

***My Health Companion*©: A Low-Tech Personal Health Record Can Be an Essential Tool for Maintaining Health**

Clarann Weinert, SC, PhD, RN, FAAN ¹
Shirley Cudney, MA, RN ²

¹ Professor Emerita, Montana State University, College of Nursing, cweinert@montana.edu

² Associate Professor (Retired), Montana State University, College of Nursing, scudney@montana.edu

Abstract

Objective: To report the initial evaluation of a personal health record (My Health Companion© (MHC©) developed to help individuals track, maintain, and appropriately communicate health information.

Design and Sample: Data were examined from three rural independent studies in which MHC© was used: Women to Women (N = 94); Enhancing Self Care (N=41); and Health Enhancement for Rural Elderly (N=33).

Measurements: Tools were the Perceived Self-Efficacy in Interacting with Healthcare Providers (PEPPI) scale and research team-generated questions related to the level of use, helpfulness in health maintenance activities, suggestions for improvement, and whether or not the MHC© would be recommended to others.

Results: The PEPPI scores indicated that use of the MHC© contributed to enhanced perceived self-efficacy and answers to questions suggested the MHC© was helpful in promoting health maintenance activities and would be recommended to others. Valuable suggestions for improvement were offered by the participants. The ratings of level of use of the MHC© were relatively low.

Conclusions: By documenting key health information in a relatively simple, organized fashion, individuals can collect, track, and share health information that will promote prevention or early identification of health problems and foster productive partnerships with their healthcare providers.

Keywords: Personal Health Record, Self-care Management, Chronic Illness, Client/provider Relationships, Rural

***My Health Companion*©: A Low-Tech Personal Health Record Can Be an Essential Tool for Maintaining Health**

Individuals can take a more active role in the management their healthcare by using personal health records (PHR), a type of documentation which allows them to access and coordinate personal health information and share it with those who need it (Moreno, Peterson, Bagchi, & Ursin, 2007). The potential impact on one's healthcare of using a PHR is reflected in the following statement of one rural woman's experience:

The [personal health record] was really a great help to me this week. I had an appointment with my medical doctor on Monday....I had my book with medications and all in it and added the test results from this visit. For the first time I had my questions ready and noted

all we discussed. I felt so empowered to be organized and prepared for once.... I love this new feeling of gaining control (Weinert, Cudney, & Kinion, 2010).

This explicit description is an example of how one rural woman used a PHR and took an active role in monitoring her health and healthcare. By sharing this record, she gave her healthcare providers a valuable insight into her personal health story and became a partner in care with her provider. This partnership is essential for individuals to receive the most effective, efficient care possible (Holman & Lorig, 2000). An important task is for the individual to assume the responsibility for keeping the PHR accurate and complete (American Health Information Management Association, 2005).

The sense of empowerment the woman felt could be attributed to her acceptance of responsibility for managing her own condition and ability to solve her own problems with information, but not orders, from her healthcare provider. Empowerment implies that the choices made in everyday living with chronic illness are informed ones, grounded in the individual's emotions, thoughts, values, goals, and other psychosocial aspects of living with a chronic condition (Funnell et al., 1991). In doing so, chronically ill individuals become experts about their own lives (Bodenheimer, Lorig, Holman, & Grumbach, 2002). Thus, personal health records combine knowledge and data which help individuals to become active participants in their own care (Tang, Ash, Bates, Overhage, & Sands, 2006).

Among the benefits of PHRs were the ability to track clients' health conditions in conjunction with their healthcare providers, and lowered communication barriers between individuals and care providers (Tang et al., 2006). The latter is a plus because the role of the healthcare provider becomes that of a teacher and partner, and the role of the individual evolves into that of a reporter of the trends and tempo of his/her health (Lorig & Holman, 2000).

A PHR includes health information managed by the individual as opposed to the clinician's record of patient encounter-related information, such as a paper chart or a computer-based patient record. Although there are not good data currently available that quantify the current use of PHR systems, Tang and colleagues (2006) believed that the majority of consumers using a PHR today use one that is integrated with the provider's electronic health record in some way.

Over time, the ultimate goal is an electronic environment in which an individual's health information can flow seamlessly among systems used by authorized health professionals and the individual, when s/he authorizes such sharing (Tang et al., 2006). Until that time, low-tech approaches to maintaining and utilizing a PHR can play an important role in maximizing the communication between individuals and health care providers.

This maximum communication is of particular importance in rural areas because accessing quality health care is impacted by scarcity of providers, limited dissemination and application of up-to-date health care information, long distances, and dangerous travel conditions. Leaving home to keep a healthcare provider appointment often involves much advance planning to cover farm or ranch responsibilities such as animal care, meal preparation for workers, etc. It is important that such an effort is not wasted by an unproductive office visit such as was reported by this rural woman:

The doctor was running behind schedule...My appointment was at 10 a.m. and I saw him at 11:30...But then the doctor (who was seeing me for the first time) was in a hurry to get through my visit. So 10 minutes later I was going out the door (Weinert, Whitney, Hill, & Cudney, 2005).

Development of *My Health Companion*[®]

Recognizing the merits of PHRs and in response to the frustrations related to non-productive relationships with the health care system and providers, expressed by participants in our program of rural research, a low-tech, paper/pencil personal health record, *My Health Companion*[®] was developed. The development tasks, as described in detail in an earlier article (Weinert, Cudney, & Kinion, 2010) were: defining the content, establishing an appropriate reading level for the *MHC*[®], and planning participant orientation to the *MHC*[®]. The resulting *MHC*[®] was used in three rural research studies during which we gathered data on its use and utility.

Purpose

The purpose of this paper is to report the results of the initial evaluation of the *My Health Companion*[®] (*MHC*[®]) as evaluated in a rural environment. The questions to be answered were: How much was the *MHC*[®] used? Did it enhance confidence in communication with healthcare providers? Was the use of the *MHC*[®] helpful in achieving health maintenance activities? Would the *MHC*[®] be recommended for use by others?

Methods

Evaluation data were gathered from three different rural research studies that utilized three separate populations: Women to Women (WTW) Project; Enhancing Self Care (ESC); and Health Enhancement for Rural Elderly (HERE). All three studies were approved by the University Institutional Review Board for the Protection of Human Subjects.

Women to Women Project

Goal. The goal of the Women to Women (WTW) project was to use telecommunication technology to provide information and mutual support to middle-aged rural women living with chronic illness. It was expected that their adaptation to chronic illness would be enhanced.

Sample. Participants were rural women with a chronic health condition; 93.2 % were Caucasian; and 82.2 % were married. The mean age was 56.2 years with an average education of 14.7 years and a modal income of \$35,000 to \$44,999. They resided in rural areas of: Montana, North Dakota, South Dakota, Wyoming, Washington, Oregon, Nebraska, Idaho, and Iowa. Forty-six lived on farms or ranches, 22 lived in rural areas but not on a farm/ranch, and the remaining 50 lived in small rural towns of less than 12,500 population.

Design. The basic design was to randomly assign participants to either an eleven week computer intervention that provided a virtual support group and health information or to a control group. Intervention participants completed online health teaching units and exchanged messages of support and information in asynchronous online forums. These private discussion groups gave the women the opportunity to freely voice their experiences, concerns, and frustrations related to living with chronic illness in relatively isolated situations (Weinert, Whitney, Hill, & Cudney, 2006). Based on these comments, the *My Health Companion*[®] was developed, placed in a 3-ring binder, and mailed out for use by the participants in the most recent phase of the project (Weinert et al., 2010).

Evaluation. The intervention group (n = 118) had the use of the *MHC*[®] for six months. Ninety-four (n = 94) provided evaluation information at the end of the intervention (11 weeks) and three months after the completion of the intervention (24 weeks).

Enhancing Self Care Study

Goal. The Enhancing Self Care (ESC) study was designed to reach a group of women who had previously participated in WTW, prior to the development of the *MHC*[®]. The aims were to: a) assess the health promotion, risk behaviors, and psychosocial health of rural farm/ranch women and b) assess the long-term efficacy of the Women to Women intervention, and c) evaluate the *MHC*[®].

Sample. The 63 women had a mean age of 59.3 years, with 14.7 years of education; 93.7% were Caucasian, with 71.4% married, and a modal income of between \$25,000 and \$34,999. Participants resided in Idaho, Montana, North Dakota, South Dakota, and Wyoming with 36.5% living in small towns, 33.3% on farms/ranches, and 22.2% in rural areas.

Design and evaluation. Participants completed an initial mail survey and were sent the *MHC*[®] to use for one year—there was no computer component in this study. At the conclusion of the year, forty one (n = 41) of the participants evaluated its usefulness in managing their health conditions in a second mail survey.

Health Enhancement for Rural Elders

Goal. The Health Enhancement for Rural Elders (HERE) project was conducted to encourage personal responsibility for overall self-care management by older rural residents. This series of workshops based in four rural senior centers was launched with the goal of improving the health literacy, health care decision making, and self-care management of rural seniors.

Sample. A total of 54 participants (women 81% and men 19%) had a mean age of 72.5 and average education of 13.6 years, were primarily Caucasian (98.5%), with a modal annual income of over \$35,000. Thirty nine (57.4%) were married, 28 (38.2%) were widowed, and most 48 (70.6%) lived in small rural towns in eastern Montana.

Design and evaluation. Individuals participating in the HERE project were recruited to use the *MHC*[®] and completed an initial mail survey. They were sent the *MHC*[®] to use for six months, and 33 responded to a second survey drafted to evaluate the value of the personal health record.

Measures

To assess the effectiveness of the *MHC*[®], both quantitative and qualitative data were gathered. Quantitative data were in the form of responses to open-ended questions and comment sections in the written questionnaires, as well as unsolicited references to the *MHC*[®] in 22 messages exchanged among the women in the WTW online support groups. Questions using Likert-like scales constituted the quantitative data. It should be noted that each of the three studies were multifaceted and not solely focused on the evaluation of the *MHC*[®].

Women to Women Project Measures

Four questions were developed and administered at the end of the 11-week intervention to address the usefulness of the *MHC*[®] in managing chronic illness, preparing for visits with healthcare providers, strengthening relationship/partnership with providers, and organizing and tracking personal health information. Each was rated on a scale of 1 *Not Useful at All* to 6 *Extremely Useful*.

After the women had the *MHC*[®] for six months, a more in-depth evaluation was included in the 24-week questionnaire that included the Perceived Efficacy in Patient-Physician Interactions

Questionnaire (PEPPI) (Maly, Frank, Marshall, DiMatteo, & Reuben, 2003) and 11 investigator developed items. The 10 item PEPPI is a measure of clients' confidence in their ability to communicate with physicians, e.g., "How confident are you in your ability to get doctors to pay attention to what you have to say?", "To make the most of your visits with your doctors?, etc." The items were scaled from 1 *Not At All Confident* to 5 *Very Confident*. Internal reliability coefficient for the PEPPI was .91.

A set of 11 questions was developed which focused on the helpfulness of the *MHC*[®] in achieving health maintenance activities. The stem was, "Please rate the helpfulness of *My Health Companion*[®] in achieving the following activities that relate to maintaining your health," using a scale of 1 *Not Helpful* to 5 *Very Helpful*. Examples of health maintenance activities assessed were: tracking health care visits, engaging in preventive care, tracking laboratory tests and medications, and preparing for health care visits.

In addition, the question, "In terms of my health, *My Health Companion*[®] has been" 0 *Not Helpful* to 10 *Very Helpful*, was asked along with an opportunity to provide written comments. Also included was the open-ended question: "We are interested in knowing how women are using *MHC*[®] and what suggestions you have for using the booklet." Additional qualitative data were gleaned from unsolicited computer online forum messages posted throughout the intervention period. These messages were examined to determine perspectives on the role of the *MHC*[®] in the maintenance of health and client/healthcare provider partnerships.

Enhancing Self Care Measures

After a year of using the *MHC*[®], the women in the ESC study evaluated it using the 11 helpfulness questions, the PEPPI, the 4 usefulness questions, and the suggestions for use and adaptation question. Additional questions were: "Overall, how much did you use the *My Health Companion*[®] over the past year? scored on a scale of 1 *Never Used It at All* to 6 *Used It a Lot*, and "Would you recommend the *MHC*[®] to others?" using a scale of 1 *Would Not Recommend* to 6 *Would Definitely Recommend*.

Health Enhancement for Rural Elders Measures

Participants had the *MHC*[®] for six months. They completed an evaluative survey containing all of the questions that were described above for the ESC project.

For each of the three studies, the *MHC*[®] evaluation questions were included within the overall study assessment. The evaluation of the *MHC*[®] evolved over time and not all questions were identical across the three studies, (see Table 1.)

Results

Overall Use and Helpfulness of the *My Health Companion*[®]

Of the 118 participants in the Women to Women project, 93 (71%) reported that they used the *MHC*[®] over the six-month trial period. Of those who used the *MHC*[®], the overall rating for helpfulness was 7.10 on a scale of 1 to 10. Of those who did not use the *MHC*[®], 10 gave their reasons: 5 already had a system of their own; 3 rarely visited a doctor; 1 forgot to use it; and 1 reported her care provider was not interested. The overall helpfulness was not rated in the ESC or HERE studies

Table 1*Instruments / Questions Used for MHC[®] Evaluation with Scoring Ranges*

Evaluation Measures	Number of items	Score Range	WTW 6 months	ESC 12 months	HERE 6 Months
Level of Use	1	1-5		X	X
Helpfulness	1	0-10	X		
PEPPI	10		X 1-5	X 1-4	X 1-4
Helpfulness in Health Maintenance	11	1-5	X	X	X
Usefulness	4	1-6	X	X	X
Would Recommend	1	1-6		X	X
Suggestions	1		X	X	X
Computer Postings			X		

Evaluation measures = team-generated questions; PEPPI = Perceived Efficacy in Patient-Physician Interactions questionnaire; Computer Postings = unsolicited comments made related to MHC[®] in computer support group; Months = time point for data collection.

In the ESC, 41 of 63 participants (65%) reported using the MHC[®] over the one-year trial. The mean rating by those who used the MHC[®] for the question, “Overall, how much did you use the *My Health Companion*[®] over the past year?” was 2.46 on a scale of 1 to 5.

Of the 54 participants in the HERE project, 33 (61%) reported using the MHC[®]. Those who used had a mean rating for amount of overall use of 2.15.

Perceived Self-Efficacy in Interacting with Healthcare Providers (PEPPI)

The participants’ confidence in their ability to understand information from, and communicate information to their healthcare providers was measured by the PEPPI – a higher score indicated higher confidence. In the WTW project, the PEPPI was administered at baseline to both the intervention and the control groups. The baseline scores for the 94 users of the MHC[®] was 39.39 (SD = 7.22). The control group’s baseline score was 37.69 (SD = 8.71). After six months, the intervention groups’ confidence score increased significantly ($p = .005$) to 41.40 (SD = 5.96). The score of the control group increased to 38.71 (SD = 8.45), but was not significant.

A modified PEPPI, with a 1 to 4 scoring range, was used in the ESC study. The group was divided into those who used the MHC[®] ($n = 41$) and those who did not ($n = 14$). Initially, their scores were not significantly different. The scores for those who used the MHC[®] increased ($p = .096$) from 33.56 (SD = 6.88) to 34.71 (SD = 5.61) and the scores for those who did not use increased ($p = .475$) from 32.14 (SD = 7.02) to 33.14 (SD = 7.26).

The modified PEPPI was used in the HERE project. Of the 68 people who began the study 54 (79.4%) returned the second questionnaire which contained the MHC[®] evaluation. Scores were divided into those who reported that they used the MHC[®] ($n = 33$) and those who did not ($n = 21$) and were not significantly different initially. The scores for users increased nearly significantly ($p = .074$) from 33.00 (SD = 5.24) to 34.42 (SD = 4.86), and the scores for those who did not use increased ($p = .719$) from 35.00 (SD = 5.36) to 35.48 (SD = 4.18).

Helpfulness in Health Maintenance Activities

The WTW data for the 11 questions related to health maintenance activities which may have been influenced by the use of the MHC[®] were examined. The highest, on a scale of 1-5, were: *tracking laboratory tests* (4.22), *having contact information for your health care provider*

(4.12), *preparing questions for health care provider visits* (4.11) and *reporting symptoms* (4.11). When the 11 questions were summed, the overall mean score for those who used the *MHC*[®] was 41.63 (SD = 10.50).

In the ESC study, the health maintenance activities questions were administered at baseline and in the follow-up questionnaire a year later. The three highest were: *engaging in preventive care* (4.76), *reporting symptoms* (4.63), and *preparing questions for health care provider visits* (4.63). At baseline, the mean score for the 11-item total scale for the user group was 48.20 (SD = 6.80), and for the non-user group it was 48.57 (SD = 5.85). The user group scores increased significantly ($p = .053$) to 49.95 (SD = 4.98) at the one year evaluation. The non-user group scores decreased to 46.57 (SD = 7.23).

The same approach was taken with the HERE study. The highest scores were: *reporting symptoms* (4.76), *keeping track of health visits* (4.64), and *knowing family history* (4.58). At baseline, the mean score on the 11-item total scale for the user group was 43.94, and for the non-user group, it was 44.24. After six months, the total scale scores for those who used the *MHC*[®] increased significantly ($p = .000$) to 48.67. For those who did not use the *MHC*[®], the scores also significantly increased ($p = .001$) to 50.24 (SD = 4.52). The rankings given for the relative importance of health maintenance activities by participants in each study (WTW, ESC, and HERE) are shown in Table 2.

In all three studies, four questions were asked to determine the utility of the *MHC*[®]. For WTW, this assessment was made after only three months of exposure to the *MHC*[®], while for the other two studies, this assessment was made following the full use time period. The mean responses on a six-point scale for those who used the *MHC*[®] are listed on Table 3.

Table 2

Ranks (1, 2, or 3) of Importance of Health Maintenance Activities

How important to maintaining / enhancing your health is:	WTW	ESC	HERE
Engaging in preventive care		1	
Reporting symptoms	3	2	1
Preparing questions for visit	3	3	
Tracking laboratory tests	1		
Knowing family history			3
Having contact information for healthcare providers	2		
Keeping track of health visits			2

1 (best) to 3 (least)

Response to Recommendation Question

Participants in the ESC and HERE projects were asked, using a six-point scale, whether they would recommend the *MHC*[®] to others. Data from only those who used the *MHC*[®] were analyzed. The ESC women had a mean of 4.88; the HERE participants had a mean score of 4.48

Responses to Open-Ended Questions

The responses to the open-ended questions added meaningful insights. Suggestions made in response to the question, “Do you have changes that you would like to see in the *MHC*[®]?” included a suggestion each from six individuals: (a) addition of a client summary of an annual history of health issues; (b) format changes, e.g., make smaller, add personal sheets; (c) provide convenience items, e.g., envelope for smaller papers, plastic covers for preserving important papers; (d) break down large categories such as hospitalizations into “drs.,” “labs,” “summary of

last hospital stay”; (e) color code the various segments of the record; and (f) add page for home health care.

Table 3

Score and Standard Deviation (SD) of Usefulness of MHC© by Project

How useful was <i>MHC©</i> in:	WTW (N = 93)	ESC (N = 41)	HERE (N = 33)
Managing chronic illness	4.97 (1.15)	3.80 (1.29)	3.06 (.966)
Preparing for visits with HCP	5.12 (1.07)	3.98 (1.21)	3.48 (1.03)
Strengthening partnership with HCP	4.85 (1.13)	3.49 (1.50)	3.06 (1.25)
Organizing and tracking health information	5.34 (.994)	4.37 (1.26)	4.24 (1.23)

HCP = Health Care Provider, Scores range from 1 lowest to 6 highest

The value of having all health information in one place was emphasized in the comments as was its acceptance by healthcare providers as an asset in managing treatment. Participants cited the *MHC©*'s helpfulness: (a) in organizing and tracking health information; (b) as a log for recording symptoms; (c) in formulating questions to ask their healthcare provider; (d) as a resource for care provider visits; and (e) in focusing on their personal health needs rather than on those of others.

Comments from Online Messages

Perspectives on the utility of the *MHC©* were also seen in the WTW online conversations. Women posted 22 unsolicited messages that reflected their views of the *MHC©* and often validated the questionnaire data. Eight mentioned that they were becoming better organized:

...the Health Companion, it's going to help me be more organized too. I learned the hard way many years ago to keep my own records, but this will help me organize them better.

A similar number commented on the *MHC©* as a means of improving communication with their health care providers:

Just wanted you to know I have been to two doctors (one a heart specialist) and into two hospitals and they were so impressed with my Health Companion. It is a great asset for doctors and hospitals. Thanks.

Three cited its value in keeping family informed:

Not only will this all help me, it will help my family if I can't take care of myself. We just have to let those around us know where we are keeping the notebook and we need to keep our information updated.

Discussion

In an effort to determine the efficacy of the *MHC©* as an aid in helping three populations of rural individuals become more active partners with their healthcare providers in managing their illnesses, various factors were examined. These included level of use: confidence in their ability to communicate information to their healthcare providers; their view of the importance of health maintenance activities and the impact of using the *MHC©* on these activities; and their perspectives on how the *MHC©* helped them to manage their health and relate to their providers.

Level of Use

Overall, the *MHC*[®] was seen as very helpful by those in the WTW study, but the ratings for level of overall use were relatively low in the ESC and HERE projects. On the surface, this result could seem contradictory. However, it would be helpful in future studies to compare this result with the number of healthcare provider contacts they had during the tenure of the study. A low number of visits could possibly translate into fewer occasions to use the *MHC*[®]. Should this not be the case, perhaps a closer partnership with and encouragement from one's healthcare provider and involvement of family would be strategies for enhancing maximal utilization of personal health records.

Confidence in Communicating with Health Care Providers

To make the most of their healthcare provider relationships and obtain the necessary information required to maximize their ability to self-manage their illnesses effectively, individuals need a high sense of perceived self-efficacy regarding their ability to do so. Therefore, the higher they scored on the Perceived Efficacy in Patient-Physician Interactions Questionnaire (PEPPI), the higher their perceived efficacy in their partnership with their care provider. The mean PEPPI score achieved by the rural women in WTW after using the *MHC*[®] compared favorably with a group of individuals with peripheral arterial disease (McDermott et al., 2009). In another study, it was found that women with higher PEPPI scores were able to benefit more from educational discussions about breast cancer than those with lower scores (Thind & Maly, 2006). Also of interest was the fact that in all three studies reported here, those who used the *MHC*[®] increased their PEPPI scores more than those who did not. Based on the PEPPI data, it was suggested that use of the *MHC*[®] contributed to enhanced participant perceived self-efficacy in making the most of their healthcare provider visits. The following comment from one of the women illustrates this capability:

I still am soooo thrilled about this Health Companion! With my short-term memory lapses it comes in handy or when I have troubles finding my words etc., I can just open it up and show it to the doctor. Also with all the new people I am seeing now (Urologist, PT), I have been just taking the med list out and having the secretary copy it so that I do not have to write it down on the sheet they give me.

Inherent in this statement is the sense of empowerment that was expressed by another woman earlier in this report. The use of personal health records can empower individuals by helping them become more engaged in their health care through shared information and decision making with their health care providers. The personal health record has the potential to transform the client-health care provider relationship by empowering the individual to play a more central role (Ball, Smith, & Bakalar, 2007).

Importance in Achieving Health Maintenance Activities

The responses to the questions related to health maintenance activities that were posed in all three studies (Table 2) gave rise to a number of speculations. These are grouped by study.

Enhancing self care. In the Enhancing Self Care study, prior to and following the year of *MHC*[®] use, the top three health maintenance activities as ranked in importance by the participants were *engaging in preventive care*, *reporting symptoms*, and *preparing questions for healthcare visits*. In ranking the engagement in preventive care as the most important factor in

maintaining and enhancing one's health, the ESC group's ranking was consistent with Walsh and McPhee's (1992) notion that preventive health behaviors are influenced by the value placed on health by individuals. Overall, maintaining and enhancing one's health was given high priority by the ESC group both before and following the use of the *MHC*[®]. From these results, it can be concluded that the participants came into the study with a high appreciation for the importance of health maintenance activities that was further enhanced by using the *MHC*[®]. As one woman put it, "It [*MHC*[®]] is helpful to remind me I can make a difference and I am in charge of my health." The low ranking given to building a personal support system was surprising, as this view is contrary to the voluminous psychosocial literature that touts the importance of social support as a key indicator of successful psychosocial adaptation to chronic illness (Weinert, Cudney, & Spring, 2008). One conjecture might be that, as is commonly seen in rural populations, participants may already have developed a support system of family, friends and neighbors (Shenk, 1991) and thus put a lower priority on building new networks.

Health enhancement for rural elderly. The HERE study responses were consistent with those in the other two studies in rating of *reporting symptoms* in their top three health maintenance activities, but unique in their other top two choices--*keeping track of health visits* and *knowing family history*. As they were an older age group, it is possible that changes in short-term memory common in the elderly and appreciation for days gone by may have influenced their choices.

Women to women. For the WTW group, the focus was not on their view of how important each activity was in the maintenance of their health, but upon the helpfulness of *MHC*[®] in the achievement of the health maintenance activities. In the rankings of each activity, the three most helped by the *MHC*[®] were *keeping track of healthcare visits*; *tracking lab tests*, and *knowing and having contact information for healthcare providers*. Given the focus on the *utility* of the *MHC*[®], these choices could be seen as practical and reasonable in day-to-day encounters with the healthcare system. The relatively high overall mean of the ratings of the 11 activities taken together could indicate that the WTW group considered the *MHC*[®] to be very helpful in assisting them to achieve health maintenance/enhancement activities.

Usefulness of the *MHC*[®]

Participants in the three studies contributed responses to the question, "How useful was the *MHC*[®] in managing chronic illness, preparing for healthcare provider visits, strengthening the partnership with healthcare providers, and organizing and tracking health information." The ratings (Table 3) from the WTW participants were notably higher than the responses from the ESC and HERE groups. This may be attributed to the fact that the WTW participants had participated in a health teaching unit focused on the *MHC*[®], as well as having the opportunity to discuss its use and advantages in the online forum.

It is of interest to note that, despite the differences in the *ratings*, the *ranking* of the usefulness of the four activities was nearly identical for all of the groups. The more specific tasks of *organizing and tracking health information* and *preparing for healthcare provider visits* were ranked first and second while the broader implications of using the *MHC*[®], i.e., *managing chronic illness* and *strengthening partnership with healthcare provider*, were ranked third and fourth. However, the serviceability of the *MHC*[®] as a tool that can be used to help maintain and enhance health was supported by the ratings. Further support for the utility of the *MHC*[®] was seen in the women's personal descriptions of their experiences in its use. The following is an

example of how the *MHC*[®] helped one rural woman strengthen her partnership with her healthcare provider:

These specific forms really do come in handy....shoot, I have trouble sometimes remembering my meds, that is, to [set] in front of a Dr. and spew them out...dah, my mind just flies out the window...but taking this [*MHC*[®]] with me and perhaps making a copy of specific portions to give them, then dating the sheet(s) when given out would be wonderful for both parties.

Participants' Recommendations

Participants who were asked whether they would recommend the *MHC*[®] to others responded positively, and those invited to offer suggestions for changes offered solid suggestions in the areas of content, format, and presentation. They emphasized the utility of the *MHC*[®] as a tool for keeping track of health information and enhancing their shared responsibility for their health with that of their health care providers.

Limitations and Future Directions

We acknowledge both caveats and strengths. The data came from three different studies, but the sole intent of these studies was not on the evaluation of the *MHC*[®]. Each was designed to achieve multiple aims in a rural setting, only one of which was an evaluation of the *MHC*[®]-- which we considered to be important since the personal health record was a new product. Further, larger scale focused studies to evaluate the *MHC*[®] and the protocol for its use, as well as key factors that may influence the use and efficacy of the *MHC*[®] are clearly needed. The three studies were conducted at different time periods and thus the evaluation questions evolved and were worded or focused slightly differently. Also, only the ESC participants had an entire year to use the *MHC*[®]. Likewise, all three studies had relatively small sample sizes. Never-the-less, the research team considered the database, from the combined studies, to be rich enough to merit exploration and reporting. Further use and evaluation of the *MHC*[®] would provide additional essential information that could contribute to determining the *MHC*[®]'s efficacy.

Conclusion

Our intent was to report the effectiveness of the *My Health Companion*[®] in helping rural individuals track health information as a means of improving communication with their health care providers, and ultimately, assist them to become active partners in their health care. Despite the limitations, it is clear that the health literacy of those who used the personal health record was enhanced as demonstrated in their ability to better self-manage and work with health care providers. It is becoming increasingly clear that assisting individuals in the tracking of their health information is critical. The overall health efficacy of "tracking" behaviors and information has long been demonstrated in programs such as Weight Watchers. While the *MHC*[®] is not the only personal health record available, this beginning evaluation demonstrated that our low-tech personal health record can be an essential tool for maintaining health.

The *MHC*[®] contributed to the participants' perceived self-efficacy in becoming active partners in their health care and was a tool that could be used to help them in the maintenance and enhancement of their health, even in a resource-limited rural environment. Although more sophisticated e-health records are on the horizon (Tang et al., 2006), for the present, this low-tech, paper/pencil personal health record has been shown to be effective. By documenting key health information in a relatively simple, organized fashion, individuals can track and share with their healthcare providers information about their health that will promote prevention or early

identification of health problems. It behooves healthcare providers to assist clients in their efforts to monitor personal health information by being proactive in showing individuals how to initiate, maintain, and use a personal health record such as the *MHC*[®].

Acknowledgement

Women to Women Project, Phase III: NIH/NINR (2R01NR007908-04A1); Enhancing Self Care: NIH/NINR (2 R01 NR007908-04A1) and SC Ministry Foundation; Health Enhancement for Rural Elders: USDA2008-03860. Acknowledgement: Elizabeth Kinion, EdD, RN, APN-BC, FAAN

References

- American Health Information Management Association e-Health Information Management Personal Health Record Work Group. (2005). The role of the personal health record in the EHR. *Journal of American Health Information Association*, 76(7), 64A-D. [[MEDLINE](#)]
- Ball, M., Smith, C. & Bakalar, R. (2007). Personal health records: Empowering consumers. *Journal of Healthcare Information Management*, 21(1), 76-86. [[MEDLINE](#)]
- Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. *The Journal of the American Medical Association*, 288(19), 2469-2475. [[MEDLINE](#)]
- Funnell, M., Anderson, R., Arnold, M., Barr, P., Donnelly, M., Johnson, P., & White, N. (1991). Empowerment: An idea whose time has come in diabetes education. *The Diabetes Educator*, 17, 37-41. [[MEDLINE](#)]
- Holman, H., & Lorig, K. (2000). Patients as partners in managing chronic disease. Partnership is a prerequisite for effective and efficient health care. *British Medical Journal*, 320(7234), 526-527. [[MEDLINE](#)]
- Lorig, K., & Holman, H. (2000). *Self-management education: Context, definition, and outcomes and mechanisms*. Palo Alto, CA: Stanford University.
- Maly, R., Frank, J., Marshall, G., DiMatteo, M., & Reuben, D. (2003). Perceived efficacy in Patient-Physician Interactions Questionnaire. In B. Redman (Ed.), *Measurement tools in patient education* (2nd ed., pp. 53-55). New York: Springer.
- McDermott, M., Mazor, K., Reed, G., Pagoto, S., Graff, R., Merriam, P., & Ockene, I. (2010). Attitudes and behavior of peripheral arterial disease patients toward influencing their physician's prescription of cholesterol-lowering medication. *Vascular Medicine*, 15(2), 83-90. [[MEDLINE](#)]
- Moreno, L., Peterson, S., Bagchi, A., & Ursin, R. (2007). Personal health records: What do underserved consumers want? Retrieved from <http://www.mathematica-mpr.com/publications/PDFs/phrissuebr.pdf>
- Shenk, D. (1991). Older rural women as recipients and providers of social support. *Journal of Aging Studies*, 5(4), 347-358
- Tang, P., Ash, J., Bates, D., Overhage, J., & Sands, D. (2006). Personal health records: Definitions, benefits, and strategies for overcoming barriers to adoption. *Journal of the American Medical Informatics Association*, 13(2), 121-126. [[MEDLINE](#)]
- Thind, A., & Maly, R. (2006). The surgeon-patient interaction in older women with breast cancer: What are the determinants of a helpful discussion? *Annals of Surgical Oncology*, 13(6), 788-793. [[MEDLINE](#)]

- Walsh, J., & McPhee, S. (1992). A systems model of clinical preventive care: An analysis of factors influencing patient and physician. *Health Education and Behavior, 19*, 157-175. [\[MEDLINE\]](#)
- Weinert, C., Cudney, S., & Kinion, E. (2010). Development of My Health Companion© to enhance self-care management of chronic health conditions in rural dwellers. *Public Health Nursing 27*(3), 263-269. [\[MEDLINE\]](#)
- Weinert, C., Cudney, S., & Spring, A. (2008). Evolution of a conceptual model for adaptation to chronic illness. *Journal of Nursing Scholarship, 45*(4), 364-372. [\[MEDLINE\]](#)
- Weinert, C., Whitney, A., Hill, W., & Cudney, S. (2006). Chronically ill women's views of health care. *Online Journal of Rural Nursing and Health Care, 5*(2).