Community health assessment - polypharmacy in the elderly in louisville, kentucky ...

Technology, Development

Background

Polypharmacy is defined as " taking multiple unnecessary medications." According to , the percentage of Americans using multiple prescription drugs in the past month showed increased preponderance among those who were of the age 60 or over. In that age-group, 36. 7% had 5 or more prescription drugs and 76% had 2 or more drugs. It is very likely that a large percentage of such people might be taking unnecessary medications. In general the use of prescription drugs was found to be higher in the elderly; women; and non-Hispanic white population and the lowest in Mexican-Americans. Further, those with a regular place of healthcare were 2. 7 times more likely to have used prescription drugs. Similarly, those with health insurance were almost twice as likely to have used at least one prescription with the same time frame. And, those with prescription drug benefits were 22% more likely to use them compared to those who don't have it. Further, it was explored that in elderly people, drugs such as - diuretics, β-blocker, and cholesterol lowering drugs – were used on a regular basis.

There could be a variety of reasons behind polypharmacy among the seniors. An aging population with complex medical needs may require several medications. An increased availability of newer medications further complicates the problem. Although, prescription medication can be regulated, the addition of over the counter (OTC) medication along with herbal medications by the patients complicates the matter. On top of that, the side effects of all these medications are misinterpreted as symptoms of the disease, and that result in even further medications. Failure of remission due to the above complicating situation may result in patient consulting

more than one physician, which can further complicate the situation. Finally, ineffective communication between patient and healthcare practitioners and between the latter can add to redundancies.

Because of these complicating factors, it becomes increasingly difficult of the nurses to identify culprits of polypharmacy in the elderly population. The situation is particularly complicated because the patients is not best informed and is unable to provide rationale for this behavior. However, those admitted with comorbidities provide an opportunity to investigate likelihood of polypharmacy.

Against this background, there is need to encourage better communication between the physicians, nurses, and pharmacist – such that everybody plays a role and the responsibility is shared. Also, healthcare professional should be aware of the commonly used drugs that have potential to adverse effects in the elderly. Further, FDA recommends that the Medication Guides be issued such that patients are able to make informed decisions. They should also keep a history of all medications, including OTC medication in their original packing. It would also help if they simplify the patient's medication by aligning the timing and schedule of treatment. Coming back to healthcare professionals, it is recommended that they keep an eye on any duplicate medications. Finally, they should be encouraged to use just one pharmacy and visit just one physician; they should also be advised to keep track of their OTC and herbal medications.

Development of Community Health Assessment program

In an effort to develop the Community Heath Assessment program regarding Polypharmacy in the Elderly in Louisville, KY, we will be following the MAPP and PACE-EH tools, which have been developed by NACCHO in collaboration with CDC. PACE EH is a " community-based methodology for evaluating and characterizing local environment health conditions". On the other hand, MAPP is a " community-wide strategic planning process for improving community health and strengthening local public health system". As the goal is to conduct a community-based assessment, we will be using PACE EH process along with elements derived from MAPP.

Establishment a Community Health Assessment Team

The first step would be to form a Community Health Assessment Team. The objective of the team is to lead the program and determine the health status, needs, and health resources pertaining to Polypharmacy of elderly in Jefferson County. The team would have a broad representation from: (a) Department of Geriatrics, University of Louisville Health Care; (b) Health and Wellness Department of Municipality of Louisville; (c) other healthcare system; (b) Greater Louisville Medical Society etc. These members should be further divided into; an advisory group; a work groups, and a facilitator. The next step would involve conducting an orientation for the team members. It should ideally be in the form of presentation. Then it should go about finalizing the budget and identify other resources required.

Collection of Primary Data

This step involves collection of primary data about polypharmacy by seniors of Jefferson County who are about the age of 65 years. The collection of primary data would be from the health care professionals as well as from the community. Collection of primary data, also called Health Resource Inventory, shall include conducting surveys and focus groups with relevant health care professionals.

Target Population. Besides the agencies directly related with the program, other organizations such as; hospitals; gerontologists associations and group practices; group practices; community health centers; pharmacy services; homeless health projects, free clinics and pharmacies etc. These people will be asked to gather information about their patients regarding their use of polypharmacy. Rather than surveying the patients themselves, we will be asking these professionals to do the survey with them. The survey will have both open and closed ended questions. The responses to open ended survey shall be recorded on Likert Scale for statistical analysis. The survey will also have demographic questions, which will serve as independent variables. The dependent variables will be the health outcomes questions. The inclusion criteria shall be the seniors above the age of 65 or above, who have taken prescription medications in the past six months. These questions shall include questions pertaining to both process and effect theory.

Survey Sample and Analysis. To get a fair representation of all the category of people being surveyed, we will use Stratified Random Sampling. In this kind of sampling, the population is divided into subgroups, or strata, and a random sample is then selected from each of the groups. From this we would

want to know about the prevalence about polypharmacy in the Jefferson County. I plan to collect a sample of around 600 to 800. We will like to know various outcomes and process parameters. We will then try to use the regression model to assess the impact of all the factors on the outcomes and processes.

Collection of Secondary Data. Under this step, we will try to collect data from other sources such as previous such studies done in the Jefferson County, or some other county with a very similar profile.

Analysis and Interpretation of Primary and Secondary Data

This involves pulling out the key pieces of information, thinking critically about where that information came from, interpreting what that information means for the county's health status, and then weaving the essential facts together into a complete picture of the county's health. The next step would be to calculate descriptive statistics such as percent and averages. This statistics will give the summary of the answers for each question. The next logical step would be conducting a trend analysis. It is very important to describe any noticeable trend or changes in the data that have occurred over time. This trend analysis will help us determine whether polypharmacy is increasing or decreasing. Also, whether improvements have happened across all areas of the county? Finally, how does the data from the Jefferson County compare with that from other counties?

Determining Health Priorities

Under this initiative the objective would be to define the health priority for the county. In context of our initiative, we would like to reduce the

prevalence of polypharmacy in the Jefferson County by around 50% in the next five years. This objective would be on the basis of the primary and the secondary data gathered. Further, these findings are to be presented to all the stakeholders. These stakeholders will not only include those involved in the program itself, but also those who form a part of the larger community. This will also involve gathering feedback from the community. The process of community engagement will involve such as, presentations, written reports and public meetings. Based on the feedback the program team should review the priorities that have been chosen. They should determine whether the community will support these choices. Finally they should determine whether they along with the community be able to develop a plan that will make a difference?

Creation of Community Health Assessment Document

Once the data report is presented to the community and health priorities determined, the information needs to be compiled into a CHA document. In this document, described are both the process including the individuals and organizations involved and the findings. The document should have an executive summary; background and introduction; brief county description; health data collection process; health data results; prevention and health promotion; and community concern/priorities. It should also include future plans.

Dissemination of Community Health Assessment Document

The objective of this step is to engage the community by sharing the Community Health Assessment (CHA) document. And in this way generate

active participation in developing community health action plan. This process would involve creation of a publicity committee, which will publicize information from the CHA document. Through this document the program committee keeps the community informed about the results of the CHA program. And, also informed of the development of a Community Health Action Plan.

Development of the Community Health Action Plan

The next logical step in would be the creation of an effective community health strategies. The goal is to develop plans for addressing those health issues that have been identified as priorities by the community through the CHA process. Problem or disease oriented work groups are usually the best way to develop action plans.

A community health action plan must be submitted for each local priority issue on a Community Health Action Plan form which is adapted every year. The following steps should be followed when developing a plan.

In the context of development of the Community Health Action Plan, it would be worthwhile to follow the Process Theory. This allows us to incorporate inputs from the community and health sources, which can be a part of the organizational plan. Also, it allows us to create activities, such as development of intervention and prevention activities, which are a part of service utilization plan. Finally, creation of outputs such as evaluation plan, which the final products of organizational and service utilization plan.

The Effect Theory tries to explain how these interventions will in turn " affect the causal factors and the moderating or mediating factors of the health

problems and describe the relationship between the programmatic interventions and the desired immediate and long-term outcomes for program participants". According to this theory, the outcomes of the polypharmacy program should be linked back to the measurement of the outcomes. This will complete the cycle, and help in evaluation of the program.

Description of the Health Priority. The description of the health priority should include county data from the CHA document to support selecting the priority and the risk factors that contribute to the issue. Risk factors my include issues such as; lifestlyes; environmental; and inadequate health care system.

Develop a S. M. A. R. T. health objective. The development of SMART objective to address each of the health priorities should include anticipated change in behavior or disease rate, target population, and anticipated time frame to complete the objective. A typical measurable objective includes; the people; desired outcome; how the process will be measured; how the success will be considered as a health priority; and what will be the time frame of success.

Develop intervention and prevention activities. An intervention is a process or action intended to address an existing or potential problem. Research evidence-based interventions that have been effective in addressing the health priority and select the interventions that were researched on the Community Health Action Plan Form.

Describe the Evaluation Method. An evaluation method or plan should be developed to determine if the measurable objective was met and to

determine its effectiveness. Evaluation can help the county have a better understanding of the health issue and lead to stronger programs or improved capacity to address the issue.

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