiver respondents completed. See Figure 5. below for additional information regarding Care Plan completion.

**Figure 5.**

**Care Plan Completion**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Comments</td>
<td>61%</td>
</tr>
<tr>
<td>Preferences</td>
<td>19%</td>
</tr>
<tr>
<td>Special Instructions</td>
<td>47%</td>
</tr>
<tr>
<td>Physical Limitations</td>
<td>42%</td>
</tr>
<tr>
<td>Functional Limitations</td>
<td>39%</td>
</tr>
<tr>
<td>Medications*</td>
<td>83%</td>
</tr>
<tr>
<td>Allergies</td>
<td>53%</td>
</tr>
<tr>
<td>Vitamins &amp; Supplements</td>
<td>44%</td>
</tr>
<tr>
<td>Medical Monitoring</td>
<td>61%</td>
</tr>
<tr>
<td>Medical Conditions</td>
<td>92%</td>
</tr>
<tr>
<td>Facilities</td>
<td>50%</td>
</tr>
</tbody>
</table>

NOTE: *This percentage was not self-reported; the data were drawn from site analytics by care team (n = 18).

Regarding other features of CareGeneral, 54% of caregiver respondents used the *Discussions* feature to communicate with other caregivers about the care recipient or regarding caregiving tasks. Seventy-three percent of caregiver respondents used *CatchUp* to review previous account activity. Some Care Managers (33%) utilized Expert Help to seek advice from a *Certified Geriatric Care Manager*7, and a small minority of all care respondents uploaded *Files* (22%), or created *Reports* (22%) in CareGeneral. Phone interviews suggested that non-use for these features was due to a lack of understanding regarding their purpose or benefit, and in a minority of cases non-use was due to a lack of knowledge on how to create a report or upload a file (e.g., caregiver respondents could not determine the steps required to upload a file). Some caregiver respondents reporting non-use of these features also cited timing as factor. They perceived these features as potentially useful in the future, but they were deemed irrelevant to their needs during the course of the feasibility study.

7 Expert Help was not made available to care teams until the final month of the study, which may have contributed to the fact that a minority of Care Managers utilized this feature.
Part 5: CareGeneral Site Acceptance & Usability

Highlights of Part 5

- A strong majority of caregiver respondents agreed or strongly agreed that CareGeneral was easy to use (92%) and navigate (81%).
- Overall, CareGeneral was easy for caregivers to access from work and home.
- Overall, a strong majority of caregiver respondents (89%) agreed that they enjoyed the overall look and appearance of the website.
- The Calendar feature received the highest average helpfulness rating from caregiver respondents, suggesting caregiver respondents liked this feature most.
- Better medication task management received the highest average potential usefulness rating, suggesting caregiver respondents are most interested in having this function added to CareGeneral compared to other features and functions that were suggested.
- Overall, caregiver respondents are very likely to recommend CareGeneral to other caregivers and family members.

Is CareGeneral easy to use?
Caregiver respondents were asked to report on the intuitiveness, ease of navigability, and ease of access for CareGeneral.

- Ninety-two percent of caregiver respondents agreed or strongly agreed that learning to operate the CareGeneral site was easy for them.
- Eighty-one percent agreed or strongly agreed that they had no trouble navigating the site and finding particular pages.
- Fifty-seven percent agreed or strongly agreed that CareGeneral was easy to access while at work.
- Ninety-five percent agreed or strongly agreed that CareGeneral was easy to access from home.
Is the design and style of the CareGeneral website acceptable?

Caregiver respondents were asked how well they agreed with a series of statements regarding the style and design of CareGeneral, including questions about colors, font style/size, and vocabulary. The majority of respondents agreed or strongly agreed with each statement. Overall, 89% of caregiver respondents agreed or strongly agreed that they enjoyed the overall look and appearance of the website. See Figure 6. below for details.

![Figure 6.](image-url)
Were the major site features of CareGeneral perceived as helpful in assisting caregivers to manage their caregiving responsibilities?

In addition to determining which site features caregiver respondents utilized, they were also asked to rate each feature they used according to its degree of helpfulness in terms of assisting them in managing caregiving responsibilities. Based on a scale of 1-to-5 with 1 assigned as not helpful to 5 assigned as very helpful, the calendar feature received the highest average helpfulness score (4.41) from respondents who used it with 55% scoring this feature as “very helpful” in managing caregiving responsibilities. Three of the eight (38%) current site features were scored by a majority of users to be “very helpful.” See Figure 7. below for details regarding helpfulness ratings for each site feature.

**Figure 7.**
Helpfulness of Site Features

NOTE: *The original categories “slightly helpful” and “somewhat helpful” were collapsed into a single “helpful” category.*
Additional questions measuring the acceptability of the mobile application and Expert Help provided by a Certified Geriatric Care Manager were posed to those caregiver respondents who reported they used or accessed these features.

**Mobile Application**
- Eighty-seven percent of caregiver respondents who used the mobile app agreed or strongly agreed that it was easy to learn and use.
- Fifty-seven percent of caregiver respondents who used the mobile app agreed or strongly agreed that using it was intuitive.

**Expert Help (Geriatric Care Manager)**
- Eighty-three percent of Care Managers who accessed Expert Help from a Geriatric Care Manager agreed or strongly agreed that they were satisfied with the professional help they received.
- Eighty-three percent of Care Managers who accessed Expert Help from a Geriatric Care Manager reported that they agreed or strongly agreed that the Geriatric Care Manager was able to answer their questions about care planning.
- Eighty-three percent of Care Managers who accessed Expert Help from a Geriatric Care Manager reported that they agreed or strongly agreed that having online access to a Geriatric Care Manager helped them to feel more confident about their caregiving.
- Sixty-seven percent of Care Managers who accessed Expert Help from a Geriatric Care Manager reported that they agreed or strongly agreed that the Geriatric Care Manager helped them develop their care plan(s).

**What additional site features or functions would be useful to caregivers?**
Sixty-six percent of caregiver respondents agreed or strongly agreed that CareGeneral had all the functions and capabilities that were expected. However, respondents were also asked to report on the degree of usefulness they believed 13 prospective new features could provide in assisting them to manage their caregiving responsibilities. Rating each feature or function on a scale of 1-to-5 with 1 assigned as not useful to 5 assigned as very useful, **Better Medication Task Management** including the ability to group medications and allow for am/pm/bedtime scheduling received the highest average usefulness score (4.65) from respondents with 76% scoring this feature as potentially “very useful” in helping manage caregiving responsibilities. **Six of the 13 proposed features (46%) were scored by a majority of respondents as “very useful.”** See figure 8. below for additional details regarding the perceived usefulness of the 13 prospective new site features.
Figure 8.
Perceived Usefulness of Prospective Site Features

- Access to a caregiver resource list.
- Ability to edit discussion posts on mobile device.
- Ability to edit tasks on mobile device.
- Ability to view Care Plan on mobile device.
- Ability to filter tasks.
- Online access to an elder law expert or financial expert.
- Online access to a geriatric pharmacologist.
- Data onboarding service.
- Ability to chat with other caregivers.
- Better medication task management.
- Ability to schedule tasks to repeat on different days/times.
- Ability to request volunteers to complete a task.
- Ability to edit/delete comments.

NOTE: *The original categories “slightly useful” and “somewhat useful” were collapsed into a single “useful” category.
Was the site navigation training and/or technical support acceptable?

- Seventy-eight percent of caregiver respondents who visited the “Help” section agreed or strongly agreed that it provided them with sufficient information and answers when they needed assistance with their CareGeneral account.
- Seventy percent of caregiver respondents who sought tech support agreed or strongly agreed that the answers provided helped them understand how to use/navigate the site.
- Seventy-nine percent of caregiver respondents agreed or strongly agreed that they felt confident in their ability to set up their CareGeneral account and navigate the site after watching the introductory videos and/or visiting the “Help” section Q&As.

How likely are caregivers to use CareGeneral to help them manage their caregiving responsibilities?

Overall, caregiver respondents are very likely (62%) to recommend CareGeneral to a friend or family member in need of help related to managing a caregiving plan for a loved one. In terms of their own continued use of CareGeneral, 77% reported that they were likely or very likely to continue using the site to manage their care recipient’s care plan.

A paired samples t-test was conducted to evaluate whether there was a significant difference between care respondents’ likelihood of recommending the tool versus continuing personal use of the tool.

Results show the mean likelihood of recommending the tool ($M = 6.11, SD = 1.63$) is significantly higher than the mean likelihood of continuing personal use of the tool ($M = 5.51, SD = 1.85$), $t(36) = 2.08, p \leq .05$. This difference is not surprising, as interview data suggested that some users did not perceive their caregiving situations warranted the need for a tool like CareGeneral “yet,” however, they did report seeing a need for CareGeneral when their caregiving situations become more critical.

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Figure 9. Likelihood of Recommending CareGeneral to Others

Figure 10. Likelihood of Continued Personal Use

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8 The test of statistical significance does not measure the importance or size of an effect. Thus, a statistically significant difference means the difference was discernable, and was unlikely due to chance (less than 5%).
Part 6: Potential Efficacy

Highlights of Part 5

- Most caregiver respondents agreed that CareGeneral helped to improve their confidence about caregiving.
- The majority of caregiver respondents agreed that CareGeneral helped reduce workplace presenteeism.
- Seventy-nine percent of caregiver respondents agreed or strongly agreed that using CareGeneral made them feel less stress or anxiety about managing the care of their care recipient(s).
- Ninety percent of care respondents agreed or strongly agreed that CareGeneral helped them better coordinate and communicate with other caregivers about care recipient care needs.

Is CareGeneral effective in reducing caregiver burdens?
Caregiver respondents were asked a series of questions regarding CareGeneral’s potential effectiveness in positively impacting various caregiver outcomes related to caregiver burden including anxiety, caregiver confidence, and concentration.

- Seventy-nine percent of caregiver respondents agreed or strongly agreed that using CareGeneral made them feel less stress or anxiety about managing the care of their care recipient(s).
- As a direct consequence of using CareGeneral, 71% agreed or strongly agreed that they experienced more confidence that care recipient care needs were sufficiently being met while they were away.
- Fifty-four percent agreed or strongly agreed that they were better able to concentrate at work, and 45% agreed that they took fewer breaks to “check up” on the care recipient.
- Eighty-nine percent agreed or strongly agreed that they were able to accomplish caregiving/care management tasks more efficiently.
Is CareGeneral effective in helping caregivers improve care coordination and management?

Caregiver respondents were also asked to respond to statements regarding how much they agreed that CareGeneral helped improve care recipient quality of care, care coordination and communication, medication management, and the management of care recipient social activities and healthcare appointments.

- Ninety percent of care respondents agreed or strongly agreed that CareGeneral helped them better coordinate and communicate with other caregivers about care recipient care needs.
- Sixty-nine percent agreed or strongly agreed that CareGeneral helped them better monitor care recipient medication schedules.
- Sixty-nine percent agreed or strongly agreed that CareGeneral helped them better manage care recipient social activities.
- Eighty-eight percent agreed or strongly agreed that CareGeneral helped them better manage care recipient healthcare appointments.
Part 7: Conclusions

The primary goal of this feasibility study was to determine if CareGeneral has potential to help caregivers diminish caregiver burdens including reduced workplace presenteeism or absenteeism, reduced stress and anxiety related to caregiving, and improved self-efficacy and efficiency in terms of caregiving management and coordination. The results of this study suggest that CareGeneral holds promise for helping both family and professional caregivers manage caregiving responsibilities, which may lead to improved caregiver and care recipient outcomes.

One of the major strengths of CareGeneral is its multi-component approach to meeting caregiver needs. Previous research demonstrates that the most successful caregiver support interventions are those which are adaptive, providing a tailored approach so that a wider variety of caregiver concerns are addressed. As well, caregivers are looking for new technologies to help them manage their caregiving responsibilities. Specifically, caregivers want technologies that help them track personal health information, coordinate care, and manage symptoms and medication schedules. CareGeneral is an integrative system that was specifically designed to provide an adaptive approach to helping caregivers achieve these goals. The results of this feasibility study indicate that this innovative tool has the capacity to not only help caregivers manage caregiving more effectively and efficiently, but also provide them with a heightened sense of confidence regarding their caregiving skills. In addition, due to the multiple features and resources available to CareGeneral users (e.g., Certified Geriatric Care Managers; Discussions page), this tool also addresses a caregiver’s need for the exchange and reception of advice and support. Finally, CareGeneral can be used in a variety of ways to meet caregiver needs. For example, users can use the task management system to create a structured approach to assigning or managing caregiving tasks, or they may utilize the discussions page to maintain a less structured system for requests of caregiving support and assistance. Users can also access CareGeneral from a computer, smartphone or tablet. Providing caregivers with different modalities and platforms for approaching a similar caregiving problem or concern is precisely the direction needed for caregiving interventions. Although further research is needed to confirm clinical outcomes, CareGeneral shows great promise for achieving many goals relating to care delivery, care recipient outcomes, and reducing family caregiver burdens.

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