Polypharmacy Education and Awareness for the Community
by Carmen D. Fidago
POLYPHARMACY EDUCATION
AND AWARENESS FOR THE COMMUNITY

An Honors Thesis (Honors 499)

by

Carmen D. Fidago

Thesis Advisor
Judi Egbert

Ball State University
Muncie, Indiana
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Abstract:

The purpose of this paper was to create a program that would benefit the elderly members of the Logan County, Ohio community. By recognizing that multiple ailments contribute to multiple medication usage, I feel that it is necessary to educate and empower the residents of the community regarding the implications of consuming multiple medications. Polypharmacy Education and Awareness for the Community is a program that has been designed to help older adults and physicians recognize some issues that must be addressed when taking and prescribing more than one medication per person.

Following the completion of my Social Work Practicum, this proposal idea will be submitted to the Vice-President of Hospital Operations at Mary Rutan Hospital in Bellefontaine, Ohio, with the hope that it will indeed be integrated into the daily functioning of the hospital.
Summary:

Mary Rutan Hospital is a small, community-based hospital that, from the outside, may not look like it has a lot to offer, but is, in fact, one of best hospitals in the state of Ohio. In fact, Mary Rutan Hospital was given the highest rating in the state in 1990 by Joint Commission on Accreditation of Hospital Organizations. This high rating was given because of the quality of work that is performed at Mary Rutan Hospital.

The Social Service Department at Mary Rutan Hospital, in conjunction with other hospital staff and area extended care facilities, works to insure that the rights and privileges of the aged in the Logan County community are promoted. It is now the desire of Mary Rutan Hospital's Social Service Department, along with its supportive agencies, to begin a program that will educate the elderly as well as their families and physicians about the dangers of polypharmacy. Polypharmacy is the practice of administering multiple medications at one time, and is becoming a nation-wide epidemic. The dangers range from simple or serious allergic reactions to death if medications are improperly administered, as is often the case in polypharmacy.

The proposed program, Polypharmacy Education and Awareness for the Community (PEAC), will educate the aged of the community and their families about the dangers of drug interactions, the potential danger of mixing over-the-counter drugs with prescribed drugs, the dangers of taking drugs prescribed for others, and the importance of asking questions concerning prescriptions and other
drug treatments of a physician. It will also provide the community physicians with an opportunity to further their education regarding the warning signs and dangers of polypharmacy.

Polypharmacy Education and Awareness for the Community is being set up as a pilot project, and slated to run for one year. The total projected cost for a one year pilot project is $47,035. Mary Rutan Hospital has donated $15,135. Based on figures for one year, the Social Service Department of Mary Rutan Hospital is requesting $31,900 in funding from the Columbus Foundation.
Introduction:

In an attempt to reduce the excess practices of polypharmacy by the aged, it is the desire of the Social Service Department at Mary Rutan Hospital to create and implement a program that will increase the awareness of the occurrence of polypharmacy by the aged residents of Logan County, Ohio, as well as empower residents to discontinue dangerous drug practices.

Mary Rutan Hospital is a community-based facility located in Bellefontaine, Ohio. Within the hospital is the Social Service Department: made up of two social workers, one patient-relations representative, and one secretary. The department is responsible for promoting the psychosocial aspect of medical care, integrating the necessary community resources into patients' discharge plans, and insuring continuity of care once patients are discharged from the hospital (Mary Rutan Hospital Social Services Department Policies and Procedures 1990).

The quality of work performed by the staff in the Social service Department is under constant scrutiny by nursing homes, rehabilitation hospitals, and home health agencies, and physicians. In order to insure that quality work is performed by the staff, questionnaires are sent in transfer orders asking for feedback regarding the Social Service Department's quality of work. An average of forty questionnaires are sent out each month. The average negative response is one in eighty. That means there are, on average, six cases each year in which the quality of work is perceived by the public to be not acceptable, this is one onee-
hundredth of a percent of the patients whose continuity of care is monitored (Mary Rutan Social Service 1992 Annual Report).

The primary clientele served by Mary Rutan Hospital's Social Service Department are the patients admitted to the hospital. The majority of the admitted patients are over the age of sixty-five and taking multiple medications (Mary Rutan Hospital Social Service Annual Report).

In 1992, the Social Service Department received 1338 total referrals from physicians, nurses, patients and families, and social service rounds regarding possible patient needs; of those, 868 patients were over the age of sixty-five (that means that 14.2 percent of those aged sixty-five and older were seen by the Social Service Department of Mary Rutan Hospital in 1992). Although there were no referrals that were specifically requesting assistance with eliminating polypharmacy or educating patients about polypharmacy and its dangers, there were nineteen referrals requesting assistance in medication scheduling for patients. In addition, all of the elderly patients admitted to Mary Rutan Hospital in 1992 were already on a medication regimen (Mary Rutan Hospital's 1992 medical records). This leads the department to the opinion that the residents of Logan County do need to be educated about the potential hazards of taking multiple medications.

The Social Service Department at Mary Rutan Hospital has located a program that educates people about polypharmacy. Realizing that there are limits to what a pilot project in a
small community can do, it will be the department's aim to loosely follow the model described below, as it was part of the inspiration for the project. A program developed to combat polypharmacy was implemented in the San Francisco Bay area - encompassing eventually six counties - in 1983. It has met with overwhelming success. Not only has the program served to educate thousands of aged citizens, but it has influenced public policy through legislation in California. First, a task force was established to administer a survey in order to gather information regarding medication misuse in the San Francisco Bay area. After assessing that there was indeed a need for intervention, a proposal was planned and finally funded: SRx Regional Program.

One of the elements that has helped this program's success is the flexibility that exists to allow each county to tailor its participation in the program to the needs of its residents, San Francisco County's concentrates on clinical pharmacy consultation, while Marin County has focused on a peer counseling program, and Solano County uses mini-class development with the local senior organizations (Eng, 1990; p. 409). Eng concludes her paper by stating: "The model has tested a variety of educational strategies and tools that have not only captured audience appeal, but also appear to continue to be used in many diverse settings" (p. 410).

It is the hope of the Social Service Department that Polypharmacy Education and Community Awareness will be comparatively successful for Logan County, and its neighboring
counties, as the SRx program has become in San Francisco. The support offered by local health care professionals presents even more encouragement for this project. "Every resident of this community should be educated regarding medications", states Katherine Bowling, nursing home administrator, in her letter of support dated June 7, 1993. In his letter of support, Steve Marshall states that "Even with a state-wide computer network for our particular chain of stores, it is impossible to keep track of the medications people take because they can go to multiple pharmacies." (See attached letters of support).
Needs/Problem Statement:

The New York Times reported on February 15, 1989 that 51 percent of this nation's drug reaction problems involve people aged 60 and over. On December 1, 1990, a New York Times report stated that people over 65 years of age consume 30 percent of prescribed medications and 40 percent of over-the-counter drugs. This is an astronomical figure when one considers that only 12-15 percent of the population is over 65 years old. That would mean that every year 9-12 million older adults have medical problems related to drug interactions, and that the aged use more medications than any other single age population in the county.

Miller (1986) recognized that:

Older people take more drugs than other population groups, and most take multiple drugs. Often a patient sees more than one physician—and as result gets different prescriptions from each. Thus a patient may be taking two or three drugs for the same disorder—an extremely risky practice because similar-acting drugs taken together can be highly toxic (p. 695).

The 1990 United States Census data indicates that the population of Logan County, Ohio is 42,310. People aged sixty-five and older make up 13.5 percent of the total population of the county, 6,106 people. This is a very small number of people to be ingesting 30-40 percent of the county's total drug consumption.

Burns and Phillipson (1986) attribute part of the practice of polypharmacy (excessive and unnecessary use of medications) by the aged to the multiple pathologies that many aged people face. "Multiple symptoms and signs invite multiple drug treatments.
Polypharmacy becomes the order of the day, yet the incidence of adverse drug reactions increases dramatically with the number of drugs taken," (p. 15). Morrell, Park, and Poon (1989) state that "physicians are more likely to prescribe multiple drugs (polypharmacy) for older adults due to the greater incidence of multiple illnesses in this population" (p. 345). Simonson (1984) states that polypharmacy "may be initiated by the patient or by the physician or may result from a multifaceted interaction involving the patient, the physician, and other health professionals" (p. 33). Regardless of why people are taking multiple medications, if precautions are not taken to avoid dangerous drug interactions, allergic reactions, etc, complications can arise that have the potential to be deadly.

Simonson (1984) and the United States Department of Health and Human Services, United States Congressional Committees, and consumer groups (Larson 1989) recognize the following as some of the factors contributing to polypharmacy and consequences of polypharmacy practices1:

1. Inadequate training of physicians in geriatric medicine
2. Physicians prescribing wrong drugs or incorrect dosages of drugs
3. Physicians prescribing drugs that will improperly combine to produce adverse side effects
4. Misuse of drugs by the elderly

Consequences:

1. Adverse drug reactions
2. Drug interactions
3. Financial Expense
4. Diagnostic consequences
5. Decreased sensorium

1See Appendix A for further details.
Blaschke (1981) states that "The use of more than one drug concurrently in the same patient is often necessary for optimal care. However, the use of multiple drug therapy places a responsibility on the physician to be alert to the possibility that drug interactions may occur" (p. 93). While it is necessary for physicians to be aware of the consequences of polypharmacy, it is also the responsibility of the patient, as a consumer, to question the physician and the pharmacist about prescribed (and over the counter) medications. It is the belief of the Social Service staff that, in general, many people are very accepting of the information which is presented to them by their physician(s), who are often seen as experts - the ones who are supposed to know all.

There is also the concern that physicians may not be probing the minds of their patients for additional, vital information. This could be attributed to the fact that all of the physicians have overloaded case-loads to handle (this is demonstrated by the fact that family physicians in Logan County will not accept new patients, with the exception of pregnant woman and in cases of dire emergency).

Pharmacies are more likely now, than say five years ago, to have a computer network with the rest of the chain stores in each state. This network will allow a pharmacist at Pharmacy X, in city Y, Ohio, to communicate with a pharmacist at Pharmacy, in city A, Ohio regarding a person's prescriptions. This is a noteworthy network, and should be taken advantage of whenever
possible. A problem arises, however, when a person goes to different pharmacies, rather than staying with one pharmacy (i.e. Mrs. D. has her prescriptions from Dr. K. filled at pharmacy M, and has prescriptions from Dr. F filled at pharmacy O). Some organizations, such as the American Association of Retired Persons, have a mail-order pharmacy service available. This is a less expensive way for prescriptions to be filled, and attempts to eliminate the confusion of multiple pharmacies; but ultimately, the choice is up to the patient to stay with one supplier of medications.

As the number of aged persons in this country grows, so will these problems, unless an intervention technique is implemented.
Objectives:

There are 6,106 people in Logan County who are sixty-five years of age and older. All of these people visit a doctor; many of them visit several doctors. This practice of visiting more than one doctor brings about the possibility that each doctor is prescribing different medications for patients; medications that have the potential to interact and cause negative effects on people for whom they were prescribed. Visiting several physicians each year in addition to patients not informing their physicians about all of the medications they are taking, are major contributing factors to the growing obstacles of polypharmacy among this nation's older generation. Polypharmacy is the practice of taking multiple prescribed medications alone or coupled with over-the-counter drugs (OTCD). It is the overall goal of Mary Rutan Hospital's Social Service Department to reduce the practice of polypharmacy among aged people (65+ years) of Logan County, Ohio.

The overall intent of this program is to reduce the project participants' unnecessary acts of polypharmacy by seventy-five percent. Therefore, in an attempt to reduce polypharmacy practices, the desired results at the conclusion of the Polypharmacy Education and Awareness for the Community classes and 12 week in-home follow-up assessment is for all participants (aged members of the community plus any family member or loved one who may also attend sessions) will be able to: 1) create a personal reminder system in order to facilitate taking all of
their medications at the proper times and increased usage of drug wallets (Drug wallets are individualized medication cards issued to all admitted patients at Mary Rutan Hospital listing the actions, side effects and dosages of the drugs to be taken by the patient), 2) take all necessary components along on a visit to each physician (taking all prescribed and over-the-counter drugs to every physician's visit, writing down questions as they occur in order to take them to the doctor, and taking a significant other along on the office visit in order to absorb any information that may be forgotten, misunderstood, etc.), 3) completely cease ingesting medications that are prescribed for other people, 4) remove from the client's home any medications prescribed for people who are not part of the client's household, and 5) discontinue the practice of taking damaged or expired medications.

In order to measure accomplishments, a pre-test/post-test questionnaire has been developed to determine any changes in participants' behaviors during the course of attending Polypharmacy Education and Awareness for the Community. An in-home follow-up assessment, similar to the initial in-home pre-participation assessment, will also be conducted in order to determine changes of behavior on at a longer time interval.

It is also important for the physicians in the community to be able to recognize adverse effects of polypharmacy, and to better communicate with patients about the potential hazards involved in such practices. The physicians and medical staff who participate in this program will: 1) be able to identify the warning signs of polypharmacy, 2) be able to identify the adverse
consequences of polypharmacy, 3) provide patients with written explanations of diagnoses and instructions for taking medications that can be taken home and studied further (e.g. drug wallets), 4) write prescriptions for aged patients based on the patients' actual height, weight, and metabolic rate, and 5) ask patients about other medications prescribed by other physicians.

Physicians will also be given a pre-test/post-test questionnaire. This will be done in order to determine the effect of the project upon the physicians' attitudes, behaviors, and practices toward their older patients. It is desired that seventy-five percent of physicians participating will make modifications in their practices that will discourage many practices of polypharmacy.
Methods:

Polypharmacy Education and Awareness for the Community is designed to educate the Logan County residents and physicians about properly administering medications, both prescribed and over-the-counter. All aspects of this program are aimed at reducing the unnecessary incidences of polypharmacy. The previously stated objectives will be used as a means of educating and empowering county residents in order to reduce these practices of polypharmacy. In order to accomplish the objectives, the following processes must be carried out.

Selection Committee Selection:

The staff for this program will be chosen by a selection committee of ten people: one representative from each of the following extended care facilities: Green Hills Center, Heartland of Bellefontaine, Heartland of Indian Lake, and Logan Acres; two representatives from Mary Rutan Hospital, one member from the Logan County Department of Health and Human Services, one community pharmacist and two aged members of the Logan County Community. Selection for the committee positions will take place within each organization/facility by the administrator or by the chairperson of the social service department of each facility. The community members and pharmacist to sit on the selection committee will be selected by the Logan County Council on Aging.

Please refer to table which is located at the end of the Methods section.
The committee will attend an orientation meeting conducted by the director of the Mary Rutan Hospital Social Service Department, in order to become more familiar with the requirements of the staff positions, as well as becoming more acquainted with the key aspects of the program itself.

Staff Selection:

It will be necessary to hire one additional social worker for this project for the Social Service Department staff. This is because of the overwhelming caseloads that the two existing social workers must carry. The time needed to dedicate to this project is not available when the other staff are constantly laboring over in-house patients and their discharge plans. Another social work position is necessary in order for this project to be fully operational and to live up to its potential.

The project social worker will be hired by the joint selection committee listed above. This position will be advertised for three days in the local newspaper, The Bellefontaine Examiner, as well as newspapers in Springfield, Dayton, Columbus, Cincinnati, Lima, and Toledo, Ohio and Richmond, Indiana, because of their relatively close proximity. The position could also be advertised in the state and national National Association of Social Work newsletters, if there is time available for the advertisement to fit into the allotted time frame. Once resumes and letters of interest are submitted, the staff selection committee will then choose the candidates they
feel are most qualified for the position to interview. This process should take no more than five weeks from start (advertisement campaign) to finish (acceptance of the position by a candidate).

The minimum criteria needed for the position of staff outreach worker will include: 1) Bachelor's of Social Work degree from an accredited school of Social Work, 2) state licensure, 3) medical social work or pharmaceutical background, and 4) two years minimum experience working with the aged population. Experience working with drug and alcohol related issues is also preferred, but not required.

Staff Training:

The member of the Social Service Staff at Mary Rutan Hospital will be intensely educated and trained regarding the practice of polypharmacy, who it happens to, why it happens, how often it happens, etc. The training will last a maximum of three weeks, based on the candidate's prior background knowledge and experience, and will include 1) vocational classes to enhance previous knowledge surrounding medical terminology and information about drug interactions, 2) intense home study (mainly a refresher of the aging process, affects of medications on the aging body, commonly prescribed medications for aged patients and common reactions to those medications), 3) a series of talks with community physicians and pharmacists to discuss how they perceive the problem of polypharmacy, and 4) an orientation
with and visit to all of the Logan County agencies and facilities that serve the aged population of the community. Training will be provided by the Social Service Staff as well as the staff of the Education Department at Mary Rutan Hospital.

Following a hospital orientation meeting, the staff member will be trained how to operate the computer system that will be used. The new social worker will be instructed how to use the Hospital Social Work Information System program, a database that allows for the collection and storage of client information, and Word Perfect. Hospital Social Work Information System has been used by the Social Service Department at Mary Rutan since January of 1992. This program enables the department to keep all records of patient information on computer, thus reducing space needed for filing and saving on paper. This computer program will allow the project social worker to keep Social Service Department patient records up to date, as well as allowing them to have easier access to past records of patients/participants. This computer training will be conducted by one member of the Information Systems staff at Mary Rutan Hospital, and will take a maximum of four hours, depending upon the social worker's past experience with computers.

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3 It will be necessary to know as much as possible about a participant's past medical history for this program, especially if the participant has had multiple/regular admissions to the hospital. Every hospital employee/volunteer/student must sign a statement of confidentiality when they begin working at the hospital. This, along with the Social Work Code of Ethics would bind the project social worker to confidentiality regarding any access they may have to patient information.
In addition to the above training, the outreach worker will be educated about the process surrounding in-home assessments (obtaining permission to enter homes, participant's statement of agreement to cooperate, most effective way to ask questions, etc) and educational sessions for participants (what aids may be needed, who and how to contact guest speakers, etc). This training will be provided by the hospital's Social Service Director, and will take a maximum of five hours, depending upon experience.

The final stage of the orientation will include a three to five day tour of Logan County's services for the elderly. This time frame is based on existing knowledge and experience with the community. The following are agencies and facilities to be visited:

- Green Hills Adult Day Care Center
- Alzheimer's Disease Special Care Project
- Catholic Social Services
- Heartland of Bellefontaine
- Logan County Community Multi-Purpose Senior Center
- Tri-County Community Action Commission

The project social worker will work out of the Social Service Department during orientation, and will continue to work out of this office once their orientation is completed and the sessions begin.

1Please refer to Appendix F for a complete listing of agencies and facilities that will be visited by the project social worker during the training session.
Selecting Participants:

The social worker staffing this project will work in conjunction with the selection committee, physicians, pharmacists, agencies and the hospital in Logan County to provide participants for this program. Referrals will be made to the program by these groups, at which time the assessment process can begin. There will also be an opportunity for self-referrals by the members of the community. Advertisements announcing and describing Polypharmacy Education and Community Awareness will be placed in The Bellefontaine Examiner, set to run for two weeks, the two weeks before each of the sessions begins. The advertisements will also have a self-referral form that readers can fill out and return to the Social Service Department five days prior to the beginning of the first session.

In addition to the newspaper advertisements and agency and physician referrals, members of the staff selection committee will speak at community organization meetings during the registration periods. A maximum of sixteen information and educational sessions will be presented to willing organizations, each session lasting approximately thirty to forty-five minutes.

Participation by the aged and their family members will be strictly voluntary, but will be highly recommended for many. Since this is a pilot program, the program will be limited to 150 participants (thirty-eight of whom will be nursing home residents), divided into four groups/sessions. Due to limited space, and the desire to maximize elderly enrollment, each person
over age sixty-five may have only one family member or friend under the age of sixty-five accompany them to these classes.

Recognizing that lack of transportation can be a deterrent for some participation, the Logan County Community Action Commission has volunteered to be the main provider of transportation for Polypharmacy Education and Awareness for the Community.

It is the intent of the author to make this educational program an incentive program for physicians who practice at the hospital. By providing a bonus to physicians in the form of Continuing Education Credits, for each non-duplicated session that they attend, it is hoped that physicians will desire this knowledge, and attend the sessions. The application process-fee for the continuing education credits will be donated by Mary Rutan Hospital, and therefore will be free of cost for the physicians. The forty physicians with active-staff hospital privileges will be actively recruited to participate in this project.

Program Implementation:

The Outreach workers will receive referrals from physicians, pharmacists, social service agencies, and self referral. After receiving these referrals, an in-home assessment will be conducted to determine the amount of risk each person faces and encourage participation in the actual program.

\[5\] A copy of the in-home assessment is located in Appendix D.
The Polypharmacy Education and Community Awareness program will consist of five educational sessions/classes, with one class per week for five weeks. Each session will last approximately one and a half hours. In order to accommodate varying schedules, each session will be offered at two different times during the week, one morning/early afternoon session and one evening session per week.

To accommodate potential clients who may be restricted to the confines of a nursing home, each class will be offered to nursing home patients on the same rotational basis (one class per facility per week times five weeks) that will be held in the classroom of the extended care facility, and conducted by the outreach social worker.

Sessions will last one and a half hours (forty-five to sixty minutes for the lesson part of the session, followed by a fifteen minute break, and closing with thirty to forty minutes devoted to question and answer periods and helping participants get set up with an effective way to monitor their polypharmacy practices) and cover topics that include how to ask questions of their physicians, the possible effects of mixing over-the-counter drugs (OTCDs) with prescribed medications, the dangers of taking other people's medications, damaged medications, and/or expired medications. Teaching aids and educational films as well as role playing will be used in the sessions to encourage a hands on approach.

^See Appendix B for further information regarding class topics and content.
approach to learning. Guest speakers will include nurses, physicians, and pharmacists.

The physicians seminars will be offered once during each of the first three of the five week programs. There will be one all-encompassing seminar, offered at physician educational meetings, that will cover much of the same material that will be covered in the sessions for the community, as well as material that will enable them to better serve their aging patients. All active-duty physicians will be encouraged to participate in this project.
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POLYPHARMACY EDUCATION AND AWARENESS FOR THE COMMUNITY

PROJECT TIMETABLE

RUN DATE 15 JUL 94
START DATE 01 JAN 94
DATA DATE 03 JAN 94
FINISH DATE 16 DEC 94
MARY RUTAN HOSPITAL
SOCIAL SERVICE DEPT
205 PALMER RD
BELLEFONTAINE, OHIO
SOLVERFRAK
PROJECT SCHEDULE
Evaluation:

The Social Service Department of Mary Rutan Hospital plans to reduce the practice of polypharmacy within Logan County through the program called Polypharmacy Education and Awareness for the Community. The purpose of this project is to increase participants' knowledge and awareness of polypharmacy, as well as to encourage positive changes in behavior (stop taking out dated or damaged pills, consult a physician prior to taking over-the-counter medications, etc). The evaluation process will include follow-up in-home assessments conducted by the social worker that will occur twelve weeks after participants complete the classroom portion of the program. The follow-up assessment will be conducted by the social worker in the home of the participants, and will include an assessment of all of the medications that are present in the home of the participant and changes in drug-taking behavior. This assessment will be similar to the initial in-home assessment that will occur prior to the beginning of the five week sessions.

A written questionnaire to be filled out by the participants prior to attending educational sessions and after completing the five sessions. The questionnaire will be part of a pre-test/post-test evaluation. The purpose of the questionnaire will be to evaluate the increase of participant's awareness and knowledge surrounding issues of polypharmacy. These post-test questionnaires will also allow the participants to evaluate the following on a scale of 1 (excellent) to 5 (unsatisfactory):
program material, social workers, guest speakers, and educational aids used. There will be an opportunity for participants to write in additional comments.7

There will also be a session evaluation for the physicians to provide feedback regarding what they felt were the high and low points of the session. In addition, a follow-up evaluation will be conducted with the physicians in order to evaluate any changes in their attitudes and behaviors toward their elderly patients.

The evaluations will be compiled and analyzed following the one year pilot project. Once the results from the evaluations and pre-test/post-test of this analyzed, the Social Service Department will then decide if this project is feasible to incorporate as an ongoing program.

If it is determined by the Social Service Department that this project is was worthwhile, and would appear, based on the participant evaluations and follow-up assessments, to continue to be beneficial to the members of the community, appropriate changes will be made to the project to improve the quality of service provided.

At the time of project evaluation, the subject of mail order medications will be investigated and possibly implemented as a way of reducing the amount of detrimental polypharmacy. It will also be at this time when pharmacists will be incorporated into

7See Appendix C for the pre-test/post-test evaluation sheet that will be used for this program.
the client population, in an attempt to further educate them about polypharmacy.
Post-Funding Continuation Strategy:

If it is determined that Polypharmacy Education and Community Awareness will be a successful program in the Logan County community, a new proposal will be formulated, with the intent of expanding and improving the program. Once the proposal is revised, it will then be submitted to additional sources requesting further funding.
**Budget:**

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<thead>
<tr>
<th>A. Personnel</th>
<th>Total</th>
<th>Requested</th>
<th>Donated</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Outreach Worker and drug/alcohol educator (full time): BSW degree + state license and experience: $1,907/mo</td>
<td>22,880.00</td>
<td>22,880.00</td>
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<tr>
<td>Employee Benefits: $1,901 x 25%</td>
<td>5,720.00</td>
<td>5,720.00</td>
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<tr>
<td>Social Service Staff assistance with orientation: $7.50/hr x 120 hrs</td>
<td>900.00</td>
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<td>900.00</td>
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<tr>
<td>Education Department Staff for orientation: $10/hr x 120 hrs</td>
<td>1,200.00</td>
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<td>1,200.00</td>
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<tr>
<td>Guest Speakers for sessions: $20/hr x 1 hr x 4 sessions x 5 weeks</td>
<td>400.00</td>
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<td>400.00</td>
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<tr>
<td>Selection Committee Speakers for advertisement: $20/hr x 16 hrs</td>
<td>320.00</td>
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<td>320.00</td>
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<tr>
<td>Volunteers: $5/hr x 4 hrs/wk x 20 wks</td>
<td>400.00</td>
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<td>400.00</td>
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<thead>
<tr>
<th>B. Non-Personnel</th>
<th>Total</th>
<th>Requested</th>
<th>Donated</th>
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<tbody>
<tr>
<td>Computer System with 4 MEG RAM, 105 MEG Hard Drive, 3.5 1.44 Floppy Drive, VGA Card SVGA, 64 Cache, Dos 5.0</td>
<td>1,320.00</td>
<td>132.00</td>
<td>1,188.00</td>
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<tr>
<td>101 Keyboard</td>
<td>500.00</td>
<td>50.00</td>
<td>450.00</td>
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<tr>
<td>14&quot; VGA Monitor</td>
<td>350.00</td>
<td>35.00</td>
<td>315.00</td>
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<td>H.S.W.I.S. Program</td>
<td>500.00</td>
<td>50.00</td>
<td>450.00</td>
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<tr>
<td>Epson 1050 Printer</td>
<td>330.00</td>
<td>33.00</td>
<td>297.00</td>
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<td>Room/Space Rental: $500/mo x 12 mos.</td>
<td>6,000.00</td>
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<td>6,000.00</td>
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<td>(1) Desk: $250 each</td>
<td>250.00</td>
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<td>Item Description</td>
<td>Total Requested</td>
<td>Total Donated</td>
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<td>(1) Desk chair: $80 each</td>
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<td>(1) File Cabinet: $100 ea</td>
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<td>(1) Copy Machine: $850/yr</td>
<td>$850.00</td>
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<td>(5) Boxes Computer Paper: $15 each</td>
<td>$75.00</td>
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<td>(10) Packages Xerox paper: $3 each</td>
<td>$30.00</td>
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<td>(2) Chairs for clients: $80 each</td>
<td>$160.00</td>
<td>$160.00</td>
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<td>Desk Supplies: $50</td>
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<td>Advertisement Campaign: $1,000</td>
<td>$1,000.00</td>
<td>$500.00</td>
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<tr>
<td>Travel Expenses for Social Worker: $0.20/ mile x 2500 miles</td>
<td>$500.00</td>
<td>$500.00</td>
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<tr>
<td>Transportation for participants</td>
<td>$675.00</td>
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<td>(1) Telephone: $45 each</td>
<td>$45.00</td>
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<td>Long Distance Fees</td>
<td>$100.00</td>
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<tr>
<td>Physician Incentive Fund: Continuing Education Credits registration fees</td>
<td>$300.00</td>
<td>$300.00</td>
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<tr>
<td>Supplemental Fund: to be used to purchase teaching aids, films, emergency medications for clients, and other related project expenses</td>
<td>$2,000.00</td>
<td>$2,000.00</td>
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<tr>
<td>Totals</td>
<td>$47,035.00</td>
<td>$31,900.00</td>
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$15,135.00
APPENDIX A

The following are some of the identifying features of polypharmacy (Simonson 1984, p. 33-36 & Fidago 1993):

1. **Use of medications that have no apparent indication.** An example of this would be a person who has no history of thyroid problems taking medication that is for a thyroid condition.

2. **Use of duplicate medications.** This can happen when a person takes two medications that have the same pharmacological effect on the body. An example would be someone taking two different sedatives (probably one is prescribed and one is over-the-counter, or prescriptions from two physicians).

3. **Concurrent use of interacting medications.** This means a person is taking medications that counteract each other, or that interact to have a reduced desired effect. In addition to medications that counteract with each other, there is the chance that there could be a food and drug interaction which may need to be addressed.

4. **Use of contraindicated medications.** Taking medications that are not appropriate for a particular condition, or accepting prescriptions for medications to which one is allergic or has in the past experienced some toxic side effect to, would fall into this category.

5. **Use of inappropriate dosage.** Dosages may be too potent for the stature and metabolic rate of an individual, or administration too frequent, therefore contributing to the polypharmacy effect and possible adverse drug reactions.

6. **Use of therapy to treat adverse drug reactions.** Using drugs to try to counteract a previously encountered adverse effect can lead to polypharmacy. This in itself could create additional adverse drug reactions, calling for more drug therapy as a cure. What results is a continuing spiral of medications.
7. Improvement following discontinuation of medications. This usually occurs when person's drug regimen is exceedingly complicated to the point that it is unclear whether the treatment is providing any benefit, or if it is further complicating the situation.

8. Ingestion of medications without physician consultation. This most commonly occurs when a person will take over-the-counter medications without first consulting a physician. Drug reactions may occur. Another instance of this practice is ingesting medications prescribed for someone else or taking expired or damaged drugs without first consulting a physician.

Consequences:
1. Adverse drug reactions
   These may anything from nausea to constipation, drowsiness to dizziness. They may be even more severe and lead to hospitalization.

2. Drug interactions
   These may occur with prescribed medications as well as over-the-counter drugs and may result in death.

3. Financial Expense
   Most aged citizens are on fixed incomes. Therefore, any drug therapy is going to cut into their expense accounts and multiple therapies will decrease income even more significantly.

4. Diagnostic consequences
   Polypharmacy can lead to medication toxicity, which may mimic certain diseases. This can then lead a physician to diagnose a new "problem" and prescribe more medication for the problem of over-medication. There could also be an increased incidence of falls, loss of sensory perception, which can lead to multiple traumas.

5. Decreased sensorium
   Many of the medication-related toxicities may decrease the acuity of perception, cause confusion, depression and drowsiness (leading to an inability to interact appropriately within their environment).
APPENDIX B - Class Topics

I. Why it is important to take medications as prescribed
   A. Drug interactions
      1. Not following instructions/warnings on the prescription label
      2. Mixing prescription medications with OTC and not consulting a physician first
      3. Taking someone else's prescribed medications
      4. Giving your prescribed medications to someone else
      5. Biological factors including body weight, height, and metabolism
      6. Seeing several doctors at one time and receiving prescriptions from all of them
   B. Noncompliance issues
      1. Reasons for noncompliance
         a. Patient related factors
         b. Therapy related factors
         c. Factors related to the attitudes of health professionals
      2. Results of noncompliance
      3. Traits of noncompliance
      4. Ways to eliminate noncompliance

II. Effective communication among patients and health professionals
   A. Why people are uncomfortable or have difficulty asking questions of their physicians
   B. What to ask
   C. When to ask it
   D. Who to ask
   E. Writing down questions as they occur
   F. Importance of taking someone with you to an appointment

III. Dependence issues
   A. Physical dependence on the medications
   B. Psychological dependence on the medications
   C. Other dependent substances that may be interfering with drug therapy

IV. Nutrition and medications
   A. How diet can interact with medications
   B. Why you need to eat or drink something when taking some medications
   C. Eating habits and time of taking medications

V. How to help yourself
APPENDIX C
CLIENT PRE-TEST/POST-TEST EVALUATION

Name: ________________________________________________________________
Age: __________

1. How many pills do you take each day? ______
2. What time(s) do you take your pills? ________________________________

3. Check as many of the following special conditions you must follow when taking your medications:
   □ Take with meals        □ Take with milk
   □ Take on empty stomach □ Avoid dairy products
   □ Avoid alcohol         □ Do not operate heavy machinery
   □ Do not take over-the-counter antihistamines
   □ Other, please specify: ____________________________________________

4. Do you ever take pills that are prescribed for someone other than yourself?
   □ Yes  □ No
4a. If you answered "Yes" to above, please explain why you take medications prescribed for other people:
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

5. Do any of the pills you take have an expiration date?
   □ Yes  □ No

6. Do you take any pills/medications that you feel you do not need to be taking?
   □ Yes  □ No
6a. If you answered "Yes" to the above question, please tell which medications you feel you do not need to be taking, and explain why you feel this way (use the back if necessary):
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
7. In the table below, please fill in the name of each pill you take, the dosage of each pill, and the reason why you take each pill:

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<thead>
<tr>
<th>Name of Pill</th>
<th>Dosage of Pill</th>
<th>Reason for Taking</th>
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9. How many doctors do you have? ________

9a. Does each of your doctors know how many doctors you see?

☐ Yes ☐ No

9b. If you answered "No" to the above question, why do your doctors not know how many doctors you see?

________________________________________________________________________

10. Do you take any medications/pills that your doctor(s) do not know you take?

☐ Yes ☐ No

10a. If you answered "Yes" to the above question, which medications do you take without your doctor's knowledge?

________________________________________________________________________

10b. Why haven't you told your doctor(s) that you are taking these medications?

________________________________________________________________________
11. When was your last visit with your doctor(s)?

12. Do you take your medications along with you when you go to the doctor?
   □ Yes □ No

13. Do you and your doctor(s) review your medications?
   □ Yes □ No

14a. If you answered "Yes" to the above question, how often do you review your medications with your doctor(s)?

14b. If you answered "No" to the above question, why don't you review your medications with your doctor(s)?

15. Do you ever forget to take any of your medications/pills?
   □ Yes □ No

15a. If you answered "yes" to the above question, please explain why you think you forget to take your medications:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
PHYSICIAN QUESTIONNAIRE

Name: ____________________________________________

1. What proportion of your patients are aged 65 and over?
   □ 0-10%    □ 26-50%    □ 76-100%
   □ 11-25%    □ 51-75%    □ Unsure

2. Do you review medications and medication schedules with your patients on a regular basis?
   □ Yes  □ No

2a. If you answered yes above, how often do you review meds with patients?

2b. If you answered no above, why do you not review meds with patients on a regular basis?

3. Do you take elderly patients' age, height, weight, and metabolism into account when writing prescriptions?
   □ Yes  □ No

3a. If you answered no above, why?

4. Do you know if your patients are seeing other physicians?
   □ Yes  □ No

5. Do you suspect that some of your patients see other physicians without informing you?
   □ Yes  □ No

6. Should patients have the right to question your judgment?
   □ Yes  □ No

7. Do you encourage your patients to take an active role in their treatment?
   □ Yes  □ No
7a. Please explain why you answered the above question the way you did:

8. Do you know what proportion of your patients take more than five medications per day?
   [ ] Yes   [ ] No

8a. If you answered yes above, please state this figure:

8b. If you answered no, why don't you know how many of your patients take more than five medications per day?
SESSION EVALUATION

Please circle the session number: 1 2 3 4 5

Using the scale below, rate the following components of this session:

1 = excellent
2 = above average
3 = average
4 = below average
5 = unsatisfactory

____ Social Worker/Outreach Worker as a presenter
____ Social Worker/Outreach Worker in a one-on-one basis
____ Material presented by speaker
____ Educational aids, films, videos, pictures (if applicable)
____ Time length of session

What did you consider to be the most beneficial part of this session?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What did you consider to be the least beneficial part of this session?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What could be done to improve the quality of this session?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Would you recommend this educational session to a friend/colleague?

[ ] Yes  [ ] No

Why or Why not?

__________________________________________________________________________

__________________________________________________________________________

39
**APPENDIX D**

**IN-HOME ASSESSMENT**

Name: ____________________________  Date: ___/___/___

Address: ____________________________  Phone: _______________

________________________________________________________________

Physician: ____________________________  DOB: ___/___/___

Marital Status: ______  Religion: ______  Lives Alone: yes/no

Nearest Relative/Friend: ____________________________

Address: ____________________________  Phone: _______________

________________________________________________________________

INSURANCE INFORMATION:

Primary: ____________________________  Secondary: ____________________________

Other: ____________________________

Allergies: ____________________________

________________________________________________________________

**MEDICATIONS:**

<table>
<thead>
<tr>
<th>Name/Type</th>
<th>Reason For Taking/How Often</th>
<th>Prescribed/OTCD</th>
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<tbody>
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<td>1.</td>
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<td>10.</td>
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SYSTEMS CHECKLIST

In the last six to eight months, have you experienced/noticed considerable changes in any of the following:

- Considerable weight loss/gain
- Fatigue
- Multiple falls
- Change in appetite
- Dramatic visual changes
- Hearing changes
- Imbalance
- Vertigo
- Dry mouth
- Cough
- Troubled/labored breathing
- Chest pain on exertion
- Constipation
- Change in stool caliber
- Increased heart rate
- Morning Stiffness
- Joint pain
- Limitation of movement
- Headaches
- Difficulty sleeping
- Depression
- Anxiety
- Chest pain on exertion
- Decreased range of movement

Do you:
- Know what year it is?
- Know who is president?
- Know what day of the week it is?
- Wear dentures?
- Wear eyeglasses?

³This systems checklist was created based upon a list given by Gallo, Reichel & Anderson in Handbook of Geriatric Assessment, (1988), page 139.
Medical History and Assessment

For each of the following items, indicate when the date of the client's most recent exam/checkup and who was the attending physician:

Blood Pressure: ____________________________

Vision Exam: ____________________________

Hearing Exam: ____________________________

Height: ____________________________

Weight: ____________________________

List all medical procedures which the client has undergone (use the back of this page if necessary):

1. ____________________________

2. ____________________________

3. ____________________________

4. ____________________________

5. ____________________________

Client signature/Date ____________________________

Witness signature/date ____________________________
APPENDIX E

LETTERS OF SUPPORT
As the Chief of Staff at Mary Rutan Hospital, it is my privilege to submit to you this reference letter in favor of Polypharmacy Education and Awareness for the Community. I see many elderly patients every day who are having difficulties functioning due to their medication schedule. This decreased functioning can be on a physical level, mental level, and even social level, and is instigated by drug-interactions, allergic reactions, patients' misunderstanding directions, physicians' mistakes and misunderstandings, and even lack of money to purchase medication. After seeing these same things year after year, I feel very strongly that the residents of this community would benefit greatly from the opportunity to attend such a program.

I also feel that many of my colleagues, as well as myself would benefit from this program. It would allow us with the opportunity to evaluate the quality of our services as well as enhance our understanding of our elderly patients.

It is based on these reasons that I will say that your money would be well invested if you agreed to fund Polypharmacy Education and Awareness for the Community.

Thank you,

Grant Varian, M.D.
To the Members of the Endowment Board:

As the administrator of the most well respected extended care facility in Logan County, Ohio, I have seen many people with many illnesses. It is not on rare occasion that my staff must spend time educating patients and family members about the effects of mixing medications, not taking medications as prescribed, and taking similar medications as prescribed by different doctors. As this has become a rather regular concern for my staff, I was delighted when the Social Service Department at Mary Rutan Hospital presented me with the opportunity to review this proposal for Polypharmacy Education and Awareness for the Community.

Every resident of this community should be educated regarding medications and empowered to question their physicians when they feel uncomfortable with any orders. I strongly believe that if people were given the opportunity to learn, they would take advantage of that opportunity. Therefore, it is with great enthusiasm that I recommend Polypharmacy Education and Awareness for the Community to you for funding.

Sincerely,

Katherine Bowling
Noma Kennedy, RN,
Nursing Director
Mary Rutan Hospital
205 Palmer Avenue
Bellefontaine, OH 43311
June 8, 1993

To Whom it May Concern:

I would like to recommend that this proposal for polypharmacy education in Logan County be considered by your board for grant monies.

As the director of the medical-surgical unit of Mary Rutan Hospital, which admits a great proportion of elderly client, I see a considerable problem already existing in our community. This service would assist our elderly population to maintain their health status by correct medication usage. This is an invaluable service in our area where there is such a heavy concentration of elderly residents.

Thank you for your consideration of this project.

Sincerely,

Noma Kennedy, RN, Director,
Cardiac Step Down Unit
3 West
Mary Rutan Hospital
APPENDIX F

COMMUNITY AGENCIES AND FACILITIES

Green Hills Adult Day Care Program
Alzheimer's Association of Clark-Champaign-Logan Counties
Alzheimer's Disease Special Care Project
Area II Agency on Aging, Planning, and Service
Catholic Social Services
Green Hill Center
Heartland of Bellefontaine
Heartland of Indian Lake
Logan Acres
Logan County Community Multi-Purpose Senior Center
Logan County Department of Human Services
Long Term Care Ombudsman Program
Retired Senior Volunteer Program
Social Security Administration
Tri-County Community Action Commission
Logan County Chapter of the American Red Cross
St. Vincent De Paul Society
Logan County Health Department
Epilepsy Association of Western Ohio
Mary Rutan Home Health Agency
TriCare Hospice
West Central Ohio Hearing and Speech Center
Advocacy and Protective Services
Bibliography


