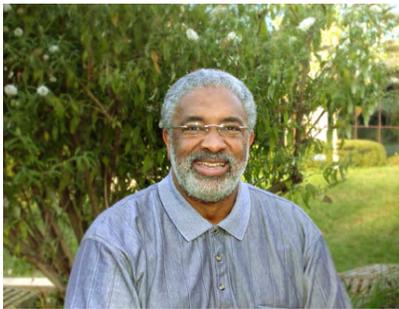


Taking Your Medicines Safely Evaluation Report



U.S. Department of Health and Human Services
Health Resources and Services Administration
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Executive Summary

Older adults suffer from a high incidence of serious effects related to poisonings; the majority of these poisonings involve prescription and over-the-counter medicines, herbals, and vitamins. This study is important because proven educational interventions to prevent unintentional poisonings among seniors are needed.

Taking Your Medicines Safely is a pilot study that was funded by the Health Resources and Services Administration Poison Control Program (HRSA PCP) through its technical assistance center and designed and developed by Educators of the American Association of Poison Control Centers (AAPCC). The program was approved by two Institutional Review Boards (IRBs), and took place in Missouri and West Virginia. Poison Center Health Educators conducted all eight sessions of the pilot which reached 145 persons.

The study's purpose was to determine how to prevent older adults from being poisoned due to accidental misuse and interactions with their medicines. A small-group education intervention was designed for healthy adults between the ages of 65 and 74 (although adults of any age who self identified as seniors attended the program). Elder groups of approximately eighteen people viewed a "Taking Your Medicines Safely" PowerPoint presentation, listened to an interactive Educator Script, and played a Tic-Tac-Toe game to reinforce concepts designed to decrease medication mismanagement. Short questionnaires immediately before and after the education session determined what the seniors already knew and their attitudes about being able to prevent a poisoning. After the post-test, participants were asked to fill out a participant assessment form to help identify changes that may be necessary for the research study.

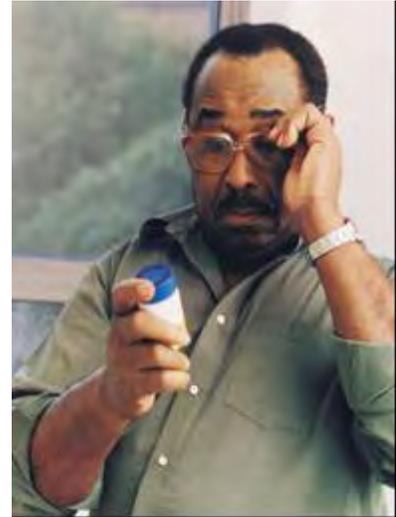
At the conclusion of the session, incentives were distributed which will be reminders or positive reinforcement to aide the seniors in adopting protective medication management behaviors. Followup phone calls one month post intervention also took place to determine if any behavior had been modified.

The study found that participants enjoyed the program and the program significantly increased their medication safety knowledge, improved attitudes, and changed behavior. The Educators who administered the program also found it worthwhile and felt it could be adapted to other settings with training.

Background

Introduction

In April of 2004, the Institute of Medicine (IOM) produced a report about poison control centers, entitled *Forging a Poison Prevention and Control System*. Chapter 8 of this IOM¹ report focuses on public education and makes recommendations for education programs. These recommendations include increasing the number of poison prevention programs to reach older adults (over age 65), studying the effectiveness of programs through evidence-based research, and increasing collaboration among poison center Educators nationally. With regards to evidence based research, the IOM criticized poison control centers (PCCs) because (1) PCCs all deliver poison prevention education, but randomized trials or other sound evaluations testing the outcomes of this education are lacking and (2) existing evaluations are contaminated by secondary prevention messages focused on changing utilization of poison control call-in health services when poisonings occur. Additionally, the IOM reported that with the exception of medication management, education efforts to date have largely overlooked older adults, even though they have a high incidence of serious effects related to poisonings.



The Health Resources and Services Administration (HRSA) Poison Control Program (PCP) is authorized through Public Law 108-194, the Poison Control Center Enhancement and Awareness Act, Amendments of 2003 and charged with, among other things, assisting with the funding and support of educational outreach in our nation's poison control centers. HRSA PCP carries out this mandate through its technical assistance arm, the Poison Center Technical Assistance Resource Center (PC TARC) located at Pacific Institute for Research and Evaluation (PIRE). HRSA PCP also works with the American Association of Poison Control Centers (AAPCC), a nationwide organization of poison control centers and individuals, and AAPCC's Health Educators through the Public Education Committee (PEC).

Following the release of the IOM report, HRSA PCP funded an approved AAPCC meeting for the leadership of the PEC entitled, "Poison Control Education Evaluation Workshop." The purpose of this meeting was to educate the PEC leaders regarding the proper evaluation

¹ Institute of Medicine (2004). *Forging a Poison Prevention and Control System*. Washington DC: The National Academies Press.

techniques for injury prevention programs and develop an evaluation model that could be applied to poison centers with the aim of developing a multi-site evaluation project aimed at seniors.

The purpose of this study was to develop an education program and determine whether it would facilitate safe medication practices, in turn reducing medication mismanagement and unintentional poisonings. As a result, attendees from that initial meeting along with other volunteers from the PEC membership and researchers from PIRE spent 18 months developing a theory-based poison education curriculum and intervention for older adults. This group then spent the subsequent 18 months implementing and evaluating the curriculum and intervention. This entire process, from needs assessment to evaluation and all the lessons learned along the way, is an attempt to address the IOM's concerns of developing poisoning prevention for older adults, laying the groundwork for evidenced-based research, and increasing poison center collaboration.

The subcommittee of the PEC that has worked through this process for the last three years presents this document as a case study of this process and the final step of the pilot. Although the findings herein may be used as a building block to a national randomized controlled trial about senior medication management, these findings stand alone as a comprehensive evaluation of the *Taking Your Medicines Safely* pilot intervention.

Pilot Study

Seniors are involved in a variety of poisonings, the majority of which involve prescription and over-the-counter medicines, herbals, and vitamins. The pilot intervention focuses on medication mismanagement because medicine issues are by far the largest poisoning problem among seniors. Described in this report are the results of a pilot study focused on prevention and guided by research from over 20 peer-reviewed journal articles on poisoning (Appendix A). The themes and barriers related to poison health education as



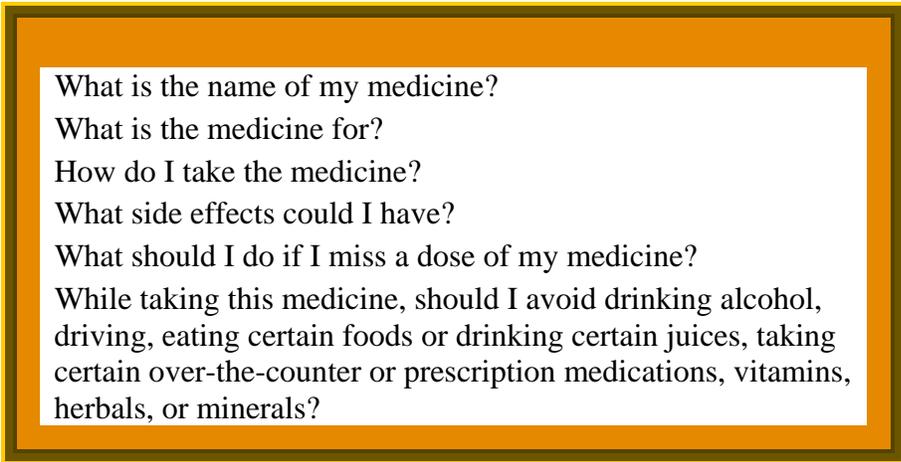
identified in peer-reviewed articles were analyzed according to the PRECEDE model², a framework for the process of systematic development and evaluation of health education programs. The resulting senior health education intervention was patterned after the Health Belief Model, a proven and widely applied conceptual framework of health behavior (Appendix B).

HRSA PCP through its Poison Center Technical Assistance Resource Center (PC TARC) provided funding and support to the poison center Educators who developed and conducted a pilot study to raise awareness about medicine safety and poison prevention among older adults. This small-group education intervention was designed for independently living older adults between the ages of 65 and 74 (although adults of any age who self identified as seniors were allowed to attend the program) and focused on the following topics: (1) dangers associated with combining health remedies, such as prescription medications, over-the-counter

² *Health Program Planning: An Educational and Ecological Approach*, New York: McGraw-Hill, 2005

medications, herbals, vitamin and mineral supplements and other natural remedies; (2) patient-provider communications (e.g., points to tell the doctor, asking health professionals important questions); (3) information resources (e.g., identifying reputable sources of information); (4) finding and organizing relevant medication and supplement information, such as dosing procedures and potential side effects; and (5) medication management techniques.

Elder groups of approximately eighteen people (8 groups that ranged from 4 to 51 persons) viewed “Taking Your Medicines Safely” PowerPoint presentation (Appendix C) and listened to an interactive Educator Script (Appendix D), and played a Tic-Tac-Toe game (Appendix E) to reinforce concepts designed to decrease medication mismanagement. A consent form (Appendix F) and short questionnaires immediately before (Appendix G) and after (Appendix H) the education session were used to determine what the seniors already knew, as well as their attitudes about being able to prevent a poisoning. After the post-test, participants were asked to fill out a participant assessment form (Appendix I) to help determine what changes would be necessary for future interventions. At the conclusion of the session, incentives (Appendix J) were distributed which were reminders or positive reinforcement to aid the seniors in adopting protective medication management behaviors. These incentives included a child-proof pill box, medication list passport (Appendix K), ‘Medicines and You’ handout (Appendix L), Herbal Handout (Appendix M), and a laminated wallet card with six important questions to ask about your medications (see box insert). The entire program took approximately one hour to complete. To minimize variations among sessions, Educators received the same training and conducted a similar program, see Appendix N - Educators’ Instructions. Follow-up phone calls one month post-intervention were conducted to determine if any behavior had been modified (Appendix O).



What is the name of my medicine?
What is the medicine for?
How do I take the medicine?
What side effects could I have?
What should I do if I miss a dose of my medicine?
While taking this medicine, should I avoid drinking alcohol, driving, eating certain foods or drinking certain juices, taking certain over-the-counter or prescription medications, vitamins, herbals, or minerals?

This pilot study was conducted by two poison center Educators. The same Educator who facilitated the session also conducted the followup phone calls with the same participants. Both Educators who delivered this program worked in a poison control center and had strong backgrounds in health care, education and training. Both Educators had some previous experience with seniors and their average length of poison center employment was four years.

Study Population



The study was conducted in the States of Missouri and West Virginia, in the cities and surrounding areas of St. Louis and Charleston, respectively. The poison prevention education sessions took place at area Senior Centers and Catholic Churches. In both sites, the Educators worked closely with community agencies to arrange the sessions and to recruit seniors. Recruitment methods included scheduling the presentation before the lunch program (a big draw), advertising the giveaways, and posting notices and flyers on web sites and at the Centers/Churches (Appendix P).

There were 145 seniors in attendance at eight different sessions, 93 from Missouri (5 sessions) and 52 from West Virginia (3 sessions). Of these participants, 139 (96 percent) completed at least one form (pre-test, post-test, and/or participant assessment) and 88 (63 percent) completed all forms including the four-week followup questionnaire. No demographic data were collected on the participants other than observations by the poison center Educators.

Of the 139 participants who completed the participant assessment, 127 (91 percent) participants completed the pre-test, 127 (91 percent) participants completed the post-test, and 95 (68 percent) participants completed the four-week followup. The number of participants responding to a given item on the pre- and post-tests varied from 120 to 127 seniors. The number of participants answering a given item on the four-week followup, among the persons eligible to answer the question, varied from 82 to 95 seniors.

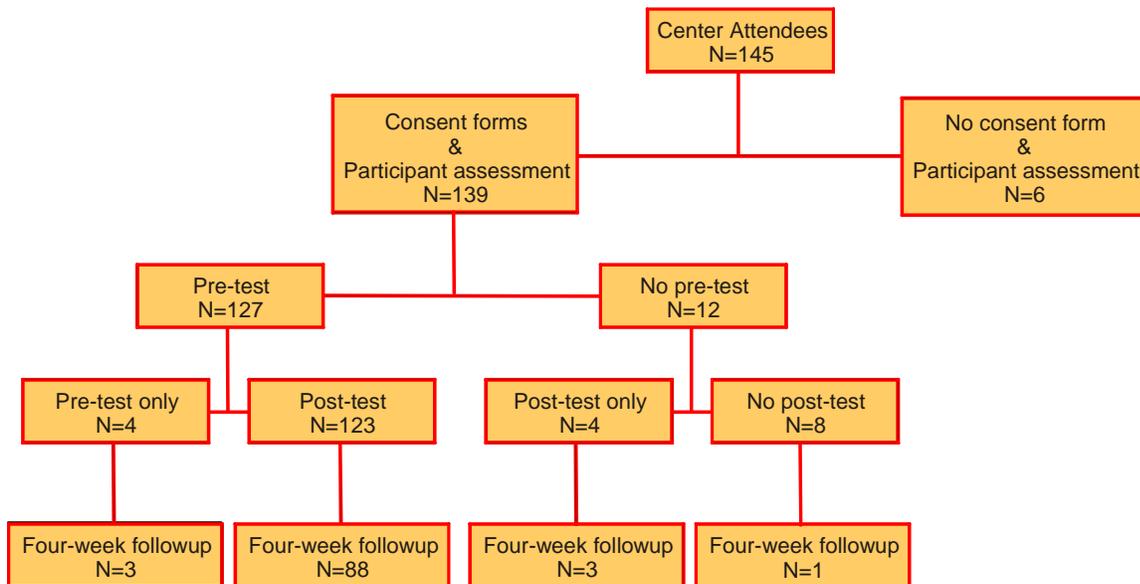


Figure 1. Distribution of the respondents who participated in *Taking Your Medicines Safely*

Evaluation Results

Participant Assessment

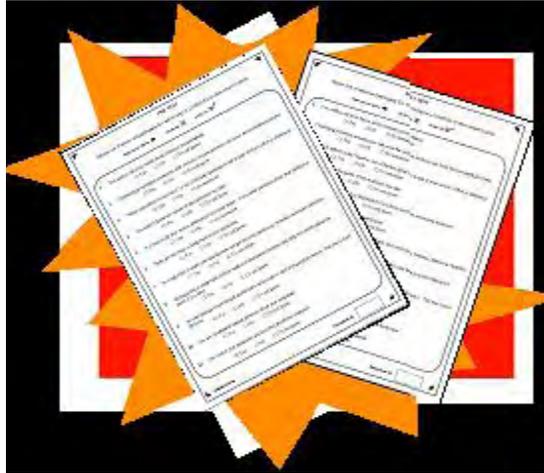
An overwhelming majority of the participants indicated that the curriculum was easy to understand (90 percent), informative (83 percent), and worth recommending to a friend or family member (93 percent). Similarly, the majority of participants found the pre- and post-test items to be easy to read and fill out (93 percent and 89 percent, respectively), understandable (93 percent), and of minimal difficulty (80 percent). Most participants also believed that they had ample time to complete these items (91 percent).

Table 1: Frequencies and percentages among the Participant Assessment Form items

Item	Yes	No	Missing
<i>Questions About the Process (Total N = 139)</i>			
1. Was the information easy to understand?	125 (90%)	4 (3%)	10 (7%)
2. Did you learn something new from the presentation?	115 (83%)	12 (8%)	12 (9%)
3. Would you recommend this program to friends and family members?	129 (93%)	1 (1%)	9 (6%)
<i>Questions About the Pre- and Post-test Items (Total N = 139)</i>			
4. Were the forms easy to read?	129 (93%)	0 (0%)	10 (7%)
5. Did you understand the questions?	128 (92%)	2 (1%)	9 (7%)
6. The questions were			
easy?	111 (80%)		
hard?	1 (1%)		
in-between?	16 (11%)		
Missing	11 (8%)		
7. Did you have any trouble with filling in the circles	3 (2%)	124 (89%)	12 (9%)
8. Did you have enough time to fill them out?	127 (91%)	1 (1%)	11 (8%)

Pre- and Post-Tests

To examine the effectiveness of the poison prevention education program, participants took a pre- and post-test on their general poison knowledge. Pre- and post- tests were compared using a paired-sample t-test analysis. The original pre-test instrument consisted of 11 items. However, two of these items (Table 2, items #5 and #6) were ambiguously worded and were excluded from analysis on both the pre- and post-tests. Of the remaining nine items, two items focused on attitudes (Table 2, items #10 and #11), and the remaining seven focused on knowledge. The original post-test consisted of twelve items, nine knowledge questions (two were removed, items #5 and #6), two attitude questions (items #10 and #11), and one behavior question (item #12). The behavior question was placed between the two attitude questions in the original post-test (Appendix H), but is shown as item # 12 in Table 2 for simplicity. As predicted, participants scored higher on the post-test knowledge items ($M = 6.71$, $SD = .76$), after receiving the educational intervention, than on the pre-test knowledge items ($M = 6.28$, $SD = .95$), $t(120) = 6.0$, $p < .01$. These data indicate that the curriculum in the poison prevention education program was effective in improving the knowledge of participants.



One of the largest percentage changes in knowledge was seen on item #1 “*You need to tell your doctor about vitamins you are taking;*” Eighty-seven (87) percent of the respondents correctly answered **yes** on the pre-test, while 97 percent correctly answered on the post-test. One question that showed no gain in knowledge was item #4, “*You need to know the names of the medicines you take.*” Virtually all respondents knew that this was the correct course of action before the educational intervention. The first attitude question (Table 2, item #10) revealed that respondents were comfortable with asking questions about their medicines before the program, $t(119)=0$, p =non-significant. However, the second attitude question (Table 2, item #11) showed a change in attitude, $t(116)=2.24$, $p<.05$. At the conclusion of the program, 76 percent of respondents felt that they had the power to control their medicines and prevent unwanted combinations, whereas only 67 percent felt that way at the start of the program.

Table 2: Pre- and Post-Test Item Frequencies on the Poison Knowledge, Attitudes, and Behavior Measures

	N	Yes	(%)	No	(%)	Don't Know	(%)
1. You need to tell your doctor about vitamins you are taking.							
Pre-test	126	110	87%	6	5%	10	8%
Post-test	127	123	97%	2	2%	2	2%
2. Combining prescription medicines with over-the-counter products can cause serious health problems.							
Pre-test	125	116	93%	0	0%	9	7%
Post-test	125	119	95%	2	2%	4	3%
3. "What side effects do I have" is one of the key questions to ask at your doctor's office or pharmacy.							
Pre-test	125	118	94%	4	3%	3	2%
Post-test	123	119	97%	1	1%	3	2%
4. You need to know the names of the medicines you take.							
Pre-test	126	123	98%	2	2%	1	1%
Post-test	125	123	98%	2	2%	0	0%
5. (Pre) It is best to ask your doctor, pharmacist or poison center, if you have questions about your medicines.							
Pre-test	127	126	99%	1	1%	0	0%
5. (Post) It is best not to ask your doctor or pharmacist if you have questions about your medicines.							
Post-test	124	31	25%	93	75%	0	0%
6. There are two ways to keep track of your medicines.							
Pre-test	124	71	57%	12	10%	41	33%
Post-test	120	99	83%	14	12%	7	6%
7. (Pre) It is important to make sure that children can get into your medicines, vitamins, and, home remedies.							
Pre-test	124	37	30%	86	69%	1	1%

	N	Yes	(%)	No	(%)	Don't Know	(%)
7 (Post) It is important to make sure that children cannot get into your medicines, vitamins, and, home remedies.							
Post-test	123	120	98%	3	2%	0	0%
8. Having a way to keep track of your medicines and home remedies may help you avoid taking too much or too little.							
Pre-test	127	124	98%	2	2%	1	1%
Post-test	122	120	98%	1	1%	1	1%
9. Joe was taking a blood thinner and decided on his own to start taking aspirin with it. This was a good decision.							
Pre-test	127	4	3%	118	93%	5	4%
Post-test	125	4	3%	121	97%	0	0%
10. You are comfortable asking questions about your medicines.							
Pre-test	126	123	98%	2	2%	1	1%
Post-test	125	122	98%	2	2%	1	1%
11. You control your medicines and how they should be combined							
Pre-test	125	84	67%	35	28%	6	5%
Post-test	123	94	76%	26	21%	3	2%
12. Do you plan to change something about how you take your medicines?							
Post-test only	123	38	31%	82	67%	3	2%

Note. Percentages may not add due to cases with missing data for a given item. If pre- and post-tests are used, it is recommended that questions 5 and 6 be dropped or reworded to prevent ambiguity.

A chi-square analysis revealed a statistically reliable difference on the post-test item (Table 2, item #12) about behavior change. Respondents expressed a preference to change something about how they take or store their medication in the future, $\chi^2(2, N = 123) = 76.4, p < .01$. Of the 123 participants who responded to this post-test item (Table 2, item #12), 67 percent ($n = 82$) indicated that they did not intend to change their current medicine dosage or storage behavior, whereas 31 percent ($n = 38$) expressed a willingness to change their behavior in the future, a significant difference. The remaining two percent ($n = 3$) of participants indicated that they were unsure of whether or not they would modify their future behavior.

Four-Week Follow-up

All 95 participants who completed the four-week follow-up questionnaire remembered the program and many commented that it was informative and interesting. The most important achievement of the program was the change in behavior reported by 22 percent of participants. About 20 percent of those interviewed at one-month post-intervention had changed something about their medicine-taking habits, such as using a daily pill record to keep track of when and how much of their medicines they took and just being more conscious about their medicine-taking habits.



Another notable achievement was that 31 percent of participants reported using the passport/pill minders and moreover, were planning to continue their use. Generally, the program was liked by the participants – only 7 percent did not find any part of it useful, only 6 percent considered the passport/pill minder too complicated, and only 11 percent did not find the Tic-Tac-Toe game interesting. For a full review of the qualitative analysis, please see Table 3 and Appendix Q.

In addition, four (4) percent of participants indicated a possible medicine interaction. However, given the participants' answers, it seems that they reported suspected but not confirmed medical interactions (i.e. "I get tingling hands...", and "...[my] [blood pressure] (BP) med[icine] makes me tired,"). Also, participants may not have reported medical interactions at all, but rather symptoms from not taking the proper medication, for example, "[My] problem's [been] low BP. Maybe [I'm] not eating right..." and "[my] doctor [is] trying to get [my BP] down [because I had] retained fluid and had to be hospital[ized] for three days." It is implied, but not explicit, in the last two responses that respondents are taking blood pressure medications.

The concept of a bad medication interaction did not convey well to the pilot-test audience. The expectation was that the concept "bad medication interaction" would lead participants to discuss symptoms such as vomiting, chills, seizures, trouble breathing, etc. On the contrary, participants responded by stating side-effects that they experienced.

Given the pilot nature of the program, several possible improvements to future programs based on participants' comments were identified. Examples of the proposed improvements are as follows (background information on the comments is given in italicized text):

1. Provide more freebies. For a list of current incentives, see Appendix J. It should be noted that while the current list includes numerous incentives, it is believed this comment came from an overcrowded session which ran out of incentives.
2. Discuss more specific conditions and examples of medicine interactions. For this recommendation, Educators who implemented the pilot actually called the poison center from their personal cell phone and placed the call on speaker. This was

well received by the audience and shows that this recommendation is quite feasible as a permanent change to the program.

3. Design a less complicated pill minder.
4. Use a smaller group. This recommendation likely came from one of the crowded sessions. The program developers feel that the recommended group size of 20 is adequate.
5. Have participants make out their own medicine schedule, in order to provide a concrete example.
6. Advertise the program better.
7. Add a section to address specific medicine questions (see #2 above).
8. Make time for one-on-one questions (see #2 above).
9. Provide examples of bottles that can be opened by elderly.
10. Add discussion on participants' medicines practices.
11. Add more focus on basic poison prevention for grandparents.
12. Consider multi-session program to improve the relationship between the group and the speaker.

Table 3. Four-week Followup Item Frequencies on Poison Education Intervention

	N	Yes	(%)	No	(%)
1. Do you remember the program?	95	94	98.9%	1	1.1%
2. Did you change anything about your medicines or everyday routines based on the program? If so, what were they?	94	18	18.9%	76	80.0%
Respondents who elaborated already have system in place	86			42	55.3%
didn't need to change	42			11	14.5%
not on any medicine	11			5	6.6%
follow doctor's orders	5			4	5.3%
should change	4			3	3.9%
greater awareness	3	7	38.9%	1	1.3%
did change	8	11	61.1%	2	2.6%
3. Have you had any bad medicine interactions in the last month? If so, tell me about it.	94	4	4.2%	90	94.7%
Respondents who elaborated medicine interaction/adverse reaction	8				
past medicine	4	4	100.0%		
interaction/adverse reaction	4			4	4.4%
no new medicines recently	1			1	1.1%
not on any medicine	1			1	1.1%
aware of circumstances that cause interaction/adverse reaction	1				
	2			2	2.2%
4. Have you talked with your doctor or pharmacist about your medicines? If so, what questions did you ask?	94	28	29.5%	66	69.5%
Respondents who elaborated have not seen doctor since program	83				
no need to speak with doctor	17			17	25.8%
forgot to speak with doctor	31			31	47.0%
will confer with doctor if needed	1			1	1.5%
asked doctor questions	6			6	9.1%
asked pharmacist questions	24	24	85.7%		0.0%
asked poison center questions	2	2	7.1%		
	2	2	7.1%		

	N	Yes	(%)	No	(%)
5. Are you tracking your medicines in any way? (e.g. remembering to take correct doses on time) If so, what works for you?	94	75	78.9%	19	20.0%
Respondents who elaborated not on any medicine should track	93			6	31.6%
by memory	6			4	21.1%
wife tracks	26	20	26.7%	6	31.6%
pill box/minder	3	1	1.3%	2	10.5%
medicine list	50	50	66.7%		
materials received at program	2	2	2.7%		
6. Have you used the passport/pill minder we gave you? If so, for how long?	95	29	30.5%	66	69.5%
Respondents who elaborated purchased own pill minder hard to use	18			1	
gave materials away				1	
use memory				4	
haven't tried				1	
not on any medicine				2	
7. Did it help you? If yes, how?	29	27	93.1%	2	6.9%
Respondents who elaborated it is inconvenient	29			2	100.0%
helps staying on schedule	16	16	59.3%		
clear window of the box					
helps seeing the pills	6	6	22.2%		
easier than other methods	3	3	11.1%		
used while on vacation	1	1	3.7%		
convenient for multi-medications	1	1	3.7%		
8. If used, did you have any trouble using the passport/pill minder? If so, what were they?	29	8	27.6%	21	72.4%
Respondents who elaborated difficult to open	8				
it is too big	6	6	75.0%		
	2	2	25.0%		
9. Do you plan to continue using the passport/pill minder/other method identified? If not, why not?	29	29	100.0%		
Respondents who elaborated it works for me	3				
	3	3	100.0%		

	N	Yes	(%)	No	(%)
10. What was the most useful part of the program?					
Respondents who elaborated all aspects of it	90				
liked the group discussion setting	9	9	10.0%		
provided feedback on my current method of taking medicines	7	7	7.8%		
liked incentives	4	4	4.4%		
learning about drug interactions and grapefruit	5	5	5.6%		
learning about PCCs	24	24	26.7%		
the PowerPoint presentation	8	8	8.9%		
Tic-Tac-Toe game	7	7	7.8%		
drawing attention to the dangers of medicines	2	2	2.2%		
None	18	18	20.0%		
	6	6	6.7%		
11. What was the least useful part of the program?					
Respondents who elaborated None	90				
no new information	60	60	66.7%		
pill minder complicated	10	10	11.1%		
Tic-Tac-Toe game	5	5	5.6%		
medical discussion not in depth	10	10	11.1%		
interaction not at the desired level	1	1	1.1%		
discussion dominated by few people	1	1	1.1%		
the room was large	1	1	1.1%		
talking was too fast	1	1	1.1%		
12. Is there anything that would make this kind of program better for people your age? If so, describe.					
	94	15	16.0%	79	84.0%
Respondents who elaborated more freebies	15				
discuss more specific conditions and medicine interactions	1	1	6.7%		
pill minder complicated	1	1	6.7%		
use a smaller group	1	1	6.7%		
have people make out their own medicine schedule	1	1	6.7%		

	N	Yes	(%)	No	(%)
advertise better	2	2	13.3%		
add a section to address specific medicine questions	1	1	6.7%		
make time for one-on-one questions	1	1	6.7%		
more sessions improve the relationship group-speaker	2	2	13.3%		
provide examples of bottles that can be opened by older people	1	1	6.7%		
add discussion on each other medicines practices	1	1	6.7%		
more focus on basic poison prevention for grandparents	1	1	6.7%		
use locking pill minders	1	1	6.7%		
13. Do you have any other comments? Responses previously captured in other items.					

Percentages may not add due to rounding and because missing cells are not shown in the table.

Educator Interviews

After the in-person sessions were completed, both of the poison-center Educators were debriefed for their feedback. As the majority of the follow-up data were available at the time of the debriefing, the Educators were able to provide insights about the effectiveness of the program and how participants responded. For details on the debriefings, please see Appendix R. According to the Educators, the pilot program was well received. Participant response to the content and process was extremely positive. As this was a pilot study, a major part of the process is learning what works and what does not. Recommendations for improvement were identified by the Educators and are presented below.



1. Arrange for a second person to help with a larger group (more than 20 participants).
2. Be clear about personnel, space, and equipment needs prior to the sessions.
3. Arrive at least 30 minutes before the session, especially if assembling materials on site.
4. Keep the stuffed gift bags out of sight until the end of the session.

5. Enlarge the print on all written products.
6. Add: “Best days and times to reach you” with the request for a followup telephone number.
7. Reword the follow-up question about usage of passports and pill minders to be less intimidating.
8. Review readability of forms, text size, and length of script and PowerPoint.
9. Adapt program as needed for cultural, regional, socioeconomic, linguistic, and reading level differences.
10. Provide comprehensive training to professionals implementing the program in community settings.

Conclusions

In light of increasing rates of unintentional poisonings among seniors, the purpose of this study was to determine if an education program for seniors would facilitate safe medication practices. It was hypothesized that if seniors were exposed to an education intervention that addressed relevant domains, medication mismanagement and unintentional poisoning could be prevented.

It was also hypothesized that the poison prevention education program would improve related knowledge among seniors. The pilot study analysis supports this hypothesis and suggests that using such interventions on seniors is an effective tool in reducing the number of unintentional drug poisonings among this cohort. The results of the pre- and post-tests and the four-week follow-up questions revealed that seniors who participated did indeed learn something about the dangers of combining medicines, herbals and vitamins. Several participants even noted changes (i.e., take medicines with water instead of grapefruit juice) that they have or will be making in this regard. Virtually all participants seemed well-informed about the importance of communicating with ones' doctor, pharmacist or poison center.



The pre-test unveiled a “knowledge ceiling effect” among participants. That is, respondents answered 90 percent of the poison knowledge questions correctly before engaging in the educational intervention. However, a statistically significant difference in knowledge and behavior was detected after the intervention. This points to the need to interpret these statistical differences in terms of a ‘meaningful’ difference in improved knowledge and behavior (there was no benchmark or reference for behavior in the pre-test).

This study is not without limitations. For instance, one of the major limitations of this pilot is embedded in the psychometric properties of the pre- and post-test instruments. More specifically, both the pre- and post-test measures were in an identical format. It is recommended that future administrations of the pre- and post-test instruments do so in alternative forms that have been demonstrated to be highly correlated. This would help to reduce threats to establishing sufficient test-retest reliability (e.g., response acquiescence).

Second, given that many of the questions were left unaltered on the pre- and post-tests, it is conceivable that participants were able to score well on these items due to familiarity as opposed to a true increase in knowledge. In addition, it should be noted that diminished visual

acuity within the senior population should also be taken into consideration by future research, particularly when constructing a survey instrument that is intended to probe seniors. This study revealed that even subtle changes in item content may not be perceived by senior participants. In this sense, future studies should utilize items that are challenging and concise.



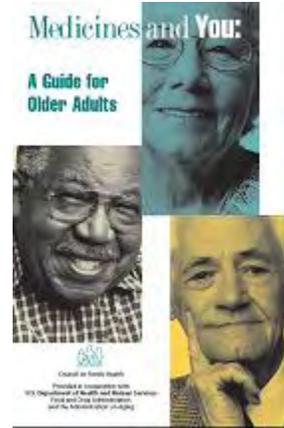
Third, without demographic data it is difficult to generalize the results of the study. Although Educators made notations about the general demographics of the groups whenever possible, individual demographic data were not collected because anecdotal data have shown that seniors are hesitant to give personal information to strangers. Only home phone numbers were collected to ease any potential angst among participants. Anecdotally, seniors who participated in this study were all independently mobile, mostly white and female, and many were well-educated. Because seniors were willing to give out their home phone numbers for the pilot study, perhaps additional personal information can be asked for in future iterations of this intervention.

Despite these limitations, one-month post-intervention, the overwhelming majority of participants (99 percent) who participated in the followup remembered the program and reported enjoying it. About 80 percent of these participants who completed the followup phone call said they currently track their medicines. Approximately 30 percent of respondents said they either have or plan to ask their doctor, pharmacist or local poison control center questions about their medicines. Thirty percent of respondents also reported using the pill box minder that was given to them at the intervention session, with only a few participants mentioning that the pill box was sometimes hard to open. The majority of participants using the program pill box said they plan to continue. Finally, about 20 percent of respondents reported a change in their medicine taking habits or heightened awareness in that regard to include usage of some daily pill recorder and being more conscientious about their medicine taking habits.

Although 93 percent of participants found some aspect of the program useful, participants and Educators offered additional ideas for improving the program. These suggestions included more discussion about personal medicine use, using a stage for the presentations, conducting smaller group sessions and focusing on poison prevention for grandparents. In addition, it is recommended that a live call to the local poison center become a permanent part of the program – with the poison center’s knowledge and consent. Finally, the study also revealed a need for refinement of an evaluation measure. The four-week measure used for this study was not able to discern if the respondent had had a bad medical interaction. Because this is important for the research

study, a new measure to capture this information should be devised and tested.

In sum, *Taking Your Medicines Safely* is a worthwhile education intervention that should be adopted for widespread use among poison centers to help ameliorate the effects of unintentional poisonings among seniors. Other health educators and professionals could also implement this program in various community settings after training.



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- Alabama Poison Center
- Arizona Poison and Drug Information Center
- Banner Poison Control Center (Arizona)
- Blue Ridge Poison Control Center (Virginia)
- Cincinnati Drug & Poison Information Center (Ohio)
- Florida Poison Information Center – Tampa
- Hennepin Regional Poison Center (Minnesota)
- Iowa Statewide Poison Control Center
- Missouri Regional Poison Center
- Nebraska Regional Poison Center
- New York City Poison Control Center (New York)
- North Texas Poison Center (Texas)
- Oklahoma Poison Control Center
- Poison Prevention and Education Center (Wisconsin)
- Texas Panhandle Poison Center
- Utah Poison Control Center
- Washington Poison Center
- West Virginia Poison Center

Appendix A

Senior Education Literature Review



Senior Education Literature Review

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Appendix B

Health Education Theory: The Health Belief Model



Educator Health Education Theory: The Health Belief Model

The Health Belief Model (HBM) was created by Rosenstock in the 1950s to explain health behaviors and the lack of participation in health education programs sponsored by the U.S. Public Health Service. The model asserts that one's perceptions of a health problem will lead them to practicing healthy behaviors if they are given tools to make a behavioral change and are able to overcome perceived barriers and achieve self efficacy.

Constructs of the HBM Applied to the Program

Following are the various components of the HBM and suggested ways to incorporate them into future versions of the program.

Model Concept	Definition	Applied Concept	Strategy
Perceived Susceptibility	A personal belief in your risk of being diagnosed with a condition	Older adults often do not feel poisonings can happen to them; however, according to statistics, older adults are not only susceptible but are also more inclined to experience severe health consequences as a result of a poisoning including: 1. Combining health remedies that include medications and alternative therapies Overdosing and possible interactions	Case study Pictures of various daily scenarios Scripted story Information about reputable health websites

Model Concept	Definition	Applied Concept	Strategy
		<p>2. Instructions and dosing schedules</p> <p>If I miss a dose –what should I do?</p> <p>May not be able to recall instructions by time get home – especially if complicated</p> <p>Can't remember if took meds on time – compliance issues</p> <p>Using a variety of sources for health information</p> <p>May share medications</p> <p>Get information on OTC/herbals from a variety of sources</p> <p>Not telling docs information about health</p> <p>May see various providers (specialists)</p> <p>Don't have a list of all meds and OTC/herbals/ foods to take to doc</p> <p>Not knowing about meds</p> <p>Don't know side effects</p> <p>Ability to understand label/insert</p> <p>Keep meds for later date until sick again</p> <p>Don't know if right med or dose by pharmacy/OTC/herbal</p> <p>May not feel that OTC, herbals, etc., are not dangerous.</p> <p>Not aware of physiologic changes in their body which slow down metabolism and potentially leave toxins in the body</p>	<p>Offer tools for questions for doctors</p>
<p>Perceived Severity</p>	<p>A personal belief in how severe a</p>	<p>Complications related to: 3. Combined</p>	<p>Case study</p>

Model Concept	Definition	Applied Concept	Strategy
	condition is	meds/Alternative (OD/interactions) 4. Not remembering instructions (missed dose, correct scheduling and methods) 5. Using un-reputable sources for information and health choices (trust doc/pharmacy, friends, herbal person) 6. Not telling doc about the use of other oral medications and therapies 7. Metabolism changes with age 8. Not knowing about meds (not right prescription/dose/side effects) Inability to read labels/inserts (too small or don't bother)	
Perceived Benefits	An individual's belief that implementing a healthy behavior will reduce their risk of a health problem	Minimize risk of unintentional poisoning and increase healthy life Empower to take charge of own health Improve quality of life – less stress related to taking meds	Information about steps for improving health
Perceived Barriers	A person's belief of problems/ issues which prevent them from practicing a healthy behavior	Overwhelming: Too much information Don't know what to do with information Don't know what to ask Don't know who to ask	Questions and topics to discuss with doctor. Discussion about why it's important to take responsibility and get over embarrassment, fear and inhibitions

Model Concept	Definition	Applied Concept	Strategy
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Embarrassed

May believe that docs don't have time for questions

May believe that OTC/ herbals are not dangerous



Cues to Action	Preparation to implement healthy behavior	Information to communicate with health-care professional <ul style="list-style-type: none"> • Allergies • Med complications • Herbals • Vitamins • Minerals • Nutritional Supplements • Food items 	Health contract Game at end Medication compliance incentives <ul style="list-style-type: none"> • E.g. (Journal, Chart Pill reminder, Color lids) Incentives to log medication, herbals, etc. <ul style="list-style-type: none"> • E.g. (Journal, Binder, Passport)
		List of questions – on bookmark <ul style="list-style-type: none"> • Name of meds • How to take • Miss a dose • Side effects What shouldn't I take with this? <ul style="list-style-type: none"> • Ask for meds insert Ways to keep track of medication compliance <ul style="list-style-type: none"> • Journal 	Bookmark with questions and topics

Model Concept	Definition	Applied Concept	Strategy
		<ul style="list-style-type: none"> • Chart • Pill minder • Color lids <p>Ways to keep log of what taking</p> <ul style="list-style-type: none"> • Journal • Binder • Passport 	
Self-Efficacy	A person's confidence in their ability to practice and maintain a good health habit	<p>Learning what to ask</p> <p>Learning who to ask. Your best resources are....</p> <p>Learning what to do with answers</p> <p>Share and learn how to keep track of your medicine schedule, what you are taking daily, and instructions</p>	<p>Jeopardy Game</p> <p>Logging and compliance strategies.</p>

Appendix C

**“Taking Your Medicines
Safely”**

PowerPoint Presentation



Taking Your Medicines Safely



Sponsored by Health Resources and Services Administration
POISON Help
1-800-232-1222

Why Are We Here?



- With older adults and medicines —
 - 83 percent take at least 1 prescription drug
 - 50 percent take 3 or more medications
- To combat potential poisoning from prescriptions and other remedies
- With tips for managing your health remedies

2

Definition

- Health Remedies
 - Prescriptions
 - Over-the-Counter
 - Herbals
 - Vitamins
 - Supplements
 - Certain foods and juices



Sources of Information

- Doctor
- Nurse
- Pharmacist
- Poison Control Center
- Ads (TV and magazines)
- Friends and family
- Internet



4

Finding Good Sources on the Internet

- Government, educational, or non-profit websites
- Up-to-date information



5

Poisoning Exposures

- Not just a problem in children



6

Example Interactions

- Interaction
 - Combined action of 2 or more things
 - Could create an unwanted effect or poisoning



7

Taking Your Medicine Safely 7

Story #1

- Joe has been taking a blood thinner for the past year
- He's concerned about his family history of heart disease
- Adds a daily aspirin



8

Taking Your Medicine Safely 8

Story #2

- Ellen regularly rides her bike
- Drinks grapefruit juice every morning for Vitamin C
- Doctor prescribes cholesterol-lowering medicine



9

Taking Your Medicine Safely 9

Story #3

- Sara has a very full, active retirement
- Takes an OTC pain reliever daily for minor aches and pains
- Develops a miserable cold, so she takes a multi-symptom cold medicine



10

Taking Your Medicine Safely 10

6 Questions ?

- What is the name of my medicine?
- What is the medicine for?
- What side effects could I have?
- How much and how often do I take this?
- What should I do if I miss a dose or double the dose?
- While taking this medicine, what should I avoid?



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Taking Your Medicine Safely 11

Consumer Medication Information (CMI)

- Most new prescriptions come with this sheet
- Some pharmacies provide large print and other languages
- Ask for an explanation!



Taking Your Medicine Safely 12

Medicine Management Tools

- ☐ Medicine tracking tools
 - Journal
 - Pill reminder box
 - Passport
 - Medicine brochure



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Taking Your Medicine Safely 13

Pill Reminders Can They Help?

- ☐ Easy to open
 - Load, lock, use
- ☐ Locking system
 - Prevents spills
 - Difficult for youngsters to open
- ☐ Convenient for home or travel
 - Good reminder at home or away



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Taking Your Medicine Safely 14

Medicine Journal or Diary

- ☐ Keep track of...
 - Questions or problems related to your medicine
 - Blood pressure
 - Blood sugar
- ☐ Take with you
 - Doctor's visit
 - Pharmacy trips



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Taking Your Medicine Safely 15

Health Passport

Name of Medicine or Health Remedy	Directions for Taking Medicine	Prescribing Doctor's Name and Date	Not To Be Taken with the Following	List of Possible Side Effects/ Warning Signs
Lipitor	1 a day	Dr. Smith 12/15/2005	Grapefruit juice	Muscle ache, weak
Ambien	1 at bedtime	Dr. Smith 12/15/2005	Food or immediately following mealtime	Daytime sleepiness

Taking Your Medicine Safely 16

Health Passport

Name of Medicine/ Health Remedy	Monday 01/01/06	Tuesday 11	Wednesday 11
Lipitor	Dose 1 <input checked="" type="checkbox"/>	Dose 1 <input type="checkbox"/>	Dose 1 <input type="checkbox"/>
	Dose 2 <input type="checkbox"/>	Dose 2 <input type="checkbox"/>	Dose 2 <input type="checkbox"/>
	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>
	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>
Ambien	Dose 1 <input checked="" type="checkbox"/>	Dose 1 <input type="checkbox"/>	Dose 1 <input type="checkbox"/>
	Dose 2 <input type="checkbox"/>	Dose 2 <input type="checkbox"/>	Dose 2 <input type="checkbox"/>
	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>
	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>
Tylenol	Dose 1 <input checked="" type="checkbox"/>	Dose 1 <input type="checkbox"/>	Dose 1 <input type="checkbox"/>
	Dose 2 <input checked="" type="checkbox"/>	Dose 2 <input type="checkbox"/>	Dose 2 <input type="checkbox"/>
	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>	Dose 3 <input type="checkbox"/>
	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>	Dose 4 <input type="checkbox"/>

17

Taking Your Medicine Safely 17

Take Home Reminders

- Passport
- Wallet card
- Handouts
 - List of websites
 - Herbal interactions
 - Medicines and You Guide



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Taking Your Medicine Safely 18

Take Your Medicines Safely

**POISON
Help**
1-800-222-1222

Thank You

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Taking Your Medicine Safely 19

Appendix D

Educator Script



Educator Script

Hi, my name is _____. I am an educator with the ____ (name) poison control center. Thank you for coming today to the “Taking Your Medicines Safely” workshop. Today’s program is part of a research project to gather information about health education and unintentional poisonings in adults over age 65. Your participation today is voluntary and you may leave at any time. As part of the project, I will ask that you sign a consent form, a document that ensures you were informed about the purpose of the project and how your confidential input will be used. I will read this out loud to make sure that you understand what today’s program is about. (Read Consent)

If you would like to volunteer to give your input and feedback, please sign and date the consent form. We are also asking for a telephone number because we would like to contact you in about a month to get your feedback about the workshop, ask questions about the information we are presenting and answer any questions you may have. Again, you may choose not to sign the consent and still stay for the program.

In order for us to know what you learned from attending the program, we will be distributing brief questionnaires before and after the program to evaluate the program content and get your feedback. As I mentioned, this is a new program that we are looking to replicate across the country. Your suggestions are important to our success and we encourage you to give your opinions.

We should agree to keep the contents of our discussion today within this room so everyone feels comfortable talking freely during the workshop.

(Distribute Pretest. Read questions and collect once everyone has completed them.)

Part 1. The Workshop

[Slide 1]

Let's begin with the program. We are going to have a short presentation with a few slides. After that, we're going to play a game where we will ask you to give the answers from today's discussion.

[Slide 2]

Why are we here today? Over the last few years, national poison center data shows that calls involving adults over 65 are often related to medicine problems such as taking too much of a medicine or combining medicines. Let's talk about what is considered a medicine? (Let group answer)

Five out of six people 65 and older take at least one prescription drug and almost half take three or more medicines. Since medicine safety is such a big issue, we wanted to develop an education program to conduct at community sites. The goal is to teach ways to prevent medicine problems from happening to people like you.

[Slide 3]

For today's program, the use of prescription and over-the-counter medicines, herbals, vitamins, dietary supplements and some foods and fruit juices will be referred to as health remedies. An example of an herbal is St. John's Wort. An example of a dietary supplement is Calcium.

When it comes to medicines, we are in charge of our own health. We shop at the pharmacy, the supermarket, and health food store. By choosing one product or another, and combining products, we may affect how we respond to our medicine.

[Slide 4]

The best way to take charge of our health is to gather the information we need. We gather health information from a variety of sources—the doctor, nurse, pharmacist, the Poison Control Center, ads and stories on television, in magazines, from friends and family, books and the Internet.

Ask group how many people use the Internet? If none, skip Slide 5.

If some participants answer yes, move to Slide 5:

[Slide 5]

Not all information is reliable. Here are some tips to review the websites you check for health information. First, check the source of the site. Government, educational and non-profit sites have web addresses ending with gov, edu, or org). Also, check that the information is current and the date the site was last updated.

[Slide 6]

What about poisonings? When we hear about poisonings, we often think about children. But what about adults—many calls to poison centers across the country involve adults over 60 years old and medicine problems. Unintentional poisonings may be caused by health remedy interactions. Let's discuss what we mean by an interaction? What do you think this refers to? (Ask for answers from the group)

[Slide 7]

A general definition would be, "a combined action of two or more things." In the case of medicines, this could be something good or it could mean an unwanted effect or an unintentional poisoning.

Certain combinations of medicines with other medicines, juice, herbals, or vitamins may change the way the medicine works. This can result in the medicines not working at all or an unintentional poisoning. Can anyone think of a possible interaction you know about or have experienced yourself? (Allow the group to give examples)

I want to take you through three different stories. Then we can discuss them and what the potential problems are, if any. These are only examples. Every person and situation is different.

[Slide 8]

Story 1: Joe has been taking warfarin (Coumadin), a blood thinner, once a day for the past year. One day while watching television, Joe sees a commercial promoting a children's aspirin for heart conditions. Joe's father died of a heart attack at a young age, so he figures it would be a good idea to start taking aspirin himself. What do you think about Joe's situation? Why or why not? (Let the group give answers)

OK let's talk about the problem. The medicine he is already taking, warfarin, is a blood thinner. Taking aspirin with it might be a problem, because aspirin can also thin the blood causing symptoms such as easy bruising to abnormal bleeding.

Here's another to think about:

[Slide 9]

Story 2: Ellen bike rides daily and drinks grapefruit juice every day at breakfast. She feels healthy with tons of energy. After her annual checkup, Ellen's doctor said her cholesterol was too high and prescribed a cholesterol-lowering medicine. To keep healthy, Ellen decides to keep drinking the grapefruit juice every morning and added a glass at lunch. Is this a good idea or not? (Let the group answer)

Let's discuss the potential problem. Grapefruit juice competes with the way some medicines are handled by the body resulting in a build up of medicine in the body. This could lead to significant muscle problems in the case of the cholesterol medicine.

[Slide 10]

Story 3: Sara recently retired from her job with the city government after 30 years. She is enjoying her free time, going on hikes, boating, and visiting her grandchildren. Sara takes a common pain reliever, acetaminophen often for her aches and pains in the cold weather. When Sara develops a cold, she begins taking a multi-symptom medicine. Is this a problem? (Let the group answer)

The problem in this story is that Sara was already taking acetaminophen for her aches and pains and added the cold medicine, which may also contain acetaminophen. Even a few days of too much acetaminophen could potentially cause liver damage.

These stories demonstrate examples of potential problems from medicine interactions. There are many common medicines that can interact and result in serious health issues. Always speak with the doctor, pharmacist or poison control center when making changes with what medicine you are taking. As we saw, something as innocent as grapefruit juice can affect how your body responds to certain medicines.

[Slide 11]

To help you remember some of the questions to ask your health care provider, I want to discuss six important questions to keep in mind:

1. What is the name of my medicine?
2. Why am I taking this medicine?
3. What side effects could I have?
4. How much and how often do I take this?
5. What should I do if I miss a dose or double the dose of my medicine?
6. While taking this medicine, should I avoid alcohol, driving, certain foods, drinks, medicines, vitamins, or herbals?

You should get the answers to these questions when you're at the doctor's office, pharmacy or any time you begin to take something new for your health, including over-the-counter medicine, vitamins, supplements or even new "miracle" foods that you read about. Keep in mind that there is a possibility of interactions with herbals, vitamins and other over-the-counter products.

[Slide 12]

If you do not remember to ask your doctor, pharmacist or poison control center these questions, most prescription medicine comes with consumer medication information (CMI) sheets, or patient/product information inserts. These patient information sheets contain many of the answers to these questions; the Federal Drug Administration (FDA) usually requires patient labeling. You may also ask for this information in large print or another language if needed. If you do not understand what this insert is saying, do not hesitate to contact your pharmacist or the poison control center.

I also want to point out here that if you think you are having any side effects or a bad reaction to the medicine, speak to your doctor right away about your concerns.

Today we wanted to raise awareness about the potential for interactions and now let's discuss some tips for managing your medicines.

Can any of you give an example of ways you keep track of what you're taking? (Let the group answer)

[Slide 13]

You can also keep track of your medicines and other health remedies using a medicine reminder box or keeping a list. It's important to pick a system that works for your individual lifestyle. Also, I'd like to mention that if you live with, care for, or are visited by children, make sure that children can't get into your medicines, vitamins, or herbals. Use a child-resistant container or box for storing your medicines and keeping them out of reach.

[Slide 14]

There are many ways to help a person remember to take their medicines at the correct time. Calendars work for some, and talking medicine bottles or caps may be an option, although they are often expensive. Putting medicines into a pill reminder box is another good way to tell if each dose has been taken. With this type of container a full week's supply of pills can be separated out according to time of day. Ask your doctor to schedule your medicines so they are as simple as possible. Check with your pharmacist to be sure your medicines are OK to remain out of their original container – some like nitroglycerin or Imitrex (for migraines) must stay in their own bottle. Your pharmacist can also help with the initial organization of your

medicines. These containers also work well if you travel. Having one that is child-resistant means that youngsters may be less likely to get into your medicines, which is a good thing!

[Slide 15]

The doctor needs to know if you are feeling any bad effects from your medicine. Keep a note pad or diary to record problems or questions about your medicines. Also take notes during or right after a doctor visit to make sure the information is remembered later. If you need refills include this information in your notes. You can also include blood sugar readings or blood pressures in this same record.

[Slide 16]

To make sure that medicine is taken on schedule, some people like to check off medicine doses as they take them. One way to do that is to use a calendar to write down the times your medicine is due each day (for instance, 8 a.m., noon, 4 p.m., etc). After you take each dose, make a check mark by the time. The blue folder we've provided is called Health Passport and has a calendar for 2006. You can also write medication instructions and other health information in the side pocket.

[Slide 17]

Inside the folder is the Passport to Health, which is another way to mark doses you've taken. The Passport to Health has spaces for each day where you can record the names of up to six different medicines and check off each dose you've taken. This differs from the Health Passport in that you are recording the name of the medicine instead of the time of day. It's a little more to write, but it more accurately shows that you took each medicine.

Slide 18

We also prepared a bookmark with the six questions to ask about new medicines, along with telephone stickers and magnets from the poison control center, and other pamphlets.

[Slide 19]

In order to be the best wife, husband, mother, father, friend, or grandparent it's really up to you to take care of yourself and that includes taking your medicines safely. That's the most you can give to your family and the community you love.

Thanks for your interest. Please let me know if you have any further questions.

Part 2. The Game

We are now going to play a Tic-Tac-Toe game and review the information we have just learned.

We will break the group into two sections—one will be Xs and one Os. Each team will have a chance to answer the question. When the team gets the right answer, they get to pick the spot for the X or O. (Everyone wins a prize.)

Questions should be written on individual pieces of paper with the answer and explanation for the answer on the opposite side. The following are suggested questions.

1. Give an example of an interaction we discussed today? (The participants should mention one of the stories presented.)
2. True or false? Unintentional poisonings only happen to children? (False)
3. True or false? Your medicines can be affected by grapefruit juice? (True)
4. State one of the six questions we discussed when starting a new medicine. (Any of the six questions is fine—see list on slide 11)
5. True or false? It is important to tell the pharmacist or doctor what medicines or supplements you are taking if you start taking a new prescription medicine. (True)
6. True or false? All information on the Internet is reliable? (False. Refer to the handout with the list of sites for health information)
7. True or false? Herbals and other supplements can interact with medicines. (True. Some herbals and supplements can interact with medicines and affect the way the medicine works in your body)
8. Name one way to keep track of medicine. (Can answer list, box, keep bottles in one place or another way they manage their medicines)
9. Name a resource for asking questions about your medicines (doctor, nurse, pharmacist, or poison control center)

Appendix E

Tic-Tac-Toe Game (Questions and Answers)



Tic-Tac-Toe Questions

Give an example of an interaction we discussed today.

True or false?

Unintentional poisonings only happen to children.

True or false?

Your medicines can be affected by grapefruit juice.

State one of the six questions we discussed when starting a new medicine.

True or false?

It is important to tell the pharmacist or doctor what medicines or supplements you are taking if you start taking a new prescription medicine.

True or false?

All information on the Internet is reliable

True or false?

Herbals and other supplements can interact with medicines.

Name a resource for asking questions about your medicines.

Tic-Tac-Toe Answers

True	False	Participants should mention one of the stories presented.
<p>False</p> <p>Refer to the handout with the list of sites for health information.</p>	True	<p>What is the name of my medicine?</p> <p>Why am I taking this medicine?</p> <p>What side effects could I have?</p> <p>How much and how often do I take this?</p> <p>What should I do if I miss a dose or double the dose of my medicine?</p> <p>While taking this medicine, should I avoid alcohol, driving, certain foods, drinks, medicines, vitamins, or herbals?</p>
<p>Possible answers:</p> <ul style="list-style-type: none"> • doctor • nurse • pharmacist • poison control center 	<p>Possible answers:</p> <ul style="list-style-type: none"> • list • box • keep bottles in one place • or another way they manage their medicines 	True

**TAKING YOUR MEDICINES SAFELY
INFORMED CONSENT FORM**

INTRODUCTION:

The Public Education Committee of the American Association of Poison Control Centers (AAPCC) and the Pacific Institute for Research and Evaluation (PIRE) are conducting a pilot study to gather information about health education and unintentional poisonings in adults over age 65. The Department of Health and Human Services, Health Resources and Services Administration, has funded this pilot study. The purpose of this consent form is to provide information about the study and invite you to take part in it. You should review this form completely and ask any questions you have before you decide if you wish to voluntarily participate.

STUDY DETAILS:

This study should take about an hour today. During this time, you will hear a presentation and engage in learning activities about how medication mismanagement occurs and some steps to prevent it. You will also be asked to complete a short survey before and immediately after the program today. In addition, in about 4 weeks, the speaker will call you for a phone interview that will last about 15 minutes. The survey and interview topics include:

- Potential problems with taking prescription medicines and over-the-counter medications
- Ways to keep track of your medicines
- Questions to ask about your medicines

Specific questions about your medication practices can not be answered during this presentation. However, please contact your pharmacist or doctor, or your local Poison Control Center at 1-800-222-1222 for clarification on your medications. For life-threatening situations please call 911. There is no cost to you to participate in this study.

BENEFITS/RISKS TO BEING IN THE STUDY:

The likely benefits of this study include:

1. Increased awareness of unintended poisonings in older adults.
2. Increased awareness of possible medicine and health remedy interactions.
3. Ways to prevent a poisoning due to medicine mismanagement.
4. Receipt of a \$10 gift card.

The risks associated with study participation are quite minimal. One possible risk is that you may volunteer sensitive medical information about yourself during the session or in your answers to the survey or interview questions. The steps being taken to protect the confidentiality of your personal information are discussed in the section below. Second, although the times for participation (1 hour for the session today and 15 minutes for the phone interview) are based on previous experience, it is possible that the study make take a little more of your time.

**TAKING YOUR MEDICINES SAFELY
INFORMED CONSENT FORM**

CONFIDENTIALITY AND VOLUNTARY PARTICIPATION:

Being a participant in this study is your decision. Even if you agree to take part initially, you may end your participation at any time, with no penalty. Your answers and results will be kept private. To protect your confidentiality, the surveys that you fill out today will have a random number used for tracking purposes rather than your name. Your name will only appear on this consent form and the speaker in charge of this session will keep your name and phone number in a locked location after today. Your name and phone number will only be unlocked and used in the study for a follow up phone call. You can refuse to answer any questions during the follow-up phone call. If you do not want to participate in the follow-up telephone survey, you don't need to provide your phone number or you can ask that your phone number be removed for future contact by calling the project help line at 1-866-747-3674, extension 2728.

CONTACT PERSONS:

If you have questions about the study, you can call the project help line at 1-866-747-3674, extension 2728. If you have questions about your rights as a participant in this study, you can contact Ms. Elysia Oudemans, Manager of Research Integrity and Compliance, Pacific Institute for Research and Evaluation, 11710 Beltsville Dr., Suite 125, Calverton, MD 20705 at 1-866-PIRE-ORG, extension 2757.

You have read the above information or it was read to you. Your printed name and signature show that you agree to be in this study.

Print Name

Date

Signature

Telephone Number (for the follow up phone interview)

Appendix G

Pre-Test



PRE-TEST

Master List of names and participant IDs will be kept in a locked file or other secure location.

Mark responses like this ●

Not like this ⊗

Not like this ✓

1. You need to tell your doctor about vitamins you are taking.
 Yes No Do not know
2. Combining prescription medicines with over-the-counter products can cause serious health problems.
 Yes No Do not know
3. "What side effects could I have" is one of the key questions to ask at your doctor's office or pharmacy.
 Yes No Do not know
4. You need to know the names of the medicines you take.
 Yes No Do not know
5. It is best to ask your doctor, pharmacist or poison center, if you have questions about your medicines.
 Yes No Do not know
6. There are two ways to keep track of your medicines.
 Yes No Do not know
7. It is important to make sure that children can get into your medicines, vitamins, and home remedies.
 Yes No Do not know
8. Having a way to keep track of your medicines and home remedies may help you avoid taking too much or too little.
 Yes No Do not know
9. Joe was taking a blood thinner and decided on his own to start taking aspirin with it. This was a good decision.
 Yes No Do not know
10. You are comfortable asking questions about your medicines.
 Yes No Do not know
11. You control your medicines and how they should be combined.
 Yes No Do not know

Appendix H

Post-Test



POST-TEST

Master List of names and participant IDs will be kept in a locked file or other secure location.

Mark responses like this ●

Not like this ⊗

Not like this ✓

1. You need to tell your doctor about vitamins you are taking.
 Yes No Do not know
2. Combining prescription medicines with over-the-counter products can cause serious health problems.
 Yes No Do not know
3. "What side effects could I have" is one of the key questions to ask at your doctor's office or pharmacy.
 Yes No Do not know
4. You need to know the names of the medicines you take.
 Yes No Do not know
5. It is best not to ask your doctor or pharmacist if you have questions about your medicines.
 Yes No Do not know
6. There are two ways to keep track of your medicines.
 Yes No Do not know
7. It is important to make sure that children cannot get into your medicines, vitamins, and home remedies.
 Yes No Do not know
8. Having a way to keep track of your medicines and home remedies may help you avoid taking too much or too little.
 Yes No Do not know
9. Joe was taking a blood thinner and decided on his own to start taking aspirin with it. This was a good decision.
 Yes No Do not know
10. You are comfortable asking questions about your medicines.
 Yes No Do not know
11. Do you plan to change something about how you take or store your medicines.
 Yes No Do not know
12. You control your medicines and how they should be combined.
 Yes No Do not know

Appendix I

Participant Assessment Form



PARTICIPANT ASSESSMENT FORM

Mark responses like this

Not like this

Not like this

About the Process:

1. Was the information easy to understand?

Yes No

2. Did you learn something new from the presentation?

Yes No

3. Would you recommend this program to friends & family members?

Yes No

About the Pre-Test and Post-Test:

4. Were the forms easy to read?

Yes No

5. Did you understand the questions?

Yes No

6. Were the questions: (mark one)

Hard? Easy? In-between?

7. Did you have any trouble with filling in the circles?

Yes No

8. Did you have enough time to fill them out?

Yes No

Appendix J

Incentives



Incentives

Once all of the forms have been collected, the health intervention (formal program) is completed. You will hand out one incentive bag to each person. Incentives will include a gift bag decorated with the six questions you should always ask when receiving a new medicine, a blank booklet to list all medications and herbal supplements for easy reference, an herbal handout, poison center magnet, laminated wallet card containing the six questions, a childproof pill box, and a copy of the PowerPoint presentation. The incentives will serve as reminders or positive reinforcement to aid the participants in adopting protective medication management behaviors. If possible, purchase or bring extra incentives in case of extra attendees. (Recommendation: Keep bags hidden until the end of the presentation.)

1. Gift bags
2. Herbal handouts (Appendix M)
3. Poison center magnets (Visit <http://www.poisonhelp.hrsa.gov> to order)
4. Laminated wallet cards containing the six questions
5. Childproof pill minder (Visit <http://www.apothecaryproducts.com> to order)
6. Copies of the PowerPoint presentation (Appendix C)
7. Health Passport (Appendix K)
8. Medicines & You Guide (Appendix L)
9. \$10 gift cards



Poison Center Magnet

Name

HEALTH
PASSPORT

**In an Emergency
Call 911**



LIVING WILL
ENCLOSED
in front inside pocket

Name:	Phone	Cell Phone	Relationship
Name:	Phone	Cell Phone	Relationship
Name:	Phone	Cell Phone	Relationship
Name:	Phone	Cell Phone	Relationship
Doctor	Phone	Exchange Phone	Specialty
Doctor	Phone	Exchange Phone	Specialty
Doctor	Phone	Exchange Phone	Specialty
Doctor	Phone	Exchange Phone	Specialty
Doctor	Phone	Exchange Phone	Specialty

Order HEALTH PASSPORT from USA, LLC 314.909.9901 advsp@swbett.net
© United Sign Advertising, L.L.C.

Include in this pocket:

- _____ Copy of LIVING WILL
- _____ Copy of DRIVERS LICENSE
- _____ Copy of INSURANCE CARDS
- _____ Copy of MEDICARE CARD
- _____ Copy of SOCIAL SECURITY CARD

Name

HEALTH PASSPORT

address

Next of
Kin _____

city, state, zip

Marital
Status _____

phone

ALLERGIES: _____

Name of Medication Health Remedy	Physical Description and Symbol	Directions for Taking Medicine	Prescribing Doctor Name and Date	Not to be Taken with the Following	List of Possible Side Effects/Warning Signs

--	--	--	--	--	--

In actual handout there were 12 copies of this page. Each page appeared in-between one month of a twelve month calendar.

Family Medical History

Name:

Last modified:

Family Member	Health Status	Arthritis	Cancer	Diabetes	Heart Condition	Lung Disease	Mental Illness	Stroke	Other	Cause of Death	Age at Death
Father											
Mother											
Siblings											
Grandparents											
Children											
Spouse											

Family Medical History

Hospitalization & Serious Illness Record

Name:

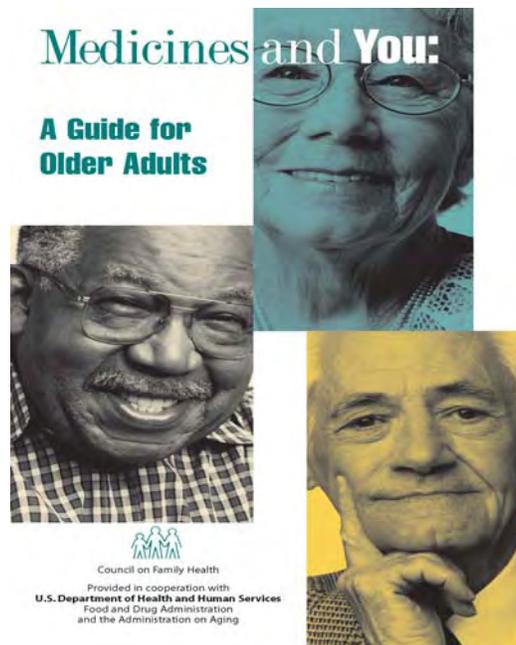
Last modified:

Date(s) of Treatment	Medical Condition	Outcome	Hospital Name & Address	Primary Doctor	Notes

Hospitalization & Serious Illness Record

Appendix L

Your Medicines and You Brochure



Organizations Responsible for Brochure

Council on Family Health
<http://www.fhcinc.org/>

Provided in cooperation with

U.S. Department of Health and Human Services
Food and Drug Administration
<http://www.fda.gov/>

and

Administration on Aging
<http://www.aoa.gov/>

Herbal Products & Prescription Medicine:



Potentially dangerous mixtures



Tips from your Poison Control Center

This is a list of only a few medication interactions. Consult your pharmacist before taking over-the-counter products.

If you take	With	This could happen
Aloe	digoxin heart medicine steroids or blood pressure meds	lower potassium lower potassium
Beta-Carotene	cigarette smoking	higher cancer risk high heart attack risk
Capsicum	blood-thinners	risk of bleeding
Cat's Claw	blood pressure meds immunosuppressants	low blood pressure reduced effectiveness
Chondroitin	blood-thinners	risk of bleeding
Echinacea	Immunosuppressants	reduced effectiveness
Ephedra	digoxin heart medicine diabetes meds	irregular heartbeat higher blood sugar
Fish oils	blood thinners	risk of bleeding
Garlic pills	blood-thinners, aspirin diabetes medicines Cyclosporine	risk of bleeding very low blood sugar organ rejection
Ginkgo Biloba/ Ginkgo	blood-thinners diuretic blood pressure pills Anticonvulsants	risk of bleeding higher blood pressure risk of seizures
Ginseng	blood-thinners	risk of bleeding

If you take	With	This could happen
Glucosamine	diabetes medicines cancer meds	may raise blood sugar cancer med won't work
Hawthorn	digoxin heart medicine	irregular heartbeat
St. John's Wort	digoxin heart medicine psychiatric meds cyclosporine blood thinners	digoxin won't work well toxic side effects organ rejection reduced effectiveness

For questions about medications, call your pharmacist or

These are some of the types of drugs that have interactions with whole grapefruit or grapefruit juice: drugs used to treat high blood pressure, "statin" drugs used to lower cholesterol, some anti-anxiety and antihistamine medications, protease inhibitors used to treat HIV/AIDS and immunosuppressant drugs used after transplant surgery. If you are on medications, ask a pharmacist for the latest information before eating grapefruit or drinking grapefruit juice.



Grapefruit & Medication Interactions

Websites to search for medication interactions:

<http://www.cop.ufl.edu/fdic/index.php> (grapefruit interactions)

<http://www.mskcc.org/about/herbs>

http://my.webmd.com/medical_information/drug_and_herb

<http://nccam.nih.gov/health>

UReference List for interaction information:

Thomson Micromedex Alternative Medicine Database: 9/2005 edition

Lexi-Interact:2004, <http://edis.ifas.ufl.edu>

Natural Medicines Comprehensive Database 2003, Edited by
Pharmacist's Letter

Appendix N

Instructions for Educators





“Taking Your Medicines Safely” Pilot Study Refresher Course for Health Educators

Overview of the Pilot Study

PIRE is the coordinating center for this pilot study which will take place at two poison control centers in Missouri and West Virginia. The pilot study will consist of eight convenience samples of older adults who already participate in activities at the local senior centers in St. Louis, Missouri and Charleston, West Virginia.

The purpose of the study is to find out if an education program will facilitate safe medication practices thereby preventing medication mismanagement and unintentional poisonings. Older adults suffer from a high incidence of serious effects related to poisonings; the majority of these poisonings involve prescription and over-the-counter medicines, herbals, and vitamins. This study is important because it builds upon existing medication safety research to lay the groundwork for a proven educational intervention to prevent unintentional poisonings among seniors.

Recruitment of Seniors (Use Promotional Flyers)

Recruitment will consist of posting and distributing ***Promotional Flyers*** in the senior centers two weeks in advance of the health intervention. The ***Promotional Flyer*** has been e-mailed to you so that you can tailor the information to meet your specific needs. You will insert your Poison Center's logo on the flyer's lower, right hand corner and type in the date, time, and place of your health intervention. You can make color copies or black and white copies for distribution.

Characteristics of the seniors:

- approximately 65 -74 years (although age will not be verified and adults of any age who self identify as seniors may attend the program)
- speak English
- healthy or live independently, as demonstrated by the fact that they can read or listen to the consent form being read to them, understand the study, and volunteer to participate of their own free will

Approximately 25 seniors should be recruited for each session. This should yield sessions of about 20 people (accounting for drop-outs and no-shows). For this study, between 4 and 51 people participated in each of the 8 sessions.

Before Conducting the Health Intervention

Here's a checklist of things to bring with you:

1. LCD projector and screen for PowerPoint Presentation. If you do not have a screen, please make sure that you come to the facility early and find good wall space for the presentation.
2. Survey packets
3. Pencils
4. Envelopes (labeled with survey form names)
5. Supplies for the Tic-Tac-Toe game
 - a. Game pieces (questions and answers on the front and back)
 - b. Little basket, container, or bag to put the game pieces in
 - c. Big sheet of paper where the "X's" and "O's" will be displayed in front of the group (if there is no black board at your facility)
 - d. Prizes (pens with national Poison Help number: 1-800-222-1222)
6. Incentives
 - a. Gift bags
 - b. Blank booklets
 - c. Herbal handouts
 - d. Poison center magnets with Poison Help number
 - e. Laminated wallet cards containing the six questions
 - f. Copies of the PowerPoint presentation
 - g. \$10 gift cards

Data Collection during the Health Intervention

The survey forms have been stapled together for your convenience. Each packet has a unique participant ID number on the lower, right hand corner of each form. This way, each person will have their own participant ID number. The forms have been stapled in the order that you will be delivering the information to the participants:

1. Consent Form
2. Pre-test
3. Post-test
4. Participant Assessment Form

Even though the forms have been stapled together, please ask the participants not to flip the pages. Let them know that you would like to go over each form with them so that the information is clear to them. (You will not go over all of the forms at once, but you will go over each form as outlined in the *Educator Script*.) Once you go over the information on each form and the participants have finished filling them out, you will ask each participant to tear

the form from his/her packet and hand it to you. For instance, once the participants sign the consent form, you will collect it from them and put them all in one envelope or folder. Then, once the participants complete the pre-test, collect it from them and put it in a second envelope or folder. Please remember to repeat this step after the participants complete each form. At the end of the session, you should have collected four sets of forms.

Conducting the Health Intervention (Read Educator Script – page 1 only)

Once everyone is seated, please give each person a packet of forms.

Consent Forms

The first two pages in the packet are the ***Consent Form***. Read the form out loud to the group. Please let them know that a lot of their questions will be answered, so it would be great if they can allow you to read the entire form before they ask questions. However, if they cannot save their questions until the end, then answer their questions as they come up. Be sure to keep track of your time, since you have only five minutes to complete this portion of the program. Individuals who agree to participate in the study will be asked to write their name and telephone number on the ***Consent Form***. You will ask the participants to tear the ***Consent Form*** from their packets and hand it to you.

Pre-Test

After you collect the ***Consent Forms***, ask the participants to look at the second form, which is the ***Pre-Test***. Read page one of the ***Instructions for Educators*** so that you can give them instructions on how to fill out the form correctly. If it is requested, please read each question out loud to the group so that they can answer the questions. Once the group is done answering the ***Pre-Test*** questions, please collect them. You can tell the group to put the packet aside because they will not need it again until 30 minutes later.

PowerPoint Presentation

Begin the ***Taking Your Medicines Safely Power Point presentation*** and go over each slide of the presentation by following the ***Educator Script***. You will read pages two to six of the ***Educator Script***.

Tic-Tac-Toe Game

When you are done with the PowerPoint presentation, you will begin the ***Tic-Tac-Toe*** game with the group. There are two ways that you can play this game with the group. You can read page seven of the ***Educator Script***. Or, you can use the game pieces that are provided (nine square pieces of paper with the question on one side and the answer on the opposite side). This way, you can pick the questions from a basket, container, or bag. Each person who answers the question correctly will receive a pen with the Poison Help number 1-800-222-1222. You will write the “X’s” and “O’s” on a big sheet of paper or black board in front of the group.

Post-Test

After the ***Tic-Tac-Toe*** game, please tell the group to refer back to their packet of forms and look at the ***Post-Test***. Once again, please read page one of the ***Instructions for Educators*** so that you can remind them how to fill out the forms correctly. If it is requested, please read each question out loud to the group so that they can answer the questions. Once the group is done answering the ***Post-Test*** questions, please collect them from the group.

Participant Assessment Form

After the participants turn in the ***Post-Test***, they should only have one form remaining and that is the ***Participant Assessment Form***. Please read page two of the ***Instructions for Educators*** so that you can go over how to fill out the form correctly. Let the participants know that we welcome all of their feedback because that will help us improve the research study. Once the group completes the ***Participant Assessment Form***, collect all of the forms from the group.

Incentives

Once all of the forms have been collected, the health intervention (formal program) is completed. You will hand out one incentive bag to each person. Incentives will include a gift bag decorated with the six questions you should always ask when receiving a new medicine, a blank booklet to list all medications and herbal supplements for easy reference, an herbal handout, poison center magnet, laminated wallet card containing the six questions, and a copy of the PowerPoint presentation. The incentives will serve as reminders or positive reinforcement to aid the participants in adopting protective medication management behaviors.

After the Health Intervention

Once you have presented the information to the participants, collected the forms, and given out the incentives, please complete the ***Cover Page for Pilot Form***. This form will help all of us keep track of important information such as the pilot site, your name, date and location of the health intervention, number of attendees, and number of forms collected that day.

Also, take a look at the ***Consent Form*** again. In four weeks, you will make follow-up telephone calls to all of the participants. Use the blank ***Contact Sheet*** that has been provided to you to write down the participant IDs, names, and telephone numbers of each attendee. You should not mail a copy of the ***Contact Sheet*** to PIRE. The information on this ***Contact Sheet*** will prevent a lot of confusion when you need to make the follow-up calls in four weeks, since you will need to match the Participant ID with the same attendee at the health intervention workshop. Please keep this ***Contact Sheet*** in a locked file cabinet to protect the privacy of the participants.

Mail to PIRE

Please FedEx the following forms back to PIRE within two days after the health intervention workshop was conducted:

- Consent forms
- Pre-tests
- Post-tests
- Participant assessment forms
- Cover page for pilot forms

Here's the information to put on the FedEx Airbill

(The numbers correspond to the line item on the FedEx Airbill):

1. FROM: Your information
Date and your name, address, telephone number
On the line "Sender's FedEx Account #"
(on the right of the date line),
2. Your Internal Billing Reference,
write: 0269.01.05
3. TO: PIRE's information
Recipient's name: Monique Sheppard
Telephone: 301-755-2728
Company: Pacific Institute for Research & Evaluation
Address: 11720 Beltsville Drive, Suite 900
Calverton, MD 20705
4. Check box: "FedEx Standard Overnight"
5. Check box: "FedEx Box"
6. Check box: "No"
(Shipment doesn't contain dangerous goods).
You can ignore the rest of the other questions
in this section.
7. Check box: "Recipient"

The Next Steps...

Data Collection After the Health Intervention

Four weeks after the date of the workshop, you will conduct follow-up telephone calls to help determine if any behavior has been modified. Refer to your ***Contact Sheet***. You will call each participant and ask them the ***Follow-Up Telephone Instrument Questions***. You will attempt to reach each participant three times via telephone. If you are unable to reach a participant after three telephone attempts, you will note the reason on the ***Unable to Contact for Follow-Up Form***.

Please conduct the follow-up telephone calls and make all attempts to reach the participants within two weeks. Do not destroy the ***Contact Sheet*** until you receive a call from PIRE to let you know that it's ok to shred it. Please FedEx the ***Follow-Up Telephone Instrument Questions*** and ***Unable to Contact for Follow-Up Form*** to PIRE for analysis.

In closing, PIRE appreciates the time and effort that you have contributed to this pilot study and we look forward to sharing the results with you!

FOLLOW-UP TELEPHONE INSTRUMENT QUESTIONS

INTRODUCTION:

Educator: Hi, I'm _____ from _____. Is _____ available?
(verify this is _____)

I'd like to ask you a few questions about your medications and the program you attended at _____.
Is this a good time to talk? We probably need 10 to 15 minutes. (If not convenient, arrange a callback)

What you tell me today will be kept private, so please be open with your answers. (This is not a test;
there are no right or wrong answers)

Open-ended Questions

1. Do you remember the program? If not, provide a brief description of program/setting.

2. Did you change anything about your medicines or everyday routines based on the program? If yes, what did you change? If no, why not? Yes No

Explanation:

3. Have you had any bad medicine interactions in the last month? If so, tell me about it. Yes No

Explanation:

4. Since the program, have you spoken with your doctor, pharmacist or poison center about your medicines? If yes, what questions did you ask? If no, why not? Yes No

Explanation:

5. Are you keeping track of your medicines in a particular way? (e.g., remembering to take correct doses on time) If yes, what works for you? If no, how do you keep track of your medicine dosing schedule? Yes No

Explanation:

FOLLOW-UP TELEPHONE INSTRUMENT QUESTIONS

Open-ended Questions (cont'd)

6. Have you used the Passport/Pill minder we gave to you? If yes, for how long? Yes No

7. Did it help you? If yes, how? (Probe for remembering to take medications, preventing missed doses)
 Yes No (If no, skip to question #10)

8. If used, did you have any problems using the Passport/Pill minder? If so, what were they? Yes No

9. Do you plan to continue using the Passport/Pill minder/other method identified?
If no, why not? Yes No

Re: The Program that the respondent attended 4 weeks ago:

10. What was the most useful part of the program? (Probe for specific activity or learning component that led to behavior change, if any)

11. What was the least useful part of the program? (Probe for specific activity or learning component that led to behavior change, if any)

12. Is there anything that would make this kind of program better for people your age?
If so, describe. Yes No

13. Do you have any other comments? Yes No

Thanks so much for your time and feedback!!!

Taking Your Medicines Safely



Do you take medicines regularly?

Participate in a brief research study and learn about:

- Potential problems of taking prescription medicines with over-the-counter products
- Ways to keep track of your medicines
- Questions to ask about your medicines

Date _____

Time _____

Place _____



POISON
Help
1-800-222-1222

Appendix Q

Qualitative Data Analysis



Qualitative Evaluation Study Results: Analysis for Four-Week Follow-up

The *Taking Your Medicines Safely* Program was a one-hour intervention on medication safety delivered to older adults in two American cities. This small-group education intervention was designed for healthy adults between the ages of 65 and 74 (although adults of any age who self-identified as seniors attended the program) and focused on the following topics: (1) dangers associated with combining health remedies, such as prescription medications, over-the-counter medications, herbals, vitamin and mineral supplements and other natural remedies; (2) patient-provider communications (e.g., points to tell the doctor, asking health professionals important questions); (3) information resources (e.g., identifying reputable sources of information); (4) finding and organizing relevant medication and supplement information, such as dosing procedures and potential side effects; and (5) medication management techniques.

Eight groups of seniors of approximately 18 people each viewed the “Taking Your Medicines Safely” PowerPoint presentation (Appendix A) and listened to an interactive Educator Script (Appendix D), and played a Tic-Tac-Toe game (Appendix E) to reinforce concepts designed to decrease medication mismanagement. Short questionnaires immediately before and after the education session were used to determine what the seniors already knew and their attitudes about being able to prevent a poisoning. After the post-test, participants were asked to fill-out a participant assessment form to help identify changes that may be necessary for a larger future research study. At the conclusion of the in-person session, incentives were distributed which were reminders or positive reinforcements to aide the seniors in adopting protective medication management behaviors.

The following analysis details the results of the follow-up phone calls made to each consenting participant one month after the intervention. The purpose of these follow-up phone calls was to determine if any behavior had been modified.

A total of 95 (68 percent) of the 139 original participants in the intervention responded to the four-week follow-up phone calls. Among them, 69 out of 89 (77.5 percent) were Missouri participants and 26 out of 50 (52 percent) were West Virginia participants. A total of 88 (92.6 percent) of the 95 participants are currently taking some form of medication ranging from a daily low dose aspirin to multiple medications with potential interactions. Six (6.3 percent) of

the 95 participants are not on medication at the time, although 2 (33 percent) of these 6 participants admit to taking daily vitamins, and it is unknown if 1 is currently taking medications. Each question asked during the 15-minute follow-up phone call is analyzed separately, and conclusions about the overall results from the phone calls are presented at the end of this appendix. Please see Appendix G for the actual instrument used by Educators.

Q1: Do you remember the program?

- Of 95 participants, 94 (99 percent) said yes. The one (1 percent) participant who said no remarked,
 - “No, it was a program about drugs.”
 - However, this participant answered all of the remaining questions, thus, clearly this participant did have some memory of the program.
- All 26 participants from West Virginia and only 3 (4.3 percent) of the 69 participants from Missouri elaborated on what they remembered about the program. The 29 participants who elaborated described the program as “good,” “interesting,” “informative,” and “provided important information on medications.” Other comments included:
 - “Yes, I have beginning Alzheimer’s, but I did learn a lot.”
 - “[The program was] stimulating.”
 - Even the participants not currently taking medications who elaborated (2 of the 29 participants) remembered the program and noted the benefit of the information provided.
 - “I am very fortunate not to be on med[ications]. Few people know about med[ication] interactions [and] med[icine] management. [I] felt comfortable asking questions.”

Q2: Did you change anything about your medicines or everyday routines based on the program? If so, what were they?

- Of the 95 participants, 94 (99 percent) answered this question. Among the 94 who answered, 76 (81 percent) said no and 18 (19.1 percent) said yes.
- Many of the respondents who said no explained their answers. Of the 76 participants, 42 (55 percent) said that they already had a system in place that was working for them; 11 (14 percent) said that they didn’t need to change; 5 (6.6 percent) said that they were not on any medicines; 4 (5 percent) said that they go according to their doctor’s orders;

and 3 (4 percent) said that they *should* change what they are doing based on what they learned (but have not). The comments from the last group of 3 participants were:

- “It just made me more aware of what I was taking.”
- “I take my meds with water now. I don’t use grapefruit juice anymore.”
- “[We’re] only on three meds, use the new pill [box] you gave us, threw the old one away.”

These last two comments could very well be viewed as change statements, which would bring the number of participants who did change something about their medicines or everyday routines based on this program from 20.2 percent to 22 percent.

- Of the 18 (19.1 percent) who said yes to the question initially, 11 (61.1 percent) actually changed something about their medicine routine.
 - Among the 11 respondents, 3 have given up grapefruit/grapefruit juice because of the potential problems; 4 are using the pillbox that they got at the presentation; 2 are using a new pillbox; 1 is using the wallet card; and 1 respondent indicated that they had a new medicine added to their routine.
- Of the 18 participants, 7 (38.9 percent) said that they were more aware and conscientious with their medicines since having participated in the program.

Q3: Have you had any bad medicine interactions in the last month? If so, tell me about it.

- Of the 95 participants, 94 (99 percent) answered this question. Of the 94 who answered, 90 (95.7 percent) said no and 4 (4.2 percent) said yes.
- Among participants who elaborated on their “no” answer (8, 8.9 percent, of 90), some indicated some past medicine interaction (4, 50 percent, of 8):
 - “I was light headed, and I thought it could’ve been caused by the medicines I was taking.”
 - “Not recently, but Lipitor has caused me chronic kidney failure. And [I have a] low heart rate [because my] dosage [was too high] and had to [be] adjust[ed].”
 - “Well, years ago [I took] Ferocin Med Patch.”
 - “No – years ago only. I am allergic to Penicillin so I avoid that.”

- Of 8 participants who elaborated, 1 (12.5 percent) indicated that they had not introduced any new medicines into their routine, and 1 other stated that they were not currently taking any medication.
- Only 4 (4.2 percent) answered yes. Although this was only a small number, their elaborated responses seem to indicate that they are reporting adverse reactions to medications. Their comments included:
 - “I’m not sure. I’m now taking 3 different blood pressure medicines. I also have diabetes. I get tingling hands. A nurse practitioner gave me a sleeping/anxiety pill, which made me tingly all over.”
 - “Not that I know of, other than muscle [pain], [I] have pain that I think is [because] of med[icine]. Also [blood pressure] med[icine] makes me tired.”
 - “[My] problem’s [been] low BP [blood pressure]. Maybe [I’m] not eating right. [I’m] trying to eat regularly [and I have been].”
 - “Yes, [my] doctor [is] trying to get [my blood pressure] down [because I had] retained fluid and had to be hospital[ized] for 3 days.”

Q4: Have you talked with your doctor or pharmacist about your medicines? If so, what questions did you ask?

- Of the 95 participants, 94 (99 percent) responded. Sixty-six (70.2 percent) said no and 28 (29.8 percent) said yes.
- Among the 66 (70.2 percent) who said no, 17 (25.8 percent) said that they had not seen their doctor since the educational intervention and 31 (47 percent) said they did not need to talk with their doctors or they hadn’t had any questions. Examples of responses were:
 - “[I] have been to doctor but [have] no questions to ask him. I have been on the meds I take for years.”
 - “[I] forgot but [am] thinking about it for my next appointment.”
 - “[I] have regular check-ups and if I have changes to my meds I know now to go over them with my Dr.”
- All of the 28 (29.8 percent) participants who said yes elaborated on the kinds of questions they ask their doctors, pharmacists or poison control centers. The questions they mentioned were:

- Doctor (24, 85.7 percent, of 28)
 - “All questions on wallet card.”
 - “Do all my medicines interact? Can I take my medicines at once?”
 - “Spoke to sugar doctor about getting on a schedule. I am also depressed and want to do better. I take so many meds, it is so hard.”
 - “Why am I feeling light-headed? Is my medicine making me feel this way? I found out I had a salt imbalance.”
 - “Why are you making changes in my medicines?”
 - “If I could take a drug for the rash without any interactions with the medicines I’m currently taking.”
 - “I asked if I had to be put on Insulin.”
 - “I asked if my medicine was causing indigestion.”
 - “How the new medicine will interact with current medicines.”
 - “Neurontin and Loratepam.”
 - “Grapefruit interaction.”
 - “If I was taking my medicines correctly.”
 - “[I asked if there was a ‘generic’] version of my current medicine.”
- Pharmacists (2, 7.1 percent, of 28)
 - “I asked the Pharmacist about Lipitor. I took my list of medicines to him to see if there would be any drug interactions.”
- Poison Control Center (2, 7.1 percent, of 28)
 - “I called the Poison Center and I took the Six Questions Card to the doctor.”
 - “I called the Poison Center to find [out] that my medicine I was taking at night was keeping me awake. They said I could take the pills in the a.m.”
- Seven of the participants who answered no actually indicated that they would ask questions based on their elaborated responses. This brings the total number of respondents who would ask questions from 28 to 35 people or 7 percent.

Q5: Are you tracking your medicines in any way? (e.g., remembering to take correct doses on time) If so, what works for you?

- Of the 95 participants, 94 (99 percent) responded to this question.
- Of 94 participants, 19 (20.2 percent) said that they were not tracking their medicines. The reasons follow:
 - Six (31.6 percent) said that they rely on their memory to keep track of their medicines:

- “I know every morning after breakfast I take 2 pills, every night I take 1 pill, every Saturday I take Fosamax.”
- An additional 6 (31.6 percent) said that they do not take any medicines at all.
- Four (21 percent) said that although they do not currently track their medicines, they are thinking about it.
 - “No, but I should especially since I saw the program. I forget sometimes when (if) I have taken something and I will just skip it until next time so I don’t take a double dose.”
- Two (10.5 percent) said that their spouse keeps their medicines in check.
 - “My wife makes sure I get my medicine on time.”
- Of 94 participants, 75 (79.8 percent) indicated they were tracking their medicines. The methods that they are using are listed below.
 - Two (2.7 percent) indicated that they use a medicine list to track their medicines.
 - “I have my medicines written down on my fridge. I have more copies of my medicine list than I did before.”
 - Twenty (26.7 percent) rely on their memory for tracking their medicines.
 - “Of course, been on [my medicine]so long that I know what to do. Like my Synthroid [that I] have taken since 1977 and I just know to take it before breakfast.”
 - Two (2.7 percent) said that they now use the materials that they received at the educational intervention to help keep track of their medicines.
 - “Diary and a pill minder that I received at the seminar.”
 - “I have a container that I keep my meds in that has daily dosages. Didn’t I get that at this program? Yes, that is the one I use.”
 - Fifty (66.7 percent) use a pill box to track their medicines:
 - “I lay out all my pills in a 28-day pill minder (it’s bigger than the one you gave me).”
 - “I use a daily pill minder for daytime pills and one for nighttime pills.”
 - The final respondent (1.3 percent) said, “My wife puts my meds on the table and I take them.” This last response most likely does not qualify for are **you** tracking your medicines; if this response is removed the percentages do not noticeably change.

- Based on the respondents who elaborated, actually only 54 (57 percent) of the 94 participants have their own method for tracking their medications, and two of these respondents adopted their method after the program.

Q6: Have you used the passport/pill minder we gave you? If so, for how long?

- All 95 (100 percent) participants answered this question.
- Of the 95 participants, 66 (69.5 percent) said no. Those who elaborated (N=18) said that they:
 - had been using the pill minder or passport for “4 weeks” (this respondent indicated in the previous question that they had gotten their own pill box);
 - “found it hard to use”;
 - “gave[it] to my mother-in-law who takes a lot of meds”;
 - relied on their memory (4 respondents): “I don’t need either. Would be useful to people who can’t remember”;
 - “haven’t tried to use it”;
 - did not take medicines (2 participants);
 - didn’t feel the pill minder was necessary because “they only take 1 med occasionally”;
 - hadn’t started using it yet (1 respondent) or were saving it (2 respondents) for future use: “I’ll use the pill minder when I go out of town”;
 - are considering using it in the future (2 respondents): “Don’t need pill minder or passport [because] I only take 3 or 4 medications. But maybe I should start using it so I know what I have taken.”
- Of the 95 participants, 29 (30.5 percent) said yes. The reported length of time used ranged from 1 to 5 weeks, with the average time of use being 3.6 weeks among the respondents. One (3.4 percent) of 29 respondents said that “I tried it for 2 weeks, but I like my smaller pill minder better.” (This respondent’s time was not computed in the average of 3.6 weeks). Other (3.4 percent) respondents who elaborated, stated that they “will use it,” or indicated that they used the pill minder (3 participants, 10.3 percent) or passport (1 participant, 3.4 percent).

Q7: Did it [passport/pill minder] help you? If yes, how?

- Of the 95 participants, 82 (86.3 percent) answered this question, and 13 (13.9 percent) participants did not answer. Twelve of 13 who did not answer this question answered no to the previous question that asked if they used the passport or pill minder received in the educational session; the 1 remaining participant who did not answer this question said yes to the previous question about use of the passport or pill minder.
- Of the 82 participants who responded to this question, 55 (67.1 percent), said no. Only 3 (5.4 percent) of the 55 participants answered yes to the previous question that they had used the passport/pill minder that was given to them. All of the people who elaborated on their response answered no to the previous question. Their reasons ranged from the pill minder was difficult to use (1 respondent), they forgot about it (1 respondent), they are not taking any medicines (1 respondent), and it was too big (4 respondents).
- Of the 82 participants, 27 (32.9 percent) responded positively to this question. Following is a list of reasons that they gave of how the passport or pill minder helped them. Of 27 respondents two comments were:
 - “I write down instructions for my medicines on that paper that came from the pill box.”
 - “Pill minder [is] easier to use than the one we had.”
- Fourteen (51.8 percent) indicated that materials from the program helped them remember to take a dose, record it, and keep better track of when to take the medicines they have.
- Another respondent (3.7 percent) specifically commented on the passport:
 - “The Passport is better than a plain piece of paper for checking off doses. It helps me to remember to take all doses and keeps me from mixing the pills.”
- Of 27 respondents, 6 (22.2 percent) specifically commented about the windows of the pill minder: “I like the see through windows. I see the empty space and that’s how I know I took the pill.”
- One final respondent (3.7 percent) indicated that they have “used the pill box for going on vacation.”

Q8: If used, did you have any trouble using the passport/pill minder? If so, what were they?

- Of 95 participants, 44 (46.3 percent) responded to this question. Of the 51 (53.7 percent) persons who did not answer this question, only 1 (1 percent) answered yes to the previous question and upon elaboration said, “Putting all the pills into the box makes it easier to see and remember the medicines.” Of the 51 non-responders, 13 (25.5 percent) also did not respond to question #7. The remaining 37 (72.6 percent) of 51 non-responders answered no to the previous question.
- Of 44 participants, 36 (81.8 percent) said no to having trouble with the passport/pill minder. Of the 36 (100 percent) who responded no, 23 (63.9 percent) had responded that the pill minder/passport did help them in the previous question. Those who elaborated on their no response said the following:
 - “Hard to get the medicines out of the little compartments.”
 - “Very useful with the days of the week on it...”

The first comment could indicate ‘trouble’ with using the pill minder, but since the respondent said “no” to the question, this comment is viewed as an irritation rather than a problem.

- Of 44 participants, 8 (18.2 percent) said yes they had trouble with the passport or pill minder. Of these 8 responders, 3 (37.5 percent) answered yes on the previous question that the passport/pill minder helped them. Comments on the problems encountered while using the pill minder were:
 - “[I] can’t get [the pill minder] open”;
 - “[I] forget to take my med[icine], but they’re mostly vitamins”;
 - [The pill minder/passport is] too big; and
 - “[The passport/pill minder is hard to use. [I] end up dumping [out] an entire row of pills.”

Q9: Do you plan to continue using the passport/pill minder/other method identified? If not, why not?

- Of the 95 participants, 45 (47.4 percent) responded to this question.
- Of the 50 (52.6 percent) participants who did not answer this question, 11 (22 percent) did not answer if the passport/pill minder was helpful, and 39 (78 percent) answered that the passport/pill minder was not helpful to them.

- Of 45 respondents, 16 (35.6 percent) said no, they did not plan to continue using the passport/pill minder. Of the 16 the respondents who answered no, 11 (68.7 percent) said that this was not applicable to them. All of these respondents also answered no to having used the passport/pill minder. Of the remaining 5, 4 (31.2 percent) respondents who gave a no answer, also gave a reason as follows:
 - “Daily pill reminder works best for me.”
 - “Hard to open.”
 - “My husband can get the pill minder open, but I can’t. I am tired and anemic.”
 - “Will try to use it in the future.”
- Of 45 respondents, 29 (64.4 percent) said that yes, they would continue to use the passport/pill minder. The reasons that they gave were: “I think so,” “Why not,” and “[It] works for me.”

Q10: What was the most useful part of the program?

- All 95 (100 percent) participants responded to this question.
- Nine (9.5 percent) responded that all aspects of the program were useful.
 - “All of it-every piece of the info is very important.”
- Seven (7.4 percent) responded that they enjoyed the discussion, and of these 7, 4 responded that they also enjoyed some other aspect of the program (i.e. slide presentation, learning of poison center). Common sentiments expressed by participants were that it was helpful to (1) hear other seniors talk about how they handle their medicines; and (2) learn about the Poison Center as a resource for information about medicines.
- Four (4.2 percent) respondents commented that they found various aspects of the program useful, such as:
 - getting feedback from the presenter (2, 2.1 percent, respondents) “Just knowing that someone is interested in helping us to develop a method for taking meds”;
 - talking with their doctor (1 percent, one respondent) “Dr. has me on low-dose aspirin and blood thinner and I am worried about this because of what I heard in the program. I called him and he said for me to continue taking both, but I don’t like it”;

- or getting people to listen.
- Five (5.3 percent) participants felt that the incentives were the most useful part of the program. “The give-aways were great!”
- Twenty-three (24.2 percent) respondents commented that learning about medicine and food interactions was the most useful part of the program.
 - “Finding out that some medicines can interact with a variety of things.”
 - “Learning about the various interactions: grapefruit and Lipitor, etc.”
- One (1 percent) participant commented that he/she “[doesn’t] take meds but there may be a time. When I need help with meds, I have put [the materials from the program] in a safe place.”
- Seven (7.4 percent) participants commented about the poison control center. One participant stated that the most useful part of the program was “when I learned that you could call the Poison Center with questions about your medicine.”
- Six (6.3 percent) participants said the PowerPoint presentation was the most useful part of the program.
 - “The way the material was presented. The use of plain English was helpful – the PowerPoint presentation.”
 - “Easy to understand scenarios. Helps folks when you have examples.”
- Two (2.1 percent) respondents enjoyed the Tic-Tac-Toe game the most. “I like the Tic-Tac-Toe Game. They helped me remember what was important about the talk.”
- Eighteen (18.9 percent) participants felt the topic was the most useful part of the program. “Being reminded how to take medicines and to contact doctor if you have side effects.”
- Five (5.3 percent) respondents did not know what aspect of the program was the most useful to them.
- Five (5.3 percent) participants commented that they did not find anything useful. Four of these 5 participants did not point out any deficiencies in the program when asked for the least useful part; 1 (1 percent) said:
 - “Don’t let one person dominate Question and Answer Session. Some people love to talk about themselves.”

- However, one (1 percent) of these participants commented that one aspect of the program would be useful stating:
 - “Passport really neat. Maybe use in the future,”

Q11: Least useful part?

- Of the 95 participants, 91 (95.8 percent) responded to this questions.
- Of 91 participants, 60 (65.9 percent) could not think of anything specific or responded that it was all useful information.
 - “We found nothing wrong [with] the program.”
 - “I don’t know – didn’t have a least favorite part.”
- One (1 percent) participant indicated that they “didn’t really need the information,” while nine (9.9 percent) participants indicated that they already knew the information.
 - “Everything you spoke about, I already knew.”
- Six (6.3 percent) participants commented on other aspects of the program that they did not like such as others dominating the discussion, difficulty hearing, speed of presentation, wanting more medical detail, wanting more group discussion, and people were focused on lunch.
- One (1 percent) participant did not like the passport, stating:
 - “The calendar on the passport was from 2006.”
- Four (4.4 percent) others did not like the pill minder:
 - “[The pill minder was given out too early in the] program and [it] was too difficult [and] hard to understand and [to] open.”
- Ten (11 percent) respondents commented that the least useful part of the program was the Tic-Tac-Toe game. “Tic-Tac-Toe Game was not my favorite, but it was a useful reinforcing tool.”

Q12: Is there anything that would make this kind of program better for people your age? If so, describe.

- Of 95 participants, 94 (98.9 percent) responded.

- Of 94 participants, 79 (84 percent) said no. Even though so many said no, a few did elaborate:
 - “It’s good for seniors to be aware of their medicines.”
 - “Offer this program to younger people and under-educated people. Perhaps a blue collar audience may benefit.”
- Of 94 responding participants, 15 (16 percent) said yes. Their ideas varied and ranged from including more personal medicine discussion, using a stage, presenting only in small group, having follow-up sessions, focusing on what grandparents should be doing for poison prevention, using better pre-program advertising, using more incentives, including more details on interactions, and keeping the program short.
 - “Make the program medically oriented or add a section to address specific medicine questions.”

Q13: Do you have any other comments?

- Of 95 participants, 89 (94.7 percent) responded to this question.
- Of 89, 38 (42.7 percent) said that they had no further comments.
- Of 89, 51 (57.3 percent) said yes. Their comments generally focused on high praise of the program and the speakers.
 - “This was a very important talk. I hope you can continue to give it!”
 - “I hope people will learn something and change their ways.”
 - “I like the pill box. I feel safe when my grandchildren are around.”
 - “You are an enthusiastic speaker. Be sure that the speaker can hold the attention of the audience like you can!”
 - “Print large enough to read. Thanks!”

Discussion/Conclusion

All 95 participants who completed the four-week follow-up questionnaire remembered the program and many commented that it was informative and interesting. Almost 80 percent of the participants had a method for tracking their medicines before the program. The most important achievement of the program was the change in behavior in 22 percent of participants. Four (4) percent of participants indicated a possible medicine interaction. However, given the participants' answers, it seems clear that they reported suspected but not confirmed medical interactions (i.e. "I get tingling hands...", and "...[my] [blood pressure] (BP) med[icine] makes me tired,"). Another achievement of the program was that 31 percent of participants had used the passport/pill minders and moreover, were planning to continue their use. Generally, the program was liked by the participants – only 7 percent did not find any part of it useful, only 6 percent considered the passport/pill minder too complicated, and only 11 percent did not find the tic-tac-toe game interesting. Although not all 95 participants answered every question, the questions skipped seemed random or followed the skip pattern written into the instrument.

Given the pilot nature of the program, we identified several possible improvements to future programs based on participants' comments. Examples of the proposed improvements include:

1. Provide more freebies;
2. Discuss more specific conditions and medicine interactions;
3. Design a less complicated pill minder
4. Use a smaller group;
5. Have people make out their own medicine schedule, in order to provide a concrete example;
6. Advertise the program better;
7. Add a section to address specific medicine questions;
8. Make time for one-on-one questions;
9. Provide examples of bottles that can be opened by elderly;
10. Add discussion on medicines practices;
11. Add more focus on basic poison prevention for grandparents

12. Consider multi-session program to improve the relationship between the group and the speaker.

The most popular comment or suggestion was to take individual questions about medications. To accommodate this suggestion, Educators actually called the poison center from a speaker phone during the session. This was well received by the audience, and the poison center was informed in advance.

Appendix R

Pilot Study Interviews with Educators



Taking Your Medicines Safely: Pilot Study Summary and Analysis of Interviews with Health Educators

PIRE conducted detailed interviews with the Poison Control Centers' (PCC) health educators who delivered the medication safety pilot program to older adults. Two sites, Missouri and West Virginia, were selected for conducting and assessing educational sessions. The process included recruiting and preparation, a PowerPoint presentation, questions and answers, provision of gift items, and evaluation forms (consent form and information for follow-up; pretest and posttest; and session assessment form). All educational sessions were completed, and about half of the follow-up interviews with participants were completed at interview time.

Educator Background

Both presenters who conducted the pilot have strong backgrounds in health care, education and training. The average length of employment at the poison center was 4 years. Both educators had some previous experience with seniors.

Need for Training

Both presenters felt that minimal training would be needed for other PCC health educators to implement the program. This would include a brief review of the process and educational package. For community workers, however, more comprehensive training would be required to conduct the sessions.

Recruitment and Preparation

In both sites, the educators worked closely with community agencies to arrange the sessions and recruit participants. One presented the study to the Parish Nurse Association, which runs monthly social groups for seniors. She also brought a copy of the PowerPoint presentation. The nurses helped arrange for the educational sessions. The other educator had a previous working relationship with Senior Services, which ran community Senior Centers. She submitted the presentation to agency staff for review. She worked closely with the activities coordinator who helped arrange specific rooms, working within the study timelines. Sessions were held in Senior Center rooms, classrooms, church halls and theaters. Both educators said the collaborations worked well.

Recruitment methods included scheduling the presentation before the lunch program (a big draw), advertising the giveaways, and posting notices and flyers on web sites and at the Centers.

Preparation was minimal for these educators, who had already been involved in developing the program. PIRE's package facilitated the process, according to an educator. However, there were many materials to assemble and transport (e.g., laptop, LCD projector, "goodie" bags, forms).

LESSON LEARNED: It was often unclear how many people would show up at the sessions. Collaborators only provided estimates. Smaller groups went more smoothly. A second person or assistant will be needed for a larger group (more than 20 participants). Both educators said the ideal session would have 15-20 participants. An agency coordinator, who had received an advance package, provided assistance during sessions at one site. At times, there was inadequate space or equipment. The educator should be clear about personnel, space, and equipment needs prior to the sessions.

LESSON LEARNED: Coordinating and assembling the goodie bags proved to be difficult at times. It was recommended that if the group is larger than 20 people, educators should take the materials to the site and assemble. If assembling on site, educators should plan to arrive 30 to 40 minutes before the session.

Also, one educator laid out the bags at the beginning of the first session, and people just took them, whether or not they were participating. Some people who took the bags signed consent forms, but gave no numbers for follow-ups. The presenter, therefore, should keep the stuffed bags out of sight until the end of the session, and not distribute them until receiving all necessary forms and information for the study. Some people stuck the forms in their purses or threw them away. The educator needs to ensure that people who do not want to participate in the study return all paperwork, even blank forms.

PARTICIPANTS: At one site, most participants were in their 60s and 70s; at the other, most were in their 70s and some in their 80s. Participants at one site were mostly middle class, well-educated professionals. Most of the attendees at the other site were lower middle class, with lower than average education. Interestingly, few people at the first site were using the Internet. In contrast, half of one group at the other site used the Internet, and about 10-20 percent of other groups at the site accessed the Internet. Some participants were hesitant about signing the consent forms and giving out their telephone numbers, but most did sign.

Script

Overall, there was positive response, and major substantive changes are not needed. Some culturally specific or other wording changes may be needed to adapt the program to various

populations. Some parts of the script worked better than others, depending on the population. The Tic-Tac-Toe game did not work well at one site, especially in larger groups. At one site, the seniors enjoyed the case studies. They loved the anecdotes and related well to personal stories, which opened up discussions. At another site, the script proved to be somewhat dense, and could be shortened some. It mostly depends on how savvy the participants are, but this can be hard to know ahead of time.

LESSON LEARNED: Most seniors understood the presentation. Evaluation forms, read aloud, seemed somewhat complicated. Notably, in both sites the seniors said the text was too small, and asked for larger print on forms. Poor eyesight and sometimes lower educational level affected full participation. Hearing did not seem to be an issue.

SUGGESTION: Include a sample call to the 1-800 Poison Help number for specific medical information. Warn the Specialist in Poison Information (SPI) ahead of time.

Follow-up Interviews

Reaching Participants and Response

At interview time, all follow-up telephone interviews had been completed at one site (90 percent response rate), and were in process at the other. Reaching seniors was not always easy. More active seniors were often away from home. Saturdays were especially hard to reach anyone. Morning calls during the week worked well. At one site, some seniors resented calls during a holiday time (Easter). Educators often went beyond the “try three times, then give up” guidance to reach people. One suggested trying for a week before giving up.

Educators received varied and candid responses when conducting the follow-ups. While some people said, “Oh, I was waiting for your call,” others replied, “Who is this? Why are you calling?” At least one respondent said she did not remember the educator or anything else about the program. In one site, the Educator lowered the reading level of questions during the calls to meet the needs of the population.

Wording of Questions

Some participants felt guilty if they did not use the passport or the pill minder, and were reluctant to admit this. Some questions put them on the defensive. This situation could be improved by changing the wording. For example, we could say “Have you had an opportunity to use the (passport, etc.)?” or “Did you need to use the (pill minder, etc.)?” We need to emphasize that there are no right or wrong answers; it is not a test.

Some respondents did not like the focus on age. For example, one question asked “what could we do to make the program better for people your age?” This could be changed to better “for you”?

RECOMMENDATION: Add: “Best days and times to reach you” where we ask for a telephone number for follow-up.

Overall Assessment

Educators at both sites thought the program was quite successful, and would present it again to other audiences. Participants said they had a good time. Some participants offered immediate feedback before they left, thanking the educator for an interesting presentation, and for the gift card. Others said they “learned a lot” and appreciated the valuable information.

To improve the program, a review of the readability of forms, text size, and length of script and PowerPoint should be completed. In one setting, delivery took over an hour. A more acceptable time, given attention span, would be about 45 minutes. However, even though the program was most difficult with larger groups, most participants were engaged until the end.

Controlling the size of the group would be extremely helpful, but may be difficult to accomplish. In one session, there were more people than incentives. One participant was very angry that she did not get a gift card. The educator’s assistant from the community agency felt so badly for her that she gave the participant some of her own money. It is unclear how this can be resolved, as educators generally only get an estimate of attendance, and do not have endless resources.

Program Replication in Other Settings

Both educators felt that this program would work with other populations, but would need to be adapted some for cultural, regional, socioeconomic, linguistic, and reading level differences. With some training, this program also could be implemented in community settings by other professionals.

Fidelity to Original Program

Both presenters followed the protocol and script closely. The only changes made were to make participants feel more comfortable (e.g., slight rewording to lower reading level).

Summary of Recommendations

In virtually all cases, the pilot program was well received. Participant response to the content and process was positive. As this was a pilot test, a major part of the process is learning what works and what does not. Recommendations for improvement were identified and are presented below.

1. Arrange for a second person to help with a larger group (more than 20 participants).
2. Be clear about personnel, space, and equipment needs prior to the sessions.
3. Arrive at least 30 minutes before the session, if assembling materials on site.
4. Keep the stuffed gift bags out of sight until the end of the session.

5. Enlarge the print on all written products.
6. Add: “Best days and times to reach you” with the request for a follow-up telephone number.
7. Reword the follow-up question about usage of passports and pill minders to be less intimidating.
8. Review readability of forms, text size, and length of script and PowerPoint.
9. Adapt program as needed for cultural, regional, socioeconomic, linguistic, and reading level differences.
10. Provide comprehensive training to professionals implementing the program in community settings.