

The Relationship between Health Literacy and Health Status Among Participants in a Congestive Heart Failure Disease Management Program

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Background

- As part of an agreement between AARP[®] Services, Inc. and UnitedHealth Group, several health improvement initiatives for those with chronic diseases were started in 2008.
- These programs attempt to address a wide range of needs for those with an AARP Medicare Supplement Insurance (i.e. Medigap) plan provided by UnitedHealthcare.
- These programs are designed to improve health outcomes and are currently being piloted in five selected markets and are provided at no additional cost to those who are eligible.
- These markets include parts of New York, Ohio, California, Florida, and North Carolina.
- One such program, the Heart Failure disease management pilot program (Heart Failure Program) was designed to help insureds with congestive heart failure manage their health.
- For such programs to be effective, it is important to understand the health literacy of the sample population, as low health literacy is correlated with poor self-management of chronic diseases such as heart failure. (1)

Objective

- This study had three key objectives:
 - To better understand the relationship between self-reported health literacy and health status. To achieve this, we estimated the relationship between one correlate of health literacy (confidence in filling out medical forms) and current health status using a self-reported survey (see Figure 1).
 - To evaluate member satisfaction with the Heart Failure Program. The survey also assessed the members' satisfaction with the Heart Failure Program, and perceptions of how the Heart Failure Program helped them manage their health.
 - To estimate relationships between health literacy, health status, and satisfaction with the Heart Failure Program.

Sample Studied

- About 2.9 million people are covered by an AARP Medicare Supplement Insurance (i.e. Medigap) plan insured by UnitedHealthcare (for New York residents, UnitedHealthcare Insurance Company of New York).
- These plans are offered in all 50 states, Washington DC, and various US territories.
- The sample utilized in this study consisted of AARP members with a Medicare Supplement Insurance plan age 65 years or older.
- Eligible participants were enrolled in the Heart Failure Program, which was offered in the five pilot states mentioned earlier.

Sample Studied

- In 2009, a total of 1,018 members participated in the Heart Failure Program.
- In November 2009, a survey was mailed to each of the 649 members actively engaged in the Heart Failure Program at the time of the survey.
- 410 members responded to the survey for a response rate of 63.3%.

Results of the Survey

- Figure 2 reports confidence in filling out medical forms (Question 9 of the survey).
 - 64.3% of the respondents were 'extremely' or 'quite-a-bit' confident in filling out medical forms, a correlate of health literacy. (2)
- Figure 3 reports ratings of health status (Question 10 of the survey).
 - 9.5% of respondents indicated their health status was 'Excellent' or 'Very good'.
 - 44.2% of respondents indicated their health status was 'Good'.
 - 44.2% of respondents indicated their health status was 'Fair' or 'Poor'.

Health Literacy by Health Status

- Next, the health status of the respondents was stratified by responses regarding confidence in filling out medical forms.
 - 83.8% of those in 'excellent' or 'very good' health were 'extremely' or 'quite-a-bit' confident in filling out medical forms.
 - 66.1% of those in 'Good' and 58.2% of those in 'Fair' or 'Poor' health were 'extremely' or 'quite-a-bit' confident in filling out medical forms, respectively.
 - This implies there is a positive relationship between health status and health literacy.
 - These differences were statistically significant ($p < 0.05$) according to a Chi Square test.

Satisfaction with the Heart Failure Program

- Figure 4 reports how satisfied members were with various components of the Heart Failure Program (Questions 1-6 of the survey).
 - The satisfaction level with the program varied by component, with about 90% to 96% being 'very satisfied' or 'satisfied' with each of the components.
 - Interestingly, satisfaction with the components of the program did not vary much with health literacy (details available upon request).

Figure 3: Respondents' General Rating of Health Status.

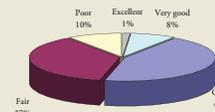
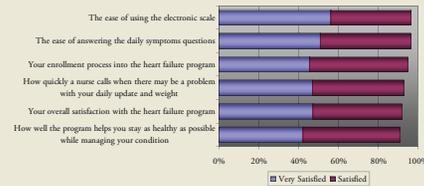


Figure 4: Respondents' Satisfaction with Various Components of the Program.



Physical and Emotional Health

- Figure 5 reports the members' physical and emotional health ratings at the time of the survey, compared to the same time one year earlier (Questions 11-12 of the survey).
 - About 40% of the time, member's physical and emotional health improved.
 - About 37% to 47% of the time it remained the same, while about 15% to 25% of the time it worsened, for physical and emotional health, respectively.
- Figure 6 reports the program's impact on their health (Questions 13-14 of the survey).
 - About 70% to 75% of the time, members said the program had a positive impact.
 - About 25% to 30% of the time they were neutral, while only about 1% of the time they said it had a negative impact, for physical and emotional health, respectively.
- Those with lower health literacy were much less likely to report increases in physical or emotional health compared to one year ago.
 - Of those who were 'not at all' or 'a little bit' confident in filling out medical forms, 25% reported improvements in their emotional health compared to 42% of those who were 'extremely' or 'quite-a-bit' confident in filling out medical forms ($p < 0.05$; data not shown).
 - Of those who were 'not at all' or 'a little bit' confident in filling out medical forms, 30% reported improvements in their physical health compared to 40% of those who were 'extremely' or 'quite-a-bit' confident in filling out medical forms ($p < 0.05$; data not shown).
- Those with lower health literacy were much less likely to report that participation in the program helped improve their physical health.
 - About 70% of those who were 'not at all' or 'a little bit' confident in filling out medical forms reported that participation in the program helped improve their physical health compared to 78% of those who were 'extremely' or 'quite-a-bit' confident ($p < 0.05$; data not shown). No differences in emotional health were reported.

Figure 5: Respondents Ratings of Their Physical and Emotional Health now, Compared to One Year Ago.

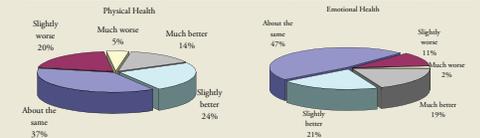
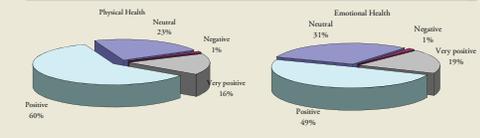


Figure 6: Respondents Ratings of the Program's Impact on Their Physical and Emotional Health?



Conclusions

- Respondents were very satisfied across all components of the Heart Failure Program.
- Participation in the Heart Failure Program was positively associated with increased self-reported health status.
- Nearly two-thirds of the respondents were confident in filling out medical forms, a known proxy for health literacy.
- Health literacy appears to coincide with health status.
- This is problematic, as those in the poorest of health often require the most extensive care and, therefore, would benefit from efforts to address their literacy issues.
- Health literacy was associated with improvements in health status over time.
- Health literacy was not associated with members' satisfaction with the program (results not shown).

References

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- Wallace LS, Rogers ES, Roskos SE, Holiday DB, Weiss BD. Brief report: screening items to identify patients with limited health literacy skills. *J Gen Intern Med.* 2006 Aug;21(8):874-7.

Figure 1: Heart Failure Program Survey

Figure 2: Respondents' Confidence in Filling out Medical Forms. This served as our proxy for health literacy.

