

Consumer Reports - Best Buy Drugs' Outreach Project in Minnesota

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Acknowledgements: We gratefully acknowledge the following individuals for their contributions to this project:

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Funded by: Attorney General Consumer and Prescriber Education Grant Program

Abstract

The objectives for this study were to apply four different approaches for disseminating Consumer Reports Best Buy Drugs (CR-BBD) information about effectiveness, safety, and cost to patients for therapeutic classes of medications that they were using and then (1) evaluate the usefulness of the information to participants and (2) document resultant information seeking. For the three approaches that utilized face-to-face contact (Approaches 2 through 4), we also compared them in terms of (1) number of medications reviewed per person, (2) availability of CR-BBD information per person, (3) changes that could be made for each person, and (4) potential/likely cost savings (per person per month). Finally, we described the availability of CR-BBD information for each participant categorized by the 19 therapeutic classes of medications for which there were Best Buy Drugs reports. Data were collected via self-administered surveys, in-person interviews, and telephone interviews. The results showed that almost all of the participants in the information sessions held for this study had at least one medication for which Best Buy Drug information was available with significant savings potential to be gained by using the recommended Best Buy Drug. Potential cost savings through the use of recommended Best Buy Drugs was \$89.47 per person per month averaged over all participants (n = 172) and was \$157.20 per person per month for those with savings over zero dollars (n = 98). Thirty-two percent of respondents to our evaluation survey reportedly sought more information from a physician and 30 percent sought more information from a pharmacist. We concluded that provision of information about effectiveness, safety, and cost to patients has the potential for achieving significant cost savings. Recommendations regarding (1) the timing of provision, (2) targeting of recipients and (3) traversing impediments are given.

Background

Prescription drugs can be expensive, even if one has insurance coverage for them. For many ailments, there are prescription drug treatment options that effectively meet patients' medical needs and also give value for their health care dollar. However, navigating patients' drug options in light of related costs is difficult due to a lack of information on the parts of both prescribers and their patients [1].

Shrank and colleagues reported that many prescribers of medications are not aware of patients' formularies or out-of-pocket costs for medications, do not feel responsible for managing these costs, and prefer a pharmacist's assistance in these matters [2]. A study conducted in Minnesota and North Dakota showed that while physicians believed that it is important to prescribe drugs that would minimize patients' prescription copayments, they were often unaware of the preferred medications on the formulary, patients' copayment amounts, and the price of drugs prescribed [3].

Typically, patients also are unaware of the cost consequences regarding prescribing decisions during their clinical encounter [4-5] and rarely talk with their physicians about costs of

prescription drugs [6]. Studies suggest that prescription medications that are deemed by patients to be too costly, when the costs become known after purchase, are discontinued or used at suboptimal doses compared to prescription medications that are deemed to be worth the cost [7-14]. In addition, those who report cost-related adherence problems also have poorer health [14].

Based on these findings, it may be unlikely that cost and payment policies established by health plans are ever considered during the prescription choice process. Or, if such information is considered by one member of the prescriber-patient dyad, the other member may engage in a behavior that nullifies such consideration. A prescription drug marketplace that contains fair and balanced information about not only the effectiveness and safety of medications, but also their affordability, could help prescribers and patients make value-based decisions regarding prescription drug therapy. However, if such information is not utilized during the prescription decision process, inefficient and ineffective choices regarding therapy could result.

Study Objectives

The objectives for this study were to apply four different approaches for disseminating Consumer Reports *Best Buy Drugs* (CR-BBD) information about effectiveness, safety, and cost to patients for therapeutic classes of medications that they were using and then (1) evaluate the usefulness of the information to participants and (2) document resultant information seeking. For the three approaches that utilized face-to-face contact (Approaches 2 through 4), we also compared them in terms of (1) number of medications reviewed per person, (2) availability of CR-BBD information per person, (3) changes that could be made for each person, and (4) potential/likely cost savings (per person per month). Finally, we described the availability of CR-BBD information for each participant categorized by the 19 therapeutic classes of medications for which there were *Best Buy Drugs* reports.

Description of Consumer Reports *Best Buy Drugs* (CR-BBD) Information

The Consumer Reports drug therapy class reviews (Consumer Reports *Best Buy Drugs*) served as the primary information source for this project. These reports were prepared based primarily upon independent scientific review of evidence in the health literature related to the effectiveness, safety and adverse effects of specific therapeutic classes. The reports relied heavily upon the Oregon Health & Science University's Evidence-based Practice Center and the information provided in the extensive therapeutic class reports prepared as part of the Drug Effectiveness Review Project (DERP). DERP was a first-of-its-kind 14-state initiative to evaluate the comparative effectiveness and safety of prescription drugs (<http://www.ohsu.edu/drugeffectiveness/>).

There were three major contributions made by Consumer Reports as they converted the DERP reviews (hundreds of pages) into *Best Buy Drugs* reports ("full reports" which were 10 to 20 pages long and "2 page summaries"): (1) the detailed professional literature was distilled and presented in consumer-friendly language, (2) price information was added to the reports, and (3) within each therapeutic class, the reports identified one or more Consumer Reports *Best Buy Drugs* (CR-BBD) that were recommended as first line therapy based on effectiveness, safety and cost. Current reports are available to www.CRBestBuyDrugs.org.

Prescription drug price information was obtained from Wolters Kluwer Health, Pharmaceutical Aduit Suite®. The prices in the CR-BBD summaries were national averages for a one month supply of the drug based on sales through retail outlets. It should be noted that Wolters Kluwer Health was not involved in analysis or recommendations made by CR-BBD. The Consumers Reports *Best Buy Drugs* methodology is

described in more detail at www.CRBestBuyDrugs.org. Consumers Union, publisher of *Consumer Reports* magazine, is an independent and nonprofit organization whose mission, since 1936, has been to provide consumers with unbiased information on goods and services and to create a fair marketplace. At the time of our study, the Consumer Reports *Best Buy Drugs* program was a public education project administered by Consumers Union and supported by the Engelberg Foundation, a private philanthropy entity, and the National Institutes of Health's National Library of Medicine. At the time of our study, Consumer Reports *Best Buy Drugs* (CR-BBD) reports were available for 19 therapeutic classes (Alzheimer's, angiotensin converting enzyme inhibitors, anticonvulsants, antidepressants, antihistamines, antiplatelets, antipsychotics, asthma, attention deficit hyperactivity disorder, beta blockers, calcium channel blockers, diabetes, insomnia, menopause, non-steroidal anti-inflammatory drugs, overactive bladder, proton pump inhibitors, statins, triptans).

Disseminating Consumer Reports *Best Buy Drugs* (CR-BBD) Information in this Study

Based on a series of nine focus groups with patients, prescribers, experts, and patient advocates, [15] we confirmed that use of the Internet for accessing health information and acceptance of computer-based information kiosks placed in public settings were both low among low-income individuals with high out-of-pocket costs who would benefit most from CR-BBD information [16-18]. Furthermore, research has shown that simple, one-time educational interventions aimed at changing physician behaviors are seldom effective [19]. While strategies such as academic detailing have been shown to modify prescribing patterns in some therapeutic classes [20], they can be prohibitively expensive. Consumer education programs have been shown to change prescribers' prescribing patterns [21] and research on direct-to-consumer advertising has shown that physicians are highly responsive to patients' requests for medications [22-23].

With these previous findings in mind, we sought to use an orchestrated approach for disseminating CR-BBD information using three integrated strategies: (1) "**push**" (promoting best buy drugs to prescribers through health plan incentives and electronic aids used for prescribing), (2) "**pull**" (encouraging patients to ask their prescribers for recommended best buy drugs), and (3) "**prompt**" (timing information dissemination during peak relevance such as when patients are waiting for a clinic visit, purchasing prescriptions, or considering health plan choices).

Meetings with health plans revealed that “push” strategies were well received by medical directors of health plans, but the timing of our study interventions would not allow Minnesota health plans to participate in such interventions due to (1) other initiatives they already had chosen to implement during the study period and (2) rebate contracts for prescription medications that already were in place and that were not congruent with CR-BBD recommendations. We also negotiated with a large employer who was willing to employ an orchestrated “push”, “pull”, and “prompt” strategy in its company as part of its health care “intranet” and self-insured status for health care benefits. However, after initial agreement from the employer, the pharmacy benefit management consulting company for this employer objected to participation in our study due to existing contractual prescription drug rebate agreements that were in place during the study period. In light of these impediments, our interventions primarily employed “pull” and “prompt” strategies and were targeted at consumers/patients.

We used four dissemination approaches for distributing Consumer Reports *Best Buy Drugs* (CR-BBD) information:

- 1: Minnesota Senior Federation Helpline (Call Center)
- 2: Information Sessions held in Community Based Locations (Senior Centers, Churches)
- 3: Information Sessions held in Clinical Sites (Pharmacies, Clinics)
- 4: Information Sessions held through a University (Mini Medical School)

The four dissemination approaches were compared in terms of usefulness of the information to participants and resultant health behaviors. For the three approaches that utilized face-to-face contact (Approaches 2 through 4), we also compared them in terms of (1) number of medications reviewed per person, (2) availability of CR-BBD information per person, (3) changes that could be made for each person, and (4) potential/likely cost savings (per person per month). In addition, we described the availability of CR-BBD information for each participant categorized by the 19 therapeutic classes of medications for which there were *Best Buy Drugs* reports. Each of the four dissemination approaches is described next.

Approach 1: Minnesota Senior Federation Helpline (Call Center)

The Minnesota Senior Federation (MSF) was a statewide alliance of mature Minnesotans committed to enhancing the quality of their lives. The goal of this organization was to equip its members to be their own best advocates regarding concerns relating to access to prescription drugs, affordable

housing, Medicare reform, and changes to Social Security. In an effort to disseminate Consumer Reports *Best Buy Drugs* (CR-BBD) information throughout Minnesota, the Minnesota Senior Federation (MSF) worked in coordination with the University of Minnesota, the Governor’s office, and state health associations through press conferences, its Health Plan Information Center helpline (HPIC), publications (estimated cumulative circulation of 200,000 during the study period), and outreach events (an estimated 44,000 people reached during the study period). As people called HPIC for information, they were counseled on how to use CR-BBD information, mailed a pamphlet on the reports, and provided with 2-page summaries for any specific drug categories they requested. The HPIC routinely included the CR-BBD information when it received calls from Medicare recipients who had hit the ‘donut hole’ coverage gap in their Medicare Part D plans or were trying to stay out of this coverage gap.

For this project, Approach 1 employed a “pull” strategy through which patients (consumers) were informed about Consumer Reports *Best Buy Drugs* and encouraged to “talk with their health care provider” about changing to a best buy CR-BBD. It also employed a “prompt” strategy in that it timed the CR-BBD information dissemination with decisions about Medicare Part D health plan choices and avoidance of the ‘donut hole’ within the Medicare Part D program. During the time of our project, 129 individuals contacted the Minnesota Senior Federation Helpline and requested information about CR-BBD. As part of our evaluation, each of these individuals was mailed a survey form asking him or her to provide feedback about the usefulness of the information. A description regarding the diversity and numbers of persons reached by this intervention method is summarized in Table 1.

Approach 2: Information Sessions held in Community Based Locations (Senior Centers, Churches)

In order to provide a face-to-face, personal approach for providing the Consumer Reports *Best Buy Drugs* information, 12 “information sessions” were held at 12 community centers (church or senior center locations). These information sessions were scheduled by the Minnesota Senior Federation using community based locations with which they already had a relationship. Advertising for the information sessions was made by both the community-based location and by Minnesota Senior Federation using newsletters, flyers, and word-of-mouth promotion. This intervention strategy employed similar “pull” and “prompt” strategies as outlined for Approach 1. What was unique about Approach 2 was the face-to-face, one-on-one, personal interaction it provided.

Information sessions were held during two hour time periods. Appointments were accepted, but not necessary for

participation. For rare cases when people had to wait because all available one-on-one sessions were filled, refreshments and sitting areas were available. Also, we had a table with health and insurance information for people to peruse using hard copies or a portable computer. Each session was staffed by members of the project team including a principal investigator, research assistants, University of Minnesota staff, and Minnesota Senior Federation Staff. Stand-alone display banners, tables, written materials, and computer-accessible information sources were brought to each session by research personnel. The photo below was taken at one of our information sessions held in a community location.



At each information session, the following procedures were used:

- **Warm Welcome** – greet with a smile and take time to listen.
- **Information** – provide information about Consumer Reports – Best Buy Drugs (CR-BBD) and any 2-page information sheets that the person might want. Stress the importance of talking with their pharmacist and their physician for advice. What we are providing is information only and not advice. Their pharmacist and physician are able to give advice that will fit with their particular health care needs and within their health care plan guidelines.
- **Evaluation** – ask each person to take a survey form with them and take some time to fill it out as a way to help us improve how we distribute this information. After completing the survey, they can return their forms in the postage paid envelope we provided.
- **Questions** – ask if there are any questions and invite them to contact us at anytime with questions they might have.
- **Fond Farewell** – make sure materials are easy to carry and offer to put them in a bag. Give contact information so that they can call us with questions.

- **Record Keeping** – complete the record form so that we can document our activities in terms of (1) what was given to each individual, (2) questions that were asked, (3) time it took, and (4) any notes about the encounter.

Ninety-eight individuals participated in a one-on-one information session at the community based locations. A description regarding the diversity and numbers of persons reached by this approach is summarized in Table 1.

Approach 3: Information Sessions held in Clinical Sites (Pharmacies, Clinics)

The third approach we employed used the same procedures used for Approach 2. However, for Approach 3, the information sessions were held in clinical sites (pharmacies, clinics). Clinical sites were recruited through the use of the Minnesota Pharmacy Practice-Based Research Network (PBRN). The Minnesota Pharmacy PBRN is a group of pharmacy practice sites devoted principally to the primary care of patients, affiliated with each other through a partnership with the University of Minnesota and Minnesota Pharmacists Association in order to investigate questions related to community based practice. The focus of such a network is on collecting information in real-world settings (pharmacies) to help address societal, community, or professional questions that relate to medication use [24].

Five locations were used for this approach. Three of the locations were within a pharmacy (an example of one of these locations is in the photo below).



Two of the locations were within a clinic waiting area, with a pharmacy (and pharmacist) adjacent to the waiting area (an example of these locations is in the photo on the next page).



This approach employed a similar “pull” strategy as outlined for Approach 2. However, the “prompt” strategy for this intervention was unique in that the information sessions were located in clinics (access to prescribers if the person had a clinic appointment) and pharmacies (access to pharmacists; no appointment needed).

Twenty-four individuals participated in a one-on-one information session at the community based locations. Thirteen of these participants were at a pharmacy-only location and 11 were at a clinic (with pharmacy) location. A description regarding the diversity and numbers of persons reached by this intervention method is summarized in Table 1.

Approach 4: Information Sessions held through a University (Mini Medical School)

Information sessions also were held at a University of Minnesota Academic Health Center event called “mini medical school.” Mini Medical School is “an opportunity for community members to experience life as a student in the Academic Health Center and learn from world-class clinicians and researchers at the University of Minnesota.” Mini Medical School students participate in a five-week exploration into topics related to health in language everyone can understand.

Out of approximately 200 individuals who regularly attended the sessions for “mini medical school,” 50 individuals participated in an information session at the mini medical school event. Procedures for the information session were similar to those used for Approaches 2 and 3 except that for Approach 4, the information session was announced during a mini medical school class two weeks ahead of time so that those interested could submit their requests for information about medications in writing. That way, packets of Consumer Reports *Best Buy Drugs* information were prepared ahead of

time and available for distribution during the information session.

This approach employed similar “pull” and “prompt” strategies as outlined for the other approaches. However, what was unique about Approach 4 was the ability to request the information ahead of time and then have it delivered in a face-to-face, one-on-one, manner. A description regarding the diversity and numbers of persons reached by this approach is summarized in Table 1.

It should be noted that each of the four approaches described provided unique advantages for reaching different segments of the population. Table 1 shows that Approach 1 (HelpLine) participants were the oldest, on average, and had the highest proportion of males (31%) of any of the four approaches. Approach 2 (Community) participants were the group that had some people without any health insurance (13%) compared with other groups that had none. As a reference, Minnesota Department of Health estimates for the study period showed that only 7% of Minnesotans were without health insurance. Sixty-three percent of the Minnesota population had health insurance through an employer, 25% through public programs, and 5% through individual-purchased private insurance.

Approach 3 (Clinical Site) participants were distinguished from the other three groups in that they reported (1) the lowest annual income on average (\$29,000), (2) the highest number of prescription medications taken daily (7.2), (3) poor health more often (40%) than other groups, and (4) purchasing medications causes financial hardship the most (60%). Approach 4 (University) participants were distinguished from the other groups in that they reported (1) highest annual income (\$110,000), (2) lowest daily prescription drug use (2.7), (3) highest Internet use (2.5 hours per day), and (4) excellent health more often (29%) than other groups. In summary, the four approaches employed both “pull” and “prompt” strategies for disseminating Consumer Reports *Best Buy Drugs* information and reached different groups of individuals.

Study Methods

As outlined earlier, 129 individuals requested CR-BBD information from a free, consumer HelpLine hosted by the Minnesota Senior Federation and face-to-face information sessions were held at 12 community centers (church or senior center), five clinical sites (three stand-alone pharmacies and two pharmacies located within a clinic building), and one university academic health center event called “mini medical school.” Ninety-eight individuals participated in an information session at the community centers, 24 individuals

participated in an information session at a clinical site, and 50 participated in an information session at the university's mini medical school event.

The four approaches were compared in terms of usefulness of the information to participants and resultant health behaviors. For this analysis, we collected data using an evaluation survey that was distributed to the 301 participants (129 + 98 + 24 + 50). In addition to the self-administered survey, we received permission from 23 participants to contact them for an in-depth telephone interview. During the interview, we sought to gain insight about the usefulness of the Consumer Reports *Best Buy Drugs* information by asking open-ended questions about their reactions to and use of the information.

For the three approaches that utilized face-to-face contact (Approaches 2 through 4), documentation forms were completed for each participant ($n = 172$) and served as the data source for our analysis regarding (1) number of medications reviewed per person, (2) availability of CR-BBD information per person, (3) changes that could be made for each person, and (4) potential/likely cost savings (per person per month). In addition, we described the findings categorized by the 19 therapeutic classes of medications for which there were *Best Buy Drugs* reports. Data were analyzed using descriptive statistics.

Results

Usefulness of Information and Resultant Information Seeking for Approaches 1 through 4

Evaluation Surveys

Out of the 301 evaluation surveys distributed to study participants, 47 (16 percent) were returned. The distribution of the surveys was kept anonymous which precluded any follow-up with survey recipients. None-the-less, findings from the surveys provide insight regarding the effectiveness of the interventions. Response rates for each participant type were 21% from clinical sites, 16% from community center locations, 15% from the consumer help-line group, and 14% from the mini medical school location.

Overall, 87 percent of the respondents found the Best Buy Drug information somewhat or extremely useful, with the remaining 13 percent finding the information not useful at all. Fifty-percent of respondents from the mini medical school location found it not useful at all, followed by eight percent of the helpline participants, six percent of community center participants, and zero percent of clinical site participants finding the information "not useful at all."

After receiving the information provided in this study, 32 percent of respondents reportedly asked their physician a question about the recommended Best Buy Drugs and 30 percent asked their pharmacist a question. Sixty percent of the clinical site participants asked their physician a question, followed by 39% of helpline participants, 31% of community center participants, and 0% of the mini medical school participants. Forty percent of the clinical site participants asked their pharmacist a question, followed by 38% of community center participants, 23% of helpline participants, and 17% of the mini medical school participants. Forty percent of the clinical site participants asked both their physician and pharmacist a question, followed by 25% of community center participants, 23% of helpline participants, and 0% of the mini medical school participants. The proportion of participants reportedly asking a question of neither their physician nor pharmacist was: 83% of mini medical school participants, 61% of helpline participants, 56% of community center participants, and 40% of clinical site participants.

Telephone Interviews

As mentioned earlier, 23 out of the 301 participants in this study provided permission to our research team to contact them for in-depth telephone interviews at a later date. These interviews were used to gain further insights about the usefulness of information we provided and resultant health behaviors. Specifically, we focused on the following four questions: (1) What is your reaction to the information you received? (2) Did you use this information? (3) Did you talk with someone about the information? If yes, who? and (4) Do you think your health care providers should use this information? A summary of results is presented next.

1. What is your reaction to the information you received?

The interview participants' reactions to the Consumer Reports *Best Buy Drugs* information were very positive overall, with the majority of participants reporting positive comments about the information. Examples of verbatim comments included:

- *Wonderful information. Glad that somebody is aware of people wanting to cut the cost of their meds and still feel like they are being helped.*
- *Thought it was a really good idea; latched onto the idea right away; compared what they show to what I take.*
- *Good idea for everybody to be informed about.*
- *Terrific information*
- *Welcome the information, I really like to have a place where I can go look for the information.*

- *Very impressed; good way to get information.*
- *Thought it was helpful.*
- *I was very impressed with the information. I thought it was very positive.*

Two respondents had reactions that were not positive. One person was concerned that the information was not complete / thorough enough and one person felt that the information was complicated. Finally, four respondents had neutral reactions: (1) one participant had no reaction and “wished she was more knowledgeable”; (2) one participant was unfamiliar with the program and did not remember attending an information session; (3) one participant did not recall the information; and (4) one participant felt the information did not apply to her.

2. Did you use this information?

Six out of the 23 interviewees reported they were able to use the Consumer Reports *Best Buy Drugs* (CR-BBD) information. One of these six reported that “Information was used; HMO provides information and is on top of things; Health plan is working with the consumer to drive down costs.” A second participant reported using the information to get his medication switched to a CR-BBD (from Prevacid to omeprazole). However, a third participant could have changed to a CR-BBD but did not: “I was able to use the information. Compared the drugs that I was taking with those shown on the charts to see if there is a less costly substitute. I could have changed 20% of my medications, but I didn’t change any of them.” This same participant was the one who had concerns about the completeness and thoroughness of the Best Buy Drug information (see question #1 above).

Five out the six participants who reported they were able to use the CR-BBD information reported that they were already on a CR-BBD and were reassured knowing that they were taking a “best buy.” For example, a participant stated that she “was able to use the information and it was reassuring to know that some of the medications that we are taking were best buys even though we thought they were expensive.” Another participant reported being “quite pleased with the information and she asked her pharmacist to check if she was receiving the best buy, reassuring that she was already getting the best buy.” Yet another participant agreed that it is “important to find out that I was taking the best buy on the medications that I was on, except for one in which no generic was available. But my thought was why try something else when you found something that works (depression medication).”

Eight of the 23 interviewees reported that they were unable to use the CR-BBD information. Two participants reported

that most or all of their drugs were generic, one citing that her drugs were “fairly low in cost.” Four participants stated there was no CR-BBD information for medications they were currently taking. For example, one participant stated “In my case, person was helpful that reviewed medications, but no information on any drugs that I was taking.” Similarly, another participant said “nothing she was taking was on the list, so she lost interest right there.” She further elaborated that “health insurance has a formulary, so she can’t really argue much; the decision is made by the formulary and she goes with that first, “ and that you “don’t know what’s on the formulary until you get to the pharmacy to get it filled and possibly pay for it.” The final two interviewees (out of the eight) didn’t provide any specific reasons for why they were unable to use the information.

3. Did you talk with someone about the information? If yes, who?

Six participants reported sharing the CR-BBD information with their social network of family, friends, and neighbors. One participant even handed out and promoted CR-BBD information to his retirees’ club. Two participants reported they shared this information with their doctor and pharmacist, with one of these participants stating that the physician and pharmacist were “impressed as well.” Additionally, one person shared the information with his physician only. One of the participants who shared the CR-BBD information with his doctor perceived that his “doctor was receptive to the information, but it was awkward because I feel like I was wasting his time on nickels and dimes with something he may not feel is worthwhile. I think his time is more valuable.” Nine participants did not share the CR-BBD information with anyone, with one participant reporting that “other people had told her about the best buy.”

4. Do you think your health care providers should use this information?

The majority of participants agreed that it was important for their healthcare providers to use the CR-BBD drug information. Examples of verbatim comments included:

- *Assumes the healthcare providers are using the information and if they aren’t, they better be.*
- *Healthcare providers should, but doesn’t think they do; don’t have time to do so; others need to help out; doctors don’t have control over cost of medications.*
- *Great for healthcare providers to use and communicate to seniors (send out a mailing).*
- *Important for healthcare providers to use; I don’t know why they wouldn’t.*

- *Important for healthcare providers to use information and become more informed about medications.*

Only three participants stated that healthcare providers should not use the Consumer Reports *Best Buy Drugs* information. Two participants felt that “healthcare providers have their own information” or “healthcare providers seem to already have a lot of information” and one participant felt that the “information was not helpful to him, so the healthcare provider wouldn’t be able to use it either.”

In summary, our sample of interview participants (n=23) generally had positive reactions to the Consumer Reports *Best Buy Drugs* information, with many viewing it as helpful and useful information. Participants who already were taking a CR-BBD seemed to be “reassured” in knowing this. However, we did detect that, for some people, the information may be viewed as incomplete or not thorough enough. For others the information may be viewed as being too complicated.

Findings for the Three Approaches that Used Face-to-Face Interaction

Face-to-face information sessions were held at 12 community centers (church or senior center), one university event called “mini medical school”, and at five clinical sites. Ninety-eight individuals participated in the one-on-one information session at the community centers, 50 participated in an information session and the mini medical school event, and 24 individuals participated in an information session at a clinical site, for a total of 172 people.

An average of 10.2 minutes was spent with each participant with an average of 5.4 medications reviewed per participant. Of the 172 participants, 152 (88%) had at least one medication for which Consumer Reports *Best Buy Drugs* (CR-BBD) information was available (range = 0 to 9; mean = 2.6 per participant). Furthermore, 100 (58%) of the participants had at least one medication that potentially could be changed to a recommended CR-BBD (range = 0 to 5; mean = 1.0 per participant). After factoring participants’ comments about previous medications in the category that were tried, side effects, allergies, or other information that might prohibit the use of a recommended CR-BBD, it was determined that 94 (55% of 172 participants) had at least one medication that likely could be changed to a recommended CR-BBD.

Figure 1 provides a summary by location type for number of medications reviewed, availability of CR-BBD information, and changes that could be made. The findings showed that participants at clinical sites presented with the highest

number of medications for review (mean = 7.9). Both the mini medical school event and clinical sites resulted in slightly higher numbers of recommendations for CR-BBD (1.3 and 1.2, respectively) compared to the community center locations (0.7 per person).

Potential cost savings through the use of recommended Best Buy Drugs was \$89.47 per person per month averaged over all participants (n = 172) and was \$157.20 per person per month for those with savings over zero dollars (n = 98). After factoring in participants’ comments about previous medications in the category that were tried, side effects, allergies, or other information that might prohibit the use of a recommended CR-BBD, “likely” cost savings was \$83.20 per person per month for all participants (n = 172) and \$155.75 per person per month for those with potential savings greater than zero dollars (n = 93).

Figure 2 provides a summary for potential and likely cost savings (per person per month) by location type. Both mini medical school and clinical sites resulted in higher potential cost savings (\$129.48 and \$107.38, respectively) compared to community center locations (\$64.66). Mini medical school participants had the highest likely savings per person (\$129.48) followed by clinical sites (\$99.04), and community center locations (\$55.71). It should be noted that the mini medical school estimates remained the same since we were not able to talk with those participants about previous medications in the category that were tried, side effects, allergies, or other information that might prohibit the use of a recommended CR-BBD.

Table 2 provides a summary of findings categorized by the 19 therapeutic classes included in our study. The findings are presented in terms of: (1) proportion of participants who were taking a medication in the listed therapeutic class and were already taking a recommended CR-BBD, (2) proportion of participants who were taking a medication in the listed therapeutic class and were NOT taking a recommended CR-BBD, and (3) proportion of participants who were NOT taking a medication in the listed therapeutic class. The findings show that, during the time of this study, statins, proton pump inhibitors (PPIs), and antidepressants were the therapeutic classes with the most cost-savings potential for study participants if changes were made to a recommended CR-BBD. These findings are similar to those reported by Kjos and colleagues as another part of this research project [25]. They estimated cost savings for members of eight health plans in Minnesota and also reported that the most potential for costs savings was in the statin, PPI, and antidepressant therapeutic classes.

Discussion

The results should be viewed with the study's **limitations** in mind. Our study was conducted in only one state (Minnesota). This state might be different than other states in terms of access to healthcare, insurance coverage for healthcare, and patient characteristics. Next, all participants volunteered for this study and therefore may have been more knowledgeable than non-participants with respect to the topic. There may have been some researcher bias due to experience and training. Information obtained from study participants could be categorized in more than one way and research bias could have affected results. However, every effort was made to control this by maintaining a neutral position and following study protocols. Finally, this study included four dissemination approaches. A more extensive study with different approaches may reveal more salient insights not uncovered in this analysis.

The objectives for this study were to apply four different approaches for disseminating Consumer Reports *Best Buy Drugs* (CR-BBD) information about effectiveness, safety, and cost to patients for therapeutic classes of medications that they were using and then (1) evaluate the usefulness of the information to participants and (2) document resultant health behaviors. For the three approaches that utilized face-to-face contact (Approaches 2 through 4), we also compared them in terms of (1) number of medications reviewed per person, (2) availability of CR-BBD information per person, (3) changes that could be made for each person, and (4) potential/likely cost savings (per person per month). Finally, we described the findings categorized by the 19 therapeutic classes of medications for which there were *Best Buy Drugs* reports.

The four approaches that were used in this study included: (1) a Helpline (call center), (2) Information Sessions held in Community-Based locations (senior centers, churches), (3) Information Sessions held in Clinical Sites (pharmacies, clinics), and (4) Information Sessions held through a University (Mini Medical School). There were 129 study participants who used the Helpline, 98 who attended the Community-Based location, 24 who attended a Clinical Site, and 50 who participated in the Information Session held at the University Mini Medical School. Characteristics of participants in terms of age, gender, education, income, medication use patterns, health status, financial hardship, perceived usefulness of the information provided, and resultant health behaviors differed among the four dissemination approaches used in our study (see Table 1).

Findings from self-reported evaluations from 47 participants and in-depth interviews with 23 participants revealed that most, but not all, participants generally had positive reactions

to the Consumer Reports *Best Buy Drugs* information, with many viewing it as helpful and useful information. Overall, 87 percent of the respondents to our evaluation survey found the information somewhat or extremely useful, with 32 percent seeking more information from a physician, and 30 percent seeking more information from a pharmacist. Some participants learned about alternative medications they could change to that were effective, safe, and less costly than what they currently were using. Others reported being reassured in knowing that they already were taking a Best Buy Drug for their health condition. However, we did detect that, for some people, the information was considered incomplete and not thorough enough and for others it was too complicated.

Face-to-face information sessions were held at 12 community centers (church or senior center), one university event called "mini medical school", and at five clinical sites. Ninety-eight individuals participated in the one-on-one information session at the community centers, 50 participated in an information session and the mini medical school event, and 24 individuals participated in an information session at a clinical site, for a total of 172 people. The results showed that almost all of the participants in these three types of information sessions had at least one medication for which Best Buy Drug information was available with significant savings potential to be gained by using the recommended Best Buy Drug. The findings also revealed that the statins, proton pump inhibitors, and antidepressants were the therapeutic classes with the most potential for cost savings if changes were made to a recommended Consumer Reports *Best Buy Drug*. These findings are consistent with a study conducted by Kjos and colleagues [25] in which they estimated the potential for cost-savings if the drug formularies for eight major health plans in Minnesota were modified to be more aligned with Consumer Reports *Best Buy Drugs* recommendations. They also found that the most potential for costs savings was in the statin, proton pump inhibitor, and antidepressant therapeutic classes.

Based on our findings, we propose three recommendations. The first two recommendations focus on patient characteristics and the last recommendation focuses upon organizational and system characteristics.

Recommendation 1: Consider the timing/orchestration of when and how evidence based information is provided

The nature of decision-making, interactions, and expectations between prescribers and patients when choosing prescription drugs is a dynamic, multi-faceted process [15]. Information is used before visiting the clinic, during the clinic visit, at the pharmacy, during the initiation phase of taking the medication, during the maintenance phase of taking the

medication, and during the termination phase of medication use. Information about medications' effectiveness, safety, and costs might be useful at each phase of the prescription choice and use processes, but, depending upon the individual, different timing may be necessary to maximize the information's usefulness.

For example, The adaptive decision making model [26] posits that individuals adjust their information-processing and decision-making strategies depending upon the complexity of information and the context within which decisions must be made. Research suggests that rather than processing more information when decisions become more complex, individuals tend to reduce the amount of effort they expend on decision-making [26]. Also, individuals tend to use information more extensively if it costs them less in time, money, or effort to acquire it. Another principle of the adaptive decision making model is that both too little and too much information result in poorer decision-making when compared with the right amount of information. Finally, individuals with a moderate level of knowledge search for information the most before making a decision. That is, those with low levels of knowledge don't have the ability and those with high levels of knowledge don't have the motivation for obtaining more information.

With the adaptive decision making model as a guide, we propose that decision-making during initiation of medication therapy would be improved if attention were given to matching the timing of giving information to patients, their caregivers, and their providers to the time when they need it for decision-making. Making all information available at once leads to information overload. But, withholding information (such as medication cost) until after a prescribing decision is made results in poorer decisions. The optimal approach is to provide relevant information at the time that it is needed for making decisions. Rather than a unidirectional approach to information giving at discrete points in time, patients and caregivers would be better served if they were able to submit questions in real time as issues arise and then get answers and advice immediately.

In addition, we suggest that patients' styles and preferences should be matched with provider styles of care delivery [27-40]. For example, some patients may seek interactions that are advisory, informational, negotiational, relational, or none/default at different stages of their medication taking experience. According to the Concordance Model [39,40], matching needs with suitable providers would improve information exchange and decision-making.

Finally, as medication use is initiated, there should be feedback loops about effectiveness, safety, cost, and social issues as soon as the patient experiences changes in these areas [15, 27-40]. Provision of such information at the correct time can avert mishaps and lead to better decision-making for drug therapy adjustments that would be needed [41,42].

Timing of information, matching preferences and styles, and providing feedback can be accomplished through "care in the cloud" approaches in which patients, caregivers, and providers alike can submit information and send messages to a central site through electronic means [43]. Algorithms and prompts can be used to match patient needs with provider services in real time. We propose that such matching would improve the abilities of patients, caregivers, and providers in processing information and making decisions.

Recommendation 2: Consider consumer segmentation approaches for targeting evidence based information

In addition to consideration of the timing and orchestration of information provision, the use of segmentation models to help identify groups that (1) could realize the most medication cost savings, (2) are in greatest need, (3) have unique social networks for information dissemination, (4) present unique challenges/opportunities regarding information search, or (5) have differing levels of involvement in the process could provide fruitful results. Thus, while the first recommendation focuses on the timing of when information is provided, this second recommendation focuses upon tailoring the information to make it most relevant to individual patient's needs.

For example, the so-called "solution seeker" segment of the U.S. health care market [34] might benefit the most from CR-BBD information. The "solution seeker" segment is about 8% of the U.S. adult population and is comprised of people with below-average health, who are more inclined than others to take preventive medicine, and take active steps in response to information about their condition [34]. Solution seekers "make it their business to pursue information regarding their ailment and educate themselves about potential treatment options" [34]. This segment can be contrasted with the "doctor led" (28% of adults who share a similarly below-average health profile with the solution seekers and receptive to information but are less proactive in exploring potential new treatment options on their own), "self-managers" (13% who enjoy above average health with only occasional or seasonal health complaints), and members of the "healthy half" who are in excellent health and have little interest in health information at this time of their lives [34]. Based on these findings, we suggest that a "one-size-fits-all" approach for applying evidence-based prescribing would not be as

fruitful as a segmentation approach in which information is tailored to maximize relevance to each patient.

Recommendation 3: Resolve competing incentives created by rebates, pay-for-performance, out-of-pocket cost differentials, advertising, and government regulations at the various stages of prescription choice, to improve the efficiency and effectiveness of such decision-making.

Health care providers and consumers are faced each day with decisions regarding prescription medications. Ideally, these decisions are made based on the best information and evidence that is available to meet desired patient outcomes. However, these decisions are often heavily influenced by formulary requirements of various health plans. Because of the high level of regulatory control that formulary systems sometimes place on the prescribing of medications, there is a need to critically examine the practices of health plans and the potential for cost savings through the use of evidence-based information.

In the U.S., potential signals of market failure for current drug benefit designs include: (1) the U.S. free market system has the highest drug prices in the world, (2) the U.S. free market system has the highest rates of price inflation for pharmaceuticals in the world, (3) the largest volume market has the highest prices in the world, (4) contracts declare price and rebate information as “proprietary and confidential,” (5) cost data can not be disclosed to P&T committees or physicians, (6) a lack of data for policy and economic research, (7) payers and patients do not know the net cost of a specific drug, (8) physicians do not know relative or absolute price, (9) patients do not know price, and (10) P&T committees often do not know price [44].

In addition to these issues, a number of competing incentives [44-47] may need to be addressed in the pharmaceutical marketplace including:

1. Prescription Benefit Management company (PBM) receipt of hidden rebates, not disclosed or passed on to payers.
2. Payers’ focus on percent discount and dispensing fees rather than on overall cost when negotiating contracts with PBMs.
3. Drug firm payment for data, research studies, etc. that are linked to PBM decision making.
4. Most revenue for some PBMs coming from drug firms than from a health plan or a payer for the prescription drug benefit.
5. Placement of higher priced drugs as preferred on formularies based on rebates or on bundling of rebates.

6. Payments by brand firms to generic manufacturers to withhold a generic going to market. Generic firm receives more than what it could charge in the marketplace and the brand firm continues with a price at 2 to 10 times the market-based price.
7. Physicians and clinics making more from Medicare on higher cost drugs, which leads to higher priced drugs becoming the most prescribed drugs.

There is growing pressure for the health care system to take a closer look at evidence-based approaches for prescription drug benefits as a strategy to help remedy the issues plaguing the pharmaceutical marketplace. We suggest that employer groups and other purchasers of health care coverage should request more transparency and full disclosure in their contract negotiations for health care services. The removal or full disclosure of competing incentives such as those outlined previously could open the door for wider application of Consumer Reports *Best Buy Drugs* information and other evidence-based information and achieve greater value for their health care dollar.

Conclusions

The focus of this study was an evaluation of the Consumer Reports *Best Buy Drugs* (CR-BBD) Outreach Project in Minnesota. The results showed that almost all of the participants in the information sessions held for this study had at least one medication for which Best Buy Drug information was available with significant savings potential to be gained by using the recommended Best Buy Drug. Thirty-two percent of respondents to our evaluation survey reportedly sought more information from a physician and 30 percent sought more information from a pharmacist. We suggest that ways to improve the effectiveness of the Consumer Reports - Best Buy Drugs information even further would be to: (1) consider the timing/orchestration of when and how evidence based information is provided, (2) consider consumer segmentation approaches for targeting evidence based information, and (3) resolve competing incentives created by rebates, pay-for-performance, out-of-pocket cost differentials, advertising, and government regulations at the various stages of prescription choice, to improve the efficiency and effectiveness of such decision-making.

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Table 1: Descriptions of Persons Reached and Their Evaluations for Approaches 1 through 4
(Estimates based upon responses to evaluation survey n = 47)

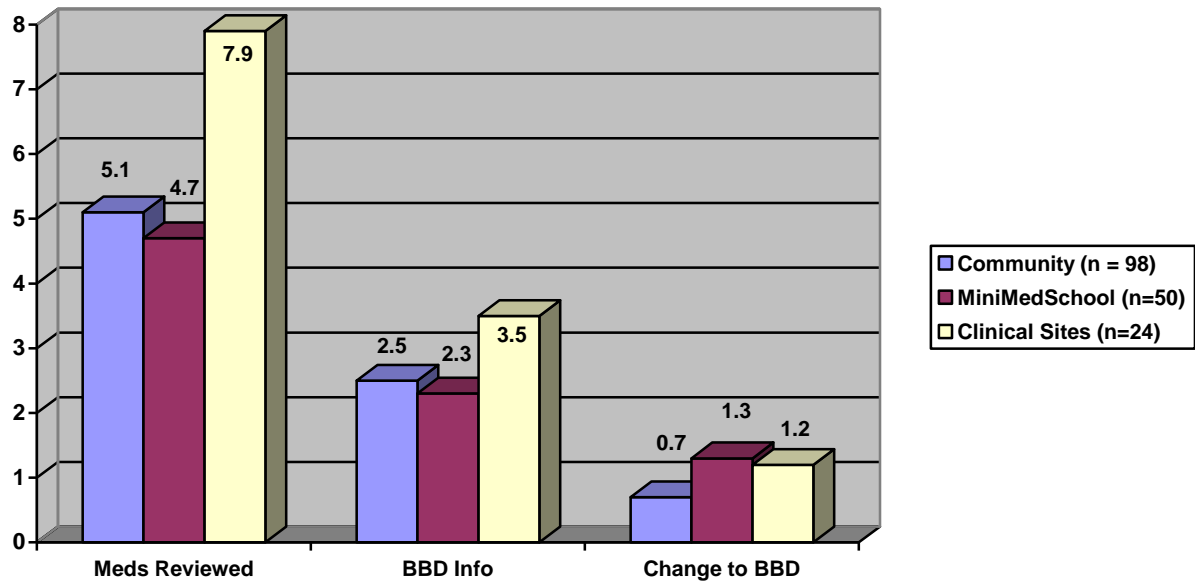
	Approach 1 (Helpline)	Approach 2 (Community)	Approach 3 (Clinical Site)	Approach 4 (University)
Number of persons reached through this approach	129	98	24	50
Number of respondents to evaluation survey	19	16	5	7
Average Age (years)	78	68	74	66
Proportion Female	69%	80%	86%	86%
Proportion White/Caucasian	92%	87%	100%	86%
Proportion with More than High School Education	75%	80%	100%	100%
Average Annual Income	\$44,000	\$52,000	\$29,000	\$110,000
Average # Prescription Medications Used Daily	4.5	3.8	7.2	2.7
Average # OTC Medications Used Daily	3.1	3.5	4.0	2.3
Average Hours Watching TV per Day	3.0	2.1	3.2	1.4
Average Hours Listening to Radio per Day	1.6	2.8	1.0	1.0
Average Hours Reading News/Magazine/Day	2.2	1.4	1.4	1.4
Average Hours Using Internet per Day	0.2	0.8	0.1	2.5
Proportion with Health Insurance	100%	87%	100%	100%
Proportion with Prescription Drug Insurance	100%	87%	80%	100%
Reported Health Status				
Excellent	0%	7%	0%	29%
Very Good	23%	27%	20%	57%
Good	39%	53%	40%	14%
Fair	15%	13%	0%	0%
Poor	23%	0%	40%	0%
Proportion Reporting that Purchasing Medications Causes Financial Hardship	15%	40%	60%	14%
Proportion Reporting that the Information Received was not useful at all	8%	6%	0%	50%
Proportion Reporting that they asked their <u>physician</u> a question based on the information they received	39%	31%	60%	0%
Proportion Reporting that they asked their <u>pharmacist</u> a question based on the information they received	23%	38%	40%	17%
Proportion Reporting that they asked <u>both</u> their <u>physician</u> and <u>pharmacist</u> a question based on the information they received	23%	25%	40%	0%
Proportion Reporting that they asked <u>neither</u> their <u>physician</u> nor <u>pharmacist</u> a question based on the information they received	61%	56%	40%	83%

**Table 2: Summary of Findings Categorized by Therapeutic Categories
(N = 172 participants)**

Therapeutic Category	Yes, and already taking a BBD (a)	Yes, and not taking a BBD (b)	Not taking any drug in this category (c)
Statin	24%	20%	56%
Proton Pump Inhibitor (PPI)	9%	18%	74%
Antidepressant	7%	13%	80%
Antihistamine	2%	7%	91%
Menopause	4%	6%	90%
Diabetes	9%	5%	86%
Insomnia	4%	5%	91%
Angiotensin Converting Enzyme (ACE) Inhibitor	25%	3%	72%
Antiplatelet	20%	3%	77%
Calcium Channel Blocker	8%	3%	89%
Non-steroidal anti-inflammatory drug (NSAID)	4%	3%	93%
Asthma	6%	2%	92%
Anticonvulsant	5%	2%	93%
Beta Blocker	33%	1%	67%
Triptan	1%	1%	98%
Overactive Bladder	3%	1%	96%
Attention Deficit Hyperactivity Disorder (ADHD)	1%	0%	99%
Alzheimer's	2%	0%	98%
Antipsychotic	1%	0%	99%

- (a) Proportion of participants who were taking a medication in the listed therapeutic category and were already taking a recommended 'Best Buy Drug.'
- (b) Proportion of participants who were taking a medication in the listed therapeutic category and were NOT taking a recommended 'Best Buy Drug.'
- (c) Proportion of participants who were NOT taking a medication in the listed therapeutic category.

Figure 1: Summary by Location Type for Number of Medications Reviewed, Availability of CR-BBD Information, and Changes that Could be Made.



Meds Reviewed = Number of medications reviewed per person.

BBD Info = Number of medications for which BBD information was available.

Change to BBD = Number of medications that could be changed to a Consumer Reports–Best Buy Drug (CR-BBD)

Figure 2: Potential/Likely Cost Savings (Per Person Per Month) by Location Type

