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The Successes and Challenges of Program Development

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The Successes and Challenges of Program Development

Description

Recognizing the benefits and values of interdisciplinary health care, Pacific University School of Occupational Therapy initiated collaboration with the School of Professional Psychology in 2012 to embrace interdisciplinary education. Two occupational therapy (OT) graduate students Ingrid Borland and Ariel Schiller, under the supervision of Assistant Professor Sean Roush, OTD, OTR/L, had successfully completed a needs analysis and conducted a pilot stress management group in the Pacific Psychology Clinic in Hillsboro. Their analysis revealed limited mental health groups led by healthcare professionals in the local community. Furthermore, there was a lack of groups co-led by OT and psychology (PSY) in the community and lack of or limited OT and PSY collaboration in the U.S. educational system (Borland & Schiller, 2012). Such findings justified their efforts to pilot an OT-led stress management group in the Pacific Psychology Clinic. Although their groups were well received, time constraints led to a low enrollment rate. Moreover, the groups were solely led by OT due to the limited availability of the PSY student therapists.

In 2013 two OT graduate students Elizabeth Bair and Man Wa Eva Shing, again acting under the supervision of Professor Roush and in collaboration with Psychology Services Director Lisa Christiansen, Psy.D., continued the partnership between OT and PSY.

The Pacific Psychology Clinic is one of several affordable mental health services in the local Washington County area. The Borland and Schiller (2012) needs analysis of the Pacific Psychology Clinic revealed several themes: 1) clients of the Pacific Psychology Clinic often have both mental and physical health conditions, 2) PSY student therapists have limited or lack of experience with OT, 3) PSY student therapists identified physical health issues, which are outside their scope of practice, as a barrier to their treatments, and 4) PSY student therapists listed a variety of health and safety management concerns that are within OT's scope of practice.

Bair and Shing aim to develop a more encompassing group to attract more participants and to invite PSY student therapists to co-lead the groups to increase involvement of PSY as well as initiate the interdisciplinary education approach. Upon reviewing Borland and Schiller's need analysis of Pacific Psychology Clinic and the local community, the creation and collection of comprehensive health education materials and program planning for people with multiple health concerns was proposed to and approved by Professor Roush and Director Christiansen. Due to contractual obligations, implementation of an interdisciplinary pilot group was not carried out. The focus of this project shifted to creating a program development guide for healthcare professionals.

Disciplines

Occupational Therapy

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Pacific University School of Occupational Therapy

The Successes and Challenges of Program Development

Innovative Practice Project 2013

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Overview

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Literature Review

Health Education and Self-Management

The principles of health education and self-management have been identified and elaborated upon by a number of researchers including professionals from higher education institutions as well as medical and mental health providers (Druss et al., 2010; Lorig et al., 2006; Goldberg et al., 2013).

A central theme is that every person plays an active part in the decision making process of managing their physical and mental health. The end results are dependent on the choices they make, health related goals they set and on how actively they pursue these goals. There are a few basic tenets for individuals to becoming an effective partner with their health care providers in maintaining and promoting good health and wellness. Individuals need to have a basic understanding of their conditions as well as access to the resources and supports needed to make good decisions in their health care management. The group format of health education classes offers peer social supports that influence the individual's ability to stay on track by providing reminders, brainstorming ideas, sometimes providing physical assistance, and ongoing emotional supports.

Research shows that adults are motivated to persevere when they understand the benefits of behavioral change and believe that they can be successful in making those changes. Each success increases the individual's sense of self-efficacy and confidence in managing their health problems by setting realistic goals and implementing behavior changes over time (Milbank Memorial Fund, 1999).

Chronic Conditions

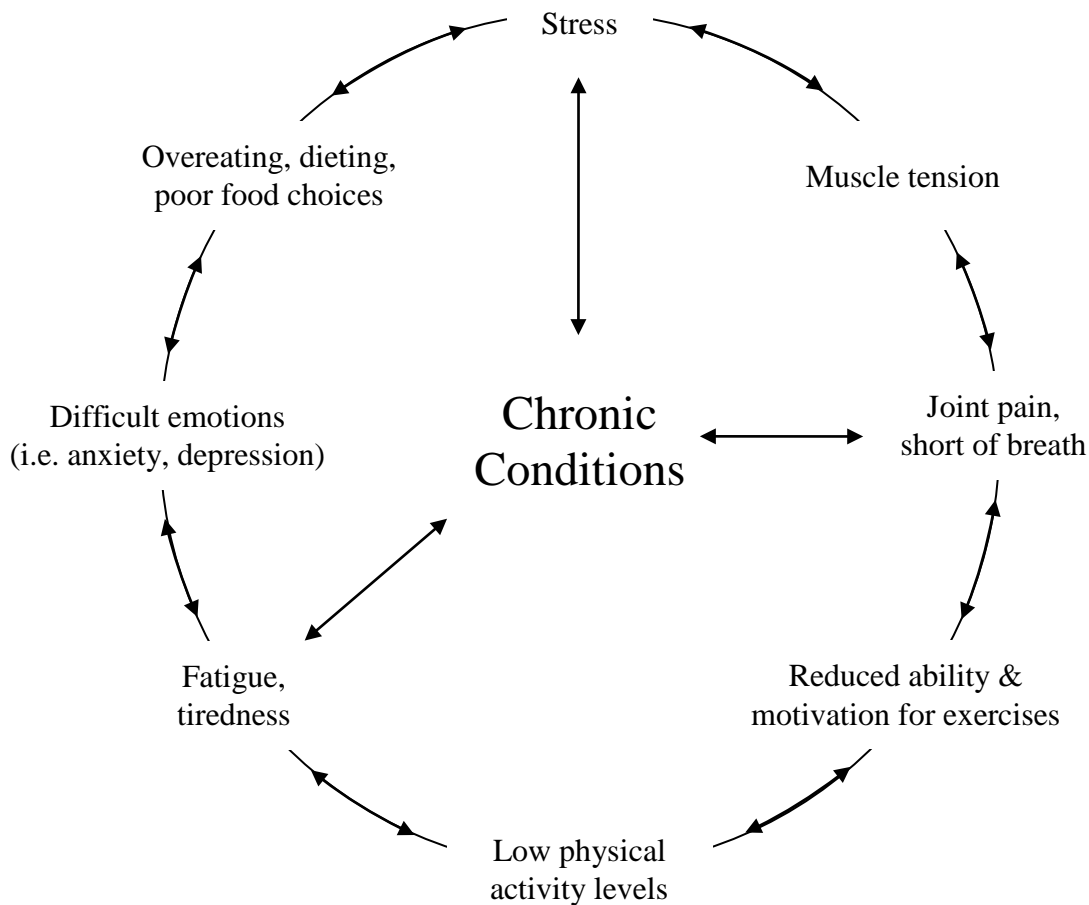
Generally health problems are categorized as acute or chronic. An acute condition often begins with a sudden onset (accident or illness). It goes through a predictable process of getting worse, getting treatment, hopefully the situation resolves and the individual gets better. Chronic conditions have a different profile. They develop over a long period of time. A multitude of factors can contribute to the condition including: lifestyle, heredity, stress, socio-economic factors, inadequate nutrition, exposure to toxins, environmental hazards and physiological problems. Chronic conditions manifest a number of symptoms (pain, shortness of breath, muscle spasms, inflammation, depression, fatigue, etc.) that in combination multiply and feed on each other; continuously increasing the negative effects of the condition (Lorig et al., 2006).

Chronic disease comes in many forms; heart disease, diabetes, chronic obstructive pulmonary disease (COPD), asthma, arthritis, kidney disease, cancer, and chronic stroke are

common examples. In the United States, chronic diseases are responsible for 7 out of 10 deaths every year. The Healthy People 2020 report advises that in 2008, 107 million Americans, almost 50 percent of people age 18 or older, had at least one of the above listed chronic conditions (Centers for Disease Control and Prevention [CDC], 2008; Healthy People 2020, 2009). The Centers for Medicare & Medicaid Services report that 50 percent of Medicare Fee-for-Service beneficiaries in 2005 were receiving care for one or more of these chronic conditions (Schneider & O'Donnell, 2009).

In addition to affecting the body's cellular structures and organic processes, these diseases also affect the individual's ability to perform activities of daily living (ADL). Furthermore, they interrupt leisure and social participation that add meaning and satisfaction to life. Physical limitations, emotional distress and loss of self-esteem often lead to isolation and inactivity, creating a vicious cycle of depression and disability for people dealing with chronic conditions (See Figure 1).

Figure 1. Symptoms of Vicious Cycle



Co-morbidity and Mental Health Conditions

While chronic conditions seriously impact people in the general population, the prevalence among persons with comorbid mental health conditions and chronic medical conditions is even higher. This combination of problems limits their ability to access appropriate resources and puts them at risk of receiving an inadequate level of care (Orszag & Emanuel, 2010). The National Comorbidity Survey Replication (NCS-R) showed over 68 percent of adults diagnosed with a mental health disorder also had at least one medical condition. Conversely, 29 percent of people reporting a medical condition also reported having a mental health disorder (Alegria, Jackson, Kessler, & Takeuchi, 2003; Kessler et al., 2004).

Socioeconomic factors are known to contribute to poor access to medical care, higher levels of medical diseases, and the likelihood of having mental health disorders. Consistently, the lower socioeconomic status (SES) a person has, the higher their chances are of having increased rates of mental disorders, lower educational attainment and poor health behaviors. All of which contribute to chronic diseases and higher rates of mortality (Brezinka & Kittel, 1996; Butler et al., 2008; Drewnowski, 2009; Harper & Lynch, 2007; Kronick, Bella, Gilmer, & Somer, 2007; Lantz et al., 1998; Lorant et al., 2003).

Individuals with mental health conditions also have a higher rate of unemployment and lack of financial resources (Goldberg et al., 2008). This situation reduces their access to social supports, healthcare resources and frequently exposes them to dangerous and unhealthful environments (Jeon, Essue, Stephen, Wells, & Whitworth, 2009; Phelan, Link, Diez-Roux, Kawachi, & Levin, 2004). Environment and emotional stresses are related to low SES and associated with the use of tobacco, substance abuse, poor physical fitness and inadequate nutrition which play a role in the development of chronic diseases (CDC, 2010).

In Oregon, there is a significant need of services for the mental health population. A recent press release on Feb. 6, 2013 quoted Senate President Peter Courtney stating that "...one in eight children, and one in 18 adults in Oregon suffers from mental illness." He further advised that the Oregon Health Authority reported, "...the state is currently serving less than half the adults and slightly more than one-third of the young people who need treatment" (Senate President's Office, 2013, para. 3). With about 17,376 residents who have mental health conditions and a 10.4% poverty rate in Washington County (City Data, 2012; United States Census Bureau, 2012), the need for affordable mental health services in the local community is high.

Care and Treatment for Co-morbid Conditions

Chronic mental illness and chronic medical conditions both require treatment and self-management by the individual to achieve the highest quality of life possible. Treatment may come in the form of prescribed medications, exercise and lifestyle modifications (Lorig & Holman, 2003). Individuals dealing with comorbid chronic medical and mental health conditions struggle to manage the often complex medication and behavior regimens necessary to control symptoms and maintain health. People dealing with depression may lack the energy, motivation and confidence to manage their conditions. Depressed patients are three times more likely to be non-compliant with medical treatment plans than people who are not depressed (DiMatteo, Lepper, & Croghan, 2000). They often become inactive and isolated, impacting their ability to communicate well and maintain healthy relationships with others, including their health service providers (Katon, 2003). These contributing factors and barriers to self-care not only increase the prevalence and severity of comorbid chronic conditions among this population (Brown, Birtwistle, Roe, & Thompson, 1999; Daumit et al., 2005; Dickerson et al., 2006; Dickerson et al., 2009; Dixon, Postrado Delahanty, Fischer, & Lehman, 1999; Kreyenbuhl et al., 2010; McCreadie et al., 1998; Meyer & Nasrallah, 2009; Sokal et al., 2004), but also impact their ability to successfully manage their conditions (Mueser et al., 2002). Specific curriculums and general health education are needed to address the specific needs of these individuals with comorbid physical and mental health conditions (Mueser et al., 2002).

The issue of poor continuity of care between medical physicians and mental health professionals continues to exist. Individuals with mental health conditions often have difficulty recognizing chronic illness patterns and seeking treatment. The primary care physician may not be familiar with the treatments and protocols used for patients with mental health issues; often resulting in poor communication and a lack of understanding of the patient's mental/emotional status and their ability to comply with treatment recommendations. Lastly, many mental health care providers do not have the extensive training needed to recognize medical illnesses and to provide referrals to medical care for these patients. Currently, the U.S. medical systems are generally fragmented and do not provide the interdisciplinary collaboration that is required to provide optimum care for patients with comorbid mental and medical conditions (Druss & von Esenwein, 2006).

Best Practice and Existing Programs

Previous experience indicates that teaching primary care physicians and mental health care providers to screen patients for comorbidities has not resulted in improved care and treatment for these patients (Gilbody, House, & Sheldon, 2001). Fortunately, a newer model of communication and collaboration between the disciplines to improve delivery of care has shown to be effective (Butler et al., 2009; Gilbody et al., 2001; Gilbody, Bower, Fletcher, Richards, &

Sutton, 2006; Thielke, Vannoy, & Unitzer, 2007). Self-management education in group settings has shown to be promising in enabling patients to be better informed and participate more actively in health care decision making and management (Chodosh et al., 2005; Goldberg et al., 2013; Holman & Lorig, 2000; Monninkhop et al., 2003; Wagner et al., 2001).

There are a number of programs providing such educational support to patients with chronic medical conditions (Effing et al., 2009; Health Council of Canada, 2012; Milbank Memorial Fund, 2009; Viswanathan et al., 2012). Some programs provide online supports that allow individuals to pursue their own health education and offer tools for setting goals, developing action plans and monitoring their health. Other programs offer group health education classes that provide peer supports.

Within the United States, the peer-led Chronic Disease Self-Management Program (CDSMP) developed by Stanford University is the most widely-recognized with extensive research evidence. CDSMP is a 6-week course focused on problem-solving, decision-making, and action planning skills to manage common chronic physical conditions (Stanford University School of Medicine, 2013a).

Within the mental health community, there are several well-established recovery programs that contain elements of self-management. The self-directed Wellness Recovery Action Plan (WRAP) focuses on increasing self-awareness and developing personal Wellness Tools to maintain a healthy lifestyle (Copeland, 2013). The Building Recovery of Individual Dreams & Goals through Education & Support (BRIDGES) focuses on developing self-help skills and establishing on-going support (Tennessee Mental Health Consumers' Association, 2013). National Alliance on Mental Illness (NAMI)'s Peer-to-Peer Program focuses on relapse prevention (NAMI, 2013). The Vet-to-Vet focuses on peer-counseling using the Illness Management and Recovery (IMR) program to promote personal responsibility through learning information, skills, and strategies for managing their psychiatric conditions (Vet to Vet, 2013).

In addition to these recovery programs, there are recent developments in self-management programs for chronic mental health conditions. The Health and Recovery Peer (HARP) program, adapted from CDSMP for the mental health population, has been shown to improve health and quality of life (Druss et al., 2010). There has been recognition of the need for such programs to be modified and expanded to address the specific needs of persons with comorbid mental and physical conditions (Mueser et al., 2002). These programs have been targeted to psychiatric clinics, consumer rehabilitation settings and community mental health services. The classes provide information about specific disease management techniques and how mental illness affects a person's medical status and vice versa (Cabassa, Ezell, & Lewis-Fernandez, 2010).

To date most group programs have used a mental health professionals/peer co-leaders format or are led by trained mental health consumer peers (Stanford University School of Medicine, 2013a; Druss et al., 2010; Goldberg et al., 2013). Lately the number of peer-led self-management or recovery programs has grown due to its financial feasibility. These programs also have the unique advantages of providing emotional support, promoting hope and empowerment, increasing positive self-esteem and social inclusion through shared experience (Moll, Holmes, Geronimo, & Sherman, 2009; Repper & Carter, 2011). However, there are many challenges and limitations faced by peer-leaders such as role confusion, power struggles with group members and colleagues, boundary issues, and stress (Moll et al., 2009; Repper & Carter, 2011). Furthermore, there is no evidence suggesting that peer-led programs yield better results or attendance than clinician-led programs (Bottonari et al., 2012; Eisen et al., 2012). A 2010 study conducted by Hoagwood and colleagues examined 50 family support programs for children's mental health and found that while peer-led programs have an emphasis in advocacy for services, clinician-led programs focus on skills development. This suggests that program design should be selected based on population and need.

Unique OT contribution/Student collaboration

Occupational therapists are medical professionals with expertise in the areas of lifestyle modification, rehabilitation and prevention. The person-centered focus of OT provides a unique insight into the specific challenges, both emotional and physical, of a client dealing with comorbid mental illness and chronic medical conditions. A founding principle of occupational therapy is that the therapist works as a partner with their client to understand the situation, evaluate needs, plan treatment and support the client to achieve their self-identified goals (American Occupational Therapy Association, 2008).

Clients learning to manage living with comorbid chronic conditions, benefit from the OT perspective on developing healthy habits and routines to integrate medications, exercise, healthy diet and social participation into their life. Living with diabetes, heart disease and other chronic medical conditions affects a person's strength, endurance and emotions, limits their ability to keep up with ADL, impacts employment responsibilities and family/social obligations.

As leaders in health management education, OTs use knowledge of mental illness and medical diseases/conditions to facilitate the discussion of how comorbid conditions affect an individual's daily routines and to identify barriers and strengths for their success. OTs provide emotional support and encouragement during the process of adapting routines and modifying the environment to help the individual build a sense of self-control and confidence in their ability to manage their conditions. Although education is part of OT's scope of practice, the approach of occupational therapy is one of "doing". It focuses on incorporating the individuals' goals and treatments into their daily life to support change and growth without undue disruption to existing

family patterns and routines. This is especially important for individuals who have the additional challenge of coping with mental illness or mood disorders as they work to manage chronic medical conditions.

Using meaningful occupation as a guide, OTs explore and teach various strategies for dealing with physical and emotional symptoms in daily life. This may include: addressing issues of fatigue by incorporating energy conservation and modifying activities; teaching and practicing techniques to reduce pain, stress, fatigue and spasticity symptoms; educating on possible progressions of specific condition, and helping clients cope and manage tasks as their physical or mental abilities change.

Living with comorbid mental illness and chronic medical conditions is a complicated business. Although each discipline has its value, delivering services in isolation has been shown to result in fragmented care and unsatisfactory health outcomes. It is clear that interdisciplinary communication and collaboration with the client is critical to developing treatment plans that support them in achieving both physical and emotional health and wellness.

It was from this perspective that Bair and Shing developed the idea of a collaborative co-led health education program created and led by health profession students. The following questions needed to be answered before proceeding with the project:

1. Why should occupational therapy students and psychology students collaborate in providing health education and self-care classes to individuals with comorbid medical and mental health chronic conditions?
2. What are the benefits and liabilities related to using student co-leaders rather than consumer peer leaders?

Discussions between the students and faculty advisors and literature reviews on the subject yielded the following rationale for an interdisciplinary effort using student OT and PSY practitioners as co-leaders.

- To provide a professionally supervised training ground for the next generation of health care providers, using interdisciplinary approaches to treating patients with comorbid chronic conditions.
- To initiate the establishment of an OT clinic for occupational therapy students' professional development and fieldwork experiences
- To increase the presence of the university, the School of Occupational Therapy and School of Professional Psychology while providing needed services to the community

- To provide cost effective services to individuals with low income who need assistance and education to manage their chronic medical and mental health conditions

A collaborative program developed by occupational therapy students and psychology students will provide needed services to meet the complex physical, emotional and health management needs of clients with comorbid mental health issues and chronic medical conditions in the local community.

Method

Models

Bair and Shing's concept of a comprehensive health education class was guided by the Model of Human Occupation (MOHO) and Transtheoretical Model of Change. The goal of the class is to assist participants in skill development and restore their sense of control over their health conditions through behavioral changes supporting their functional roles.

Model of Human Occupation

MOHO was developed by Gary Kielhofner in 1980 as the first contemporary model that has an occupation-focus. MOHO aims to explain "how occupation is motivated, organized into everyday life patterns and performed in the context of the environment" (Kielhofner, 2008, p. 3). MOHO perceived humans as three dynamic internal subsystems: volition, habituation, and performance capacity.

Volition refers to personal causation, values, and interest. This force reflects the person's motives to act; which may be external motivators such as financial incentives or an internal drive such as hunger. Habituation refers to one's behavioral patterns based on one's habits, roles and routines. Performance capacity is defined as one's objective ability and subjective experience. Each of these subsystems interacts with the environmental context. The environment can create demands, supports, or opportunities.

MOHO has five principles outlining the concepts of human occupations (Kielhofner, 2008, p.31):

1. Occupational actions, thoughts, and emotions arise out of the interaction of volition, habitation, performance capacity, and environmental context.
2. Change in any aspect of volition, habituation, performance capacity, and/or the environment can result in a change in thought, feeling, and doing.

3. Volition, habituation, and performance capacity are maintained and changed through what one does and what one thinks and feels about doing.
4. A particular pattern of volition, habituation, and performance capacity will be maintained so long as the underlying thoughts, feelings, and actions are consistently repeated in a supporting environment.
5. Change requires that novel thoughts, feelings, and actions emerge and be sufficiently repeated in a supportive environment to coalesce into a new organized pattern.

Transtheoretical Model of Change

The Transtheoretical Model of Change, developed by James Prochaska and Carlo DiClemente, emerged in the late 1970s to explain the cyclical process individuals used to change their smoking habits (Prochaska & DiClemente, 1982). The Transtheoretical Model of Change outlined the six distinct stages of change: 1) pre-contemplation, 2) contemplation, 3) preparation, 4) action, 5) maintenance, and 6) termination.

The pre-contemplation stage is when individuals are unaware of the problem and/or have no intention to change. Once the individuals recognize the problem and have the motivation to seriously consider changing their habit, they have entered the contemplation stage. Following contemplation is the preparation stage. This is when individuals have strong intention to make a change and/or may have made some small changes, such as delaying smoking or smoking less. When the individuals are fully committed to change and have successfully changed their behaviors for a short period of time, they have entered the action stage. They progress to maintenance stage when changes are maintained for at least three to six months. After a prolonged period of maintenance (at least six months), the individuals reach termination stage in which they are no longer at risk for relapse (Prochaska & DiClemente, 1982; Prochaska, DiClemente, & Norcross, 1992).

Creation and Collection of Comprehensive Health Education Materials

To begin the development of an interdisciplinary comprehensive health education class, Bair and Shing researched and reviewed publically available information including but not limited to the following health management programs:

- Stanford CDSMP (Stanford University School of Medicine, 2013a)
- The Flinders Program in Australia (Flinders University, 2013)
- New Health Partnership: Information for People with Chronic Condition – Self-Management Support (Institute for Healthcare Improvement, 2011)
- Healthy Coping in Diabetes: A Guide for Program Development and Implementation (Fisher et al., 2009)

- Strengthen Your Spirit: Self Assessment and Tools for Healthy Coping of Negative Emotions (Marshall University School of Medicine, 2009)
- Project Dulce in California (Scripps Health San Diego, 2013)
- WRAP (Copeland, 2013)

Many of those programs cover universal healthy coping skills such as physical activities, stress management, nutrition, spirituality, communication, support groups, mind-body techniques, and medication management. From there, Bair and Shing selected essential health topics that both OT and PSY students are well-qualified to cover. Next they conducted multiple internet queries for free credible sources that offer quality health educational materials. Credibility of the sources are based on the type of web site sponsorship with government web sites as the most credible, credential of the author(s), date of publication, completeness of the information, depth of the information, and user friendliness of the web site.

Once the source was deemed credible, the students reviewed copyright guidelines and requested permission to use the materials (See Appendix A: Permission Request for Usage and Reprint Sample Letter). When permission was denied or associated with a licensing/copyright usage fee, the students either created their own materials or searched for another credible source.

When permission was granted, the original article was used as the instructor's version. Depending on the breadth and depth of the article, a concise patient education handout may be generated by adapting and excerpting contents from the original articles with proper citation as follows:

Content excerpted/adapted from the CDC: <http://www.cdc.gov/physicalactivity/everyone/health/index.html>

Excerpted/Adapted from the NIH Go4Life Tip Sheets: <http://go4life.nia.nih.gov/resources/tip-sheets> (I. Gilman, personal communication, February 27, 2013)

Partnership with Psychology

Bair and Shing met with Director Christiansen to identify the goals of this project and to ensure that their concept of a health education class meets the needs of the Pacific Psychology Clinic clientele. Continuous communication occurred via email. Director Christiansen was responsible for recruiting PSY students who were interested in co-leading the class. Once the PSY student was identified, Bair and Shing planned to meet with the PSY student to introduce him/her to the project, obtain a psychology perspective of the health topics, and modify class materials as needed.

Recruitment

Recruitment for a pilot group was intended to take place within Pacific University clinics and local health services providers such as Virginia Garcia Memorial Health Center and Tuality Care via posting flyers, email announcements, and word-of-mouth (See Appendix B: Recruitment Contact List). However, recruitment was not completed due the discovery of an unforeseen contractual obligation between Pacific University and Stanford University.

Pilot Group

A pilot comprehensive health education class co-led by OT and PSY students was planned to take place in Pacific University. Bair and Shing reserved two conference rooms in Creighton Hall through the College of Health Profession administration. Class size was limited to eight to ten participants to encourage group discussion. Class time was set to begin at 5:30 p.m. to allow adequate travel time for participants who are working.

Outcome

Based on the MOHO principles, the comprehensive health education class is designed to evoke new thoughts, feelings, and actions and provide a supportive environment to establish healthy coping mechanisms. It is intended for individuals who are in the contemplation or preparation stage. The content of the course is to facilitate individuals in developing necessary skills to progress to action and maintenance stages for managing their multiple health conditions.

Creation and Collection of Comprehensive Health Education Materials

Through internet query, Bair and Shing located many credible and publically available resources. Government sites, such as Centers for Disease Control and Prevention, and National Institute of Health, have an abundance of health information and materials. All information and materials on their sites are public domain. There are also many non-profit organizations such as HelpGuide.org which permit non-profit reprint and usage of their materials.

Bair and Shing also created OT tools such as a daily activity log to facilitate awareness of personal behavioral patterns (habits, roles, and routines) in order to promote change (See Appendix C: Daily Activity Log).

Partnership with Psychology

Director Christiansen successfully recruited a PSY student to co-lead the comprehensive health education class with the OT students. The students corresponded via email and scheduled

a group meeting with the presence of Professor Roush to discuss the roles and responsibilities of each student. Unfortunately, the planning meeting became a debriefing meeting, where the group decided to cancel the pilot group due to unforeseen contractual obligations.

Cancellation of Recruitment and Pilot Group

As Bair and Shing prepared for recruitment, they discovered that Pacific University holds the license to the Stanford CDSMP. Under the licensing agreement with Stanford University, Pacific University as the licensee agreed to the following clauses:

6. Licensee may not create derivatives of the Program without the express written permission of Stanford. Licensee may not otherwise commercially exploit the Program or any material derived from or based upon the Program.
7. Licensee agrees to contact Stanford University for permission to reproduce or distribute the Program or any material derived or adapted from the Program for any use not specifically granted in this Agreement.
8. If Licensee wants to collaborate with another organization to offer training, Program materials, or any other use of the Program, Licensee should contact Stanford to ensure that the intended use is permitted and the organization has been licensed. (Stanford University School of Medicine, 2013b, para. 12-14)

Despite the lack of knowledge and access to CDSMP materials and training, the comprehensive health education class was deemed to be similar to the CDSMP. Due to time constraints, the students were unable to contact Stanford University for permission to implement a pilot of the comprehensive health education class at Pacific Psychology Clinic. Recruitment was not completed and the pilot group was cancelled. The unforeseen contractual obligations shifted the focus of the project from developing a class to creating a resource guide for students and practitioners interested in developing health education programs.

Bair and Shing compiled a list of publically available free resources for common health education topics (See Appendix D: Resource List), a sample module (See Appendix E: Sample Module – Medication Guide), and a program development checklist (See Appendix F: Program Development Checklist).

Limitations

In development and implementation of this Innovative Practice Project, there were several limitations:

- The program was researched by novice OT student researchers.

- The students had limited experience in health education program and curriculum development.
- The project was conducted over a short period of time (one semester). A longer, ongoing interdisciplinary program development process would allow for a richer curriculum and opportunity to include more health disciplines in the program. A longer time period would enable more in-depth research and analysis of desired outcomes to further refine and improve the program.
- The small number of clients who expressed interest in the class did not allow an in-depth analysis of the most prevalent needs within the proposed local population.
- There is currently no comprehensive process in place to identify potential legal and contractual issues related to student program development within Pacific University and associated programs. A lack of awareness of the contractual agreement between Pacific University and Stanford University CDSMP resulted in the cancellation of scheduled classes and recruitment efforts within the school and community.
- Due to cancellation of the classes the students did not have the opportunity to co-lead groups with the Pacific Psychology Clinic staff and student practitioners. Consequently, Bair and Shing were not able to integrate new knowledge based on their participation as co-leaders into the analysis of the curriculum's effectiveness.
- Because the curriculum was not actually implemented, it is difficult to gauge the effectiveness of using an occupational therapy approach to self-management of chronic conditions within a university clinic, mental health setting. Additionally, there was no opportunity to assess and analyze the skills growth or the quantity and quality of the collaboration between OT and PSY students.
- Another concern was limited interaction with the PSY students and inability to include their feedback and ideas into the curriculum development. In future interdisciplinary IPP projects, the program would benefit by involving PSY students at an earlier stage of development.
- This project was designed to be implemented at Pacific University. Implementation of this occupation-based health education program among a number of colleges would allow further investigation and analysis of the implications of an OT/PSY student practitioner, co-led self-management program in university clinics.

Recommendations

Throughout the process of developing a program and creating a health education curriculum, the two students learned to adjust to changing circumstances and deal with a variety of barriers and challenges as they arose. Based on their experience, the following recommendations to students or others contemplating developing similar groups are offered:

- Train a university staff member to become a master trainer of CDSMP and provide ongoing training to student practitioners
- Collaborate to co-lead with Tuality Health Education community Living Well with Chronic Conditions program (perhaps the Pacific Psychology Clinic clients may be eligible for a discount to attend the class)
- Explore utilization of Diabetes Clinic's CDSMP (Spanish version) for Pacific Psychology Clinic's Spanish-speaking clients
- Integrate this co-led self-management curriculum within the OT and PSY curriculums as a part of fieldwork and internship electives, to allow graduate students to work together and improve their performance as future health professionals
- Proactively communicate with local partners regarding potential competition among services (perhaps can collaborate during development process)
- Communicate with legal department and within interdisciplinary university departments to share contract-related information
- Create a "contract" folder on Vault database to provide a centralized repository for information
- Create "legal/contract" committees with one representative from each department of the College of Health Professions to enhance communication within the CHP
- Expand inter-department collaboration to other health professions (physical therapy, physician assistant, optometry, pharmacy, dental hygiene, etc.) to broaden the knowledge base for students and services for clients
- Use the sample Program Development Checklist provided

Summary

The evidence is clear that there is a high need for affordable or free health education and self-management training among individuals experiencing comorbid mental illness and chronic medical conditions. This paper provides the reader with an in-depth discussion of the problems faced by these individuals, current trends in treating and living with chronic conditions, and the rationale supporting interdisciplinary programs that provide them with comprehensive, integrated health care.

Interdisciplinary programs such as the proposed curriculum for a health education program, allow health professions graduate students to practice collaboration and co-treatment with peers, and prepare them for future roles as leaders and health providers. Bair and Shing benefited from the coaching and direction of professional advisors and faculty members, and gained valuable experience conducting research, identifying best practices, and accessing credible resources. The students gained skills in program development, creating a curriculum, marketing, recruitment, and program implementation. These benefits will transfer over into their professional life.

This project enabled exploration of an interdisciplinary collaboration and treatment program at Pacific University. The program could benefit the School of Occupational Therapy, School of Professional Psychology, the university and the community at large by providing: student opportunities for skills development, use of evidence based practices, increased confidence as researchers, and the enhanced reputation of the university. Equally important is the provision of much needed services to individuals in the community.

The process also highlighted an area in need of improvement within the Pacific University College of Health Professions. There is no well-known, easy to access process for students and faculty to verify if programs and projects conflict with community partner programs or contractual obligations. In this instance a critical piece of information was missed, resulting in cancellation of the occupation-based self-management class prior to implementation.

Instead, Bair and Shing used their new knowledge to apply the principles of person-centered, occupation-based care and assembled a sample module and program development checklist for use by other students and practitioners. While there are many well established programs for self-management of chronic conditions and recovery symptom management models, there is always room for improvement and exploring alternatives. Occupational therapists have a unique and important role in this area as they have specialized knowledge of occupation, habits, routines and the psychosocial and physical implications of living with chronic conditions and/or mental illness. It is hoped that these students' experience and the resources provided will inspire other healthcare professionals and students to collaborate within disciplines to further research and development in this important area of practice.

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Appendix A: Permission Request for Usage and Reprint Sample Letter

February 14, 2013

To whom it may concern:

My name is Eva Shing. I am a third year occupational therapy student at Pacific University. As part of our education, my classmate Elizabeth and I are collaborating with Pacific Psychology Clinic to compile a comprehensive health education class for people with multiple health conditions.

I really like the comprehensive information along with the photos on Go4Life website (<http://go4life.nia.nih.gov/try-these-exercises>) regarding the different types of exercises: endurance, strength, balance, and flexibility. I would like to use your materials in my exercise portion of the self-management class.

I am seeking permission from you to allow us to modify, use, and reprint the materials for our group (see attached). In addition, our final product (which will include your material if permitted) will be published electronically in a PDF format under Pacific University's CommonKnowledge library resource.

I look forward to hearing for you. Thank you very much for your consideration.

Sincerely,
Eva

*P.S. by modify, I mean condensing info into a brief handout for participants, without any alteration of the text or wordings.

Appendix B: Recruitment Contact List

PACIFIC UNIVERSITY CLINICS		
Clinic	Contact Person	Contact Email
Interprofessional Diabetes Clinic	Carole Timpone	timponec@pacificu.edu
Dental Clinic	--	dentalhealth@pacificu.edu
Optometry Clinics	Jennifer Smythe	smythej@pacificu.edu
	Ami Halvorson	drys1702@pacificu.edu
	Kirk Halvorson	halv2140@pacificu.edu
	Beth Kinoshita	kino1924@pacificu.edu
	Susan Littlefield	litt4871@pacificu.edu
	Blair Lonsberry	lons3596@pacificu.edu
Physical Therapy Clinic	Rebecca Reisch	reischra@pacificu.edu
	Jose Reyna	reyn1741@pacificu.edu
Pharmacy	Susan Stein	stei6440@pacificu.edu
	Yvette K. Holman	yvette.holman@pacificu.edu
CHP Admin	Carole Billings	carole.billings@pacificu.edu

LOCAL COMMUNITY		
Organization	Contact Person	Contact Email
Tuality Health Education Center	Susan Downs	Susan.Downs@tuality.org
Virginia Garcia Memorial Health Center	Ann Turner Laura Byerly	aturner@vgmhc.org lbyerly@vgmhc.org
Lifeworks NW	--	intake@lifeworksnw.org
Washington county DAVS	Julie Webber	Julie_Webber@co.washington.or.us
Affordable health Clinics 12720 SW Pacific Hwy Suite #1 Tigard, Oregon 97223-6125	--	staff@affordablehealthclinics.com
Essential Health Hillsboro Clinic 266 W Main St MS68 Hillsboro, OR 97123	--	info@essentialhealthclinic.org
Essential Health Tigard Clinic 15296 SW Royalty Parkway Tigard, OR 97224	--	
Neighborhood Health Center 3720 SW 141 st Avenue, Suite 100 Beaverton, OR 97005	--	info@healthcenteror.org

Appendix C: Daily Activity Log

Sample Daily Activity Log

	Morning Activities	Action Plan		Afternoon Activities	Action Plan
1:00AM	Sleep		1:00PM	School	
				10-min break	
2:00AM			2:00PM	10-min break	
3:00AM			3:00PM		
4:00AM			4:00PM	Study / do homework	
5:00AM			5:00PM	Prepare dinner	
6:00AM			6:00PM	Dinner / Watch TV	
7:00AM			7:00PM		
8:00AM	Morning grooming Get dress, pack my bag Breakfast	take vitamin	8:00PM	Shower Exercise (weights & sit-up)	
9:00AM	School		9:00PM	Study / surf the web play video games	
10:00AM	10-min break		10:00PM		
11:00AM	10-min break		11:00PM	brush teeth, get ready to sleep sleep	
12 noon	Lunch surf on the web / emails	walk	12 midnight		

Mapping out your day helps you incorporate your action plan into your daily routines.

You can add tasks from your action plan in this column.

For example, I can add "take vitamin" during breakfast to help me remember to take my pills. Or add "walk" during my 1-hour lunch to get some exercise in my day.

Daily Activity Log

	Morning Activities	Action Plan		Afternoon Activities	Action Plan
1:00AM			1:00PM		
2:00AM			2:00PM		
3:00AM			3:00PM		
4:00AM			4:00PM		
5:00AM			5:00PM		
6:00AM			6:00PM		
7:00AM			7:00PM		
8:00AM			8:00PM		
9:00AM			9:00PM		
10:00AM			10:00PM		
11:00AM			11:00PM		
12 noon			12 midnight		

Appendix D: Resources List

Health Topics	Organization	Source
700 health-related topics	National Library of Medicine's Medline Plus	www.medlineplus.gov
Caring for a loved one with Alzheimer's disease	National Institute of Health	www.nia.nih.gov/alzheimers
Communication - Nonverbal - Conflict Resolution	HelpGuide	http://www.helpguide.org/mental/effective_communication_skills.htm
Communication with medical professionals; prepare for an office visit	Journal of American Medical Association	http://www.yaleruddcenter.org/resources/bias_toolkit/toolkit/Module-8/8-02-HowToTalk.pdf Provided as a public service by JAMA and AMA
Dealing with deafness	National Institute of Health	www.nidcd.nih.gov
Diabetes management	National Diabetes Clearing House	www.diabetes.niddk.nih.gov
Diet and Nutrition information, educational handouts, Tip Sheets and quizzes	United States Department of Agriculture Center for Nutrition Policy and Promotion	www.dietaryguidelines.gov www.ChooseMyPlate.gov
Diet, Nutrition and food safety	The U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition Food Information	www.fda.gov http://www.fda.gov/Food/default.htm http://www.fda.gov/Food/IngredientsPackagingLabeling/default.htm http://www.fda.gov/Food/DietarySupplements/default.htm http://www.fda.gov/Food/ResourcesForYou/default.htm www.fda.gov/Food/ResourcesForYou/Consumers/Seniors

Dietary supplements	Department of Agriculture	Food and Nutrition Information Center National Agricultural Library www.nal.usda.gov/fnic
	Federal Trade Commission	www.ftc.gov/bcp/menus/consumer/health.shtml
	Food and Drug Administration	Center for Food Safety and Applied Nutrition www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CFSAN
	National Center for Complementary and Alternative Medicine	NCCAM Clearinghouse www.nccam.nih.gov
	National Library of Medicine MedlinePlus	www.medlineplus.gov
	Office of Dietary Supplements	www.ods.od.nih.gov
Enhance children's nutrition	U.S. Department of Health and Human Services. National Institute of Health	http://wecan.nhlbi.nih.gov
Exercise	Go4Life – National Institute on Aging at NIH	http://go4life.nia.nih.gov/
Fatigue and Sleep	Canadian Centre for Occupation Health and Safety	http://www.ccohs.ca/oshanswers/psychosocial/fatigue.html
Health and medication info specific to Seniors	National Institute of Health	www.nihseniorhealth.gov
Healthy Eating, dining out and snacks	U.S. Department of HHS: Heart, Blood and Lung Institute	http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet11KidFriendlyVeggiesAndFruits.pdf http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/eat-right/choosing-foods.htm http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/dine_out.htm

		http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/eth_dine.htm
Information to prevent or manage conditions related to heart diseases	American Heart Association	www.americanheart.org/cholesterol http://www.heart.org/HEARTORG/GettingHealthy/GettingHealthy_UCM_001078_SubHomePage.jsp http://www.heart.org/HEARTORG/Conditions/Conditions_UCM_001087_SubHomePage.jsp
Lung Disease - Breathing Techniques - Energy Conservation - Do Everyday Chores with Less Effort	The Canadian Lung Association	http://www.lung.ca/diseases-maladies/copd-mpoc_e.php
Managing heart disease	National Institute of Health	www.nhlbi.nih.gov
Medical Definitions / General Information	MedlinePlus / National Institute of Health	http://www.nlm.nih.gov/medlineplus/
Medication Management	National Institute of Health	http://www.nia.nih.gov/health/publication/medicines-use-them-safely
Mental Health Conditions and Medications	National Institute of Mental Health	Information from NIMH is available in multiple formats You can browse online, download documents in PDF, and order paper brochures through the http://www.nimh.nih.gov/health/publications/index.shtml
Mental Health/ Emotional Health	HelpGuide	http://www.helpguide.org/topics/emotional_health.htm
Nutrition		www.nutrition.gov www.choosemyplate.gov —information about the <i>Dietary Guidelines for Americans</i>
Nutrition: fat versus fat free	U.S. Department of HHS: Heart, Blood and Lung Institute	http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/fat_free.htm
Physical Activity	Centers for Disease Control and Prevention	http://www.cdc.gov/physicalactivity/

Problem Solving and Changing Health Habits	HowsYourHealth	http://howsyourhealth.com/pblmslv/
Question List for Medical Appointment	Agency for Healthcare Research and Quality	http://archive.ahrq.gov/qual/beprepared.htm
Relaxation	Inner Health Studio	http://www.innerhealthstudio.com/
Supporting Student Mental Health: tools and information	University of Michigan	campusmindworks.org
Talking with your doctor	National Library of Medicine and National Institute of Health	http://www.nlm.nih.gov/medlineplus/talkingwithyourdoctor.html http://nihseniorhealth.gov/talkingwithyourdoctor/askingquestions/01.html
Using Online Health Information: pros and cons	National Library of Medicine, Medline Plus 10 Questions to Help You Make Sense of Health Headlines Council of Better Business Bureaus Medical Library Association QuackWatch	www.nlm.nih.gov/medlineplus/healthyweb surfing.html www.health-insight-harvard.org www.bbb.org www.mlanet.org www.quackwatch.org

Appendix E: Sample Module – Medication Management Guide

How to be an Effect Self-Manager of your Medications

What Are Medicines? What Are Drugs?

Modern medicine has made our lives better in many ways. It has helped us live longer, healthier lives. Some people refer to the pills, liquids, creams, or sprays they take as “medicine,” and other people call them “drugs.” Both words can mean:

- Medicines you get from a pharmacy with a doctor’s prescription
- Pills, liquids, or creams you buy without a prescription to use now and then, for example, for aches and pains, colds, or heartburn
- Vitamins or dietary supplements you take regularly
- Drugs you get without a doctor’s prescription are called over-the-counter medicines. Because mixing certain medicines can cause problems, be sure to let your doctor know about all the prescription and over-the-counter drugs you are taking.

Excerpted from Source URL: <http://www.nia.nih.gov/health/publication/medicines-use-them-safely>

How medicines work in the body

- As recently as 10 to 15 years ago, up to 40 percent of drugs failed to work properly because they were poorly absorbed, were destroyed by the body, failed to get to the right place or were excreted from the body too quickly. Today, fewer than 10 percent of medicines fail for these reasons. In part, that’s because scientists are able to identify which enzymes metabolize a specific drug and what the end products will be. The Food and Drug Administration now requires this information before it considers approving a new drug.
- The formulation, packaging and delivery methods (pills, injection, topical creams...) of drugs are tailored to ensure optimal effectiveness, safety and convenience. Therapeutics ranging from cold remedies to anti-AIDS treatments are dispensed in time-release capsules that provide a constant level of a drug over several hours. Acid-sensitive drugs like some antibiotics and antihistamines are packaged so they can pass safely through the stomach into the small intestine, where they are absorbed. Other delivery systems include pumps (insulin), inhalers (asthma medications), implants (anticancer and pain medications), patches (estrogen replacement and smoking cessation treatments) and the covering of stents (the blood thinner heparin).
- Patient instructions routinely indicate whether a drug should be taken at a particular time of day and whether oral medications should be consumed with a meal or on an empty stomach.
- Technical and scientific advances will allow researchers, pharmacists and doctors to deliver drugs that more closely target to specific organs or disease sites.
- These advances coupled with informed patients and effective self-management of medications will increase the therapeutic benefits and reduce the bad side effects of drugs.

Your mind has a direct influence on how your body reacts to medications.

The purpose of medication is to reduce the impact of a disease or symptom, or to slow down its progression. Your mind as well as your body has an important role to play in determining how effective your medication will be. It's a good idea to pay attention to both!

Placebo effect: Scientific studies show that when given a sugar pill, in 1/3 of cases studied the person's belief about the medicines effectiveness could positively or negatively affect how they feel physically or emotionally. Placebos have been seen to improve headaches, arthritis, hay fever, pain, even constipation; just because the person expected to find relief. The body responds to the brains positive expectation by turning on our self-healing mechanisms.

This is NOT a recommendation to stop taking medications prescribed by our doctor. It is a reminder to expect that your medications are doing their work. Your positive (or negative) outlook can affect how well your medications work!

Instructor: Group Discussion of mental imagery:

Examples of images: A broom sweeping away pollen and dust and making it easier to breathe; a carpenter's chisel breaking away cholesterol from your arteries.

It is good to reflect on the benefits your medications offer you. Does it:

Relieve pain? Kill cancer cells? Allow you to take a life-giving breath?

We don't take medications because somebody tells us to; we do it to improve our health and quality of life.

What is your attitude towards your medications?

Visualize medicines as a positive way to achieve better health and wellness. Create a vivid mental image and write it here.

Some people take over the counter medicines for temporary symptoms like colds, and muscles soreness. Other folks take prescription medications for chronic illnesses or conditions. This is a good time to think about the types of medications you take and why.

Side effects or Adverse Reactions:

All drugs have more than one effect on the body. A side effect is any response other than the one the drug is prescribed for. Usually when we think of side effects it is in a negative view based on unpleasant or adverse reaction to the medicine. Some reactions are uncomfortable but not life threatening; such as upset stomach, sleepiness, constipation, itching etc.

Other adverse reactions such as true allergic reactions are serious and can result in death or disability. Rash, fever, difficulty breathing and swelling of eyes, tongue or throat are signs of possible allergic reaction. Make a plan and know what to do to contact a physician or emergency personnel should the need arise.

Common Side-effects and Symptoms

- Nausea
- Diarrhea
- Sleepiness
- Dizziness
- Agitation
- Memory loss
- Blurred vision
- Fatigue
- Dry mouth
- Thirst
- Impotence
- Muscle pain
- Ringing in ears
- Numbness or tingling

How to manage side effects:

Instructor: Open discussion Of “Benefits vs. Side Effects”, in conjunction with worksheet.

(Medicine) _____ helps me by _____

_____.

Is this more important than the side effect of _____?

Is there a way to reduce or stop these side effects?

Can I take a different medication that provides the same benefit but may have different side effects?

Consider these questions for yourself; then consult with your doctor or pharmacist if you experience adverse reactions. They may be able to help improve the situation while still effectively treating your condition. It is important to consult the doctor **BEFORE** you stop taking a medication. Some medications can cause serious or even fatal responses if suddenly discontinued.

If You Take Multiple Medications

Your job is to become part of your medical team. This means communicating clearly and listening carefully to your doctor.

Instructor: Create and Discuss poster “What Self Managers Do...”.

Self -managers are involved in:

Identifying the need for treatment
Choosing a medication
Properly taking the medication
Talking to your doctor about your response to the medicine
Talking with your pharmacist all your medications, old and new

Because we are each unique individuals, every person responds differently to medications! Factors that contribute to how a drug may affect you are:

- Age
- Weight
- Health
- Genetics
- Family medical history
- Co-occurring diseases
- Lifestyle
- Access to regular health care

Without your input of vital information your doctor cannot make appropriate decisions about continuing a particular medicine or making alterations to your medical plan.

Talking with your doctor about your medications can be challenging. It’s no secret that face-to-face time with the doctor can be short. Sometimes it may seem that the doctor spends too much time talking at patients and too little time listening to them! As the expert on “You”, there is important information that you need to share with the doctor. Here are some tips on things you can do to make the process go a little smoother.

Sometimes people are intimidated by the doctor’s status and level of education. Nobody wants to offend their doctor or to be seen as a “difficult” patient. Sometimes people are simply afraid of looking foolish or ignorant and so do not ask questions and offer valuable feedback to the doctor. **Whatever the reasoning, it is a mistake to relinquish your responsibility as manager of your own healthcare!**

At Your Doctor’s Office

If you’ve gone to your doctor because you don’t feel well, the doctor might decide a medicine will help and will write a prescription.

Insert document 1.1 “How Medicines Work Fact Sheet

Insert document 1.1a “Benefits of medications” worksheet

Drug information you need to ask for:

- Medication name (don’t be shy, ask him/her to spell it if you can’t read their writing!)
- Why am I taking this medication, what symptoms does it address
- Proper dose and method of taking the medicine (how many times a day, how many hours apart).
- Do I take it with food or without?
- Are there foods I should not eat when taking this medicine? What does “take as needed” mean?
- If I forget to take my medicine on time what should I do?
- What are side effects of this medicine, what should I expect?
- Risks associated with the medication
- Precautions -what not to do when taking the medicine

Insert document 1.2; “Medicines, use them safely”

Document 1.2; Poster. Drugs and Alcohol. Start discussion about mixing medications and other substances such as alcohol.

Insert document 1.2b; “Risks of Prescription Drug Abuse”

If you have more than one doctor they may not be aware of all the medications you take! Some side effects may look like symptoms of an infection or disease. **If the doctor doesn’t know all of the medications you take, he/she may misdiagnose your condition based on the symptoms that are visible to them.**

Inform your doctor of all chronic diseases or medical conditions. Often a disease may affect how a drug is metabolized (used and cleared) in the body. For example, people with kidney disease, hepatitis and other diseases affecting the liver metabolize drugs at a slower rate. Too frequent or high of dosage may cause a toxic effect in these people.

Some drugs may not be appropriate for patients with certain medical conditions, and can increase risks of harm.

Things your Doctor wants to know about:

- Allergies to medicines
- Drugs you have had problems with in the past; be specific what the side-affects were
- Over the counter drugs
- Vitamins
- Herbal and nutritional supplements
- Other prescription medications you take

Discuss poster document 1.5; “Can you trust online health information.

Insert document 1.6; “Online Health Information: Can You Trust It?”

Insert document 1.6a; “Dietary Supplements. NIH”

Tell the doctor if you have:

- Hypertension / High blood pressure
- Ulcers
- Heart disease
- Asthma
- Diabetes
- Prostate problems
- Thyroid disease

Insert document 1.7 here, “Blood Pressure Medications”

****Pregnant and nursing women should always inform the doctor and inquire about medications prescribed. Many prescription drugs, over the counter medicines and herbal supplements can cause harm or damage to an unborn fetus or nursing infants.**

Insert document 1.3 “Strategies for managing your medication”

Use document 1.3a Create Poster. Medication reminders and pill boxes

Insert document 1.5 “Wise choices, take your medication properly.”

Create a medication list and update it every time a change is made. Providing this list to you're the nurse or physician's assistant at each visit saves time by allowing them to make sure information in your chart is accurate and complete. Giving the doctor the list gives them more time to spend actually consulting with you rather than looking up information on the computer.

Include in your medication list a record of medications currently being used to treat your chronic condition, as well as drugs that have been used in the past to treat the chronic condition. Note the condition or symptoms it was prescribed for and the effect it had on you. This info can help your doctor's select and recommend the best medications for you.

It is important to keep in mind that a medication that did not help in the past, may be beneficial now. Your health condition changes all the time and your responses to specific medications may change as well.

*Instructor: Create Poster or overhead with "Medications List"
Insert page 2.0. Medication Tracker (blank) with example...*

Other important considerations

There are often a variety of ways to treat a condition (lifestyle, diet, exercise, herbs, vitamins, stress management, acupuncture and other alternative or complementary methods). Ask your doctor if new medication is the only best option.

Take time to consider your options and be realistic in your discussion. If you do not intend to follow through on recommended lifestyle changes, perhaps taking the medication is the best option!

In some cases time is of the essence in treatment; discuss with your doctor if medication combined with alternative methods is an option for re-evaluation at a later time.

*Insert document 3.0 "Questions 4 doctor and pharmacist" here.
Insert document 3.1 "Ask Your Pharmacist" document from excerpted from NIH.*

Additional Resources for clients

*Insert document 4.0; "What do diabetes medicines do"
Insert document 4.1; "Mental-health-medications booklet"
Insert document 4.2; "Drug and medicine resources from NIH"
Insert document 4.3; "Age Page- Medicines_use_them_safely"*

How Medicines Work Fact Sheet

Advances in understanding a drug's journey through the body

Thirty Years Ago

- Doctors, pharmacists and researchers knew that some medicines caused serious side effects or reacted dangerously with other drugs. But there were few tests to predict these problems before drugs went into clinical studies or were used by many people.
- Most studies on drug-metabolizing enzymes were done in rats or mice, so scientists didn't know much about these enzymes in humans.
- To infer if a drug candidate would be toxic to humans, scientists evaluated whether the molecule caused organ damage in animals.
- Drug makers lacked the ability to customize the packaging and delivery of a drug to ensure that it would be well absorbed and available to the body.

Today

- As recently as 10 to 15 years ago, up to 40 percent of drugs failed to work properly because they were poorly absorbed, were destroyed by the body, failed to get to the right place or were excreted from the body too quickly. Today, fewer than 10 percent of medicines fail for these reasons. In part, that's because scientists are able to identify which enzymes metabolize a candidate drug and what the end products will be. The Food and Drug Administration now requires this information before it considers approving a new drug.
- Researchers have characterized dozens of human drug-metabolizing enzymes and transport proteins that regulate the activity and levels of drugs in the body.
- Scientists also have identified certain medicines, vitamins, herbal remedies, nutritional supplements and other compounds that interact with these enzymes and transporters, possibly causing adverse cross-reactions. To minimize dangerous interactions, doctors and pharmacists maintain lists of such substances. Pharmaceutical scientists are able to detect potentially troublesome compounds early in drug discovery so they can prevent these compounds from moving forward in development.
- By analyzing the genetic sequences of drug-metabolizing enzymes from many people, researchers have identified more than 100 slightly different versions of the enzymes. Although most of these genetic variations are rare, some of them can markedly alter the activity and side effects of drugs.
- As scientists learn more about drug-metabolizing enzymes, particularly those called P450s, they are able to design and develop drugs that influence the activity of the enzymes.
- Advances in technology allow researchers to determine the detailed, three-dimensional structures of some human P450 enzymes. By examining the shapes and biochemical properties of these molecules, researchers learn how medicines and other compounds interact with them.

- Scientists are now able to use human, rather than animal, enzymes to predict whether a drug candidate or any of its byproducts will be toxic to humans. However, rare, serious drug reactions remain difficult to predict before testing experimental medicines in humans.
- The formulation, packaging and delivery of drugs are tailored to ensure optimal effectiveness, safety and convenience. Therapeutics ranging from cold remedies to anti-AIDS treatments are dispensed in time-release capsules that provide a constant level of a drug over several hours. Acid-sensitive drugs like some antibiotics and antihistamines are packaged so they can pass unscathed through the stomach into the small intestine, where they are absorbed. Other delivery systems include pumps (insulin), inhalers (asthma medications), implants (anticancer and pain medications), patches (estrogen replacement and smoking cessation treatments) and the covering of stents (the blood thinner heparin).
- Patient instructions routinely indicate whether a drug should be taken at a particular time of day and whether oral medications should be consumed with a meal or on an empty stomach.
- Scientists are using computers to analyze publicly available genomic information to predict new uses for existing medicines. The **approach** could save time and money compared to traditional drug discovery methods. Already, researchers revealed that, based on their effect on the human genome, an anti-ulcer medicine might treat lung cancer and an anticonvulsant might alleviate inflammatory bowel diseases.

Tomorrow

- Scientists will understand drug transporters and drug-metabolizing enzymes well enough that they will be able to predict accurately the effect these proteins will have on the action and distribution of drug candidates in the body.
- Better animal models and sensitive protein markers that detect cellular damage in specific organs will allow scientists to predict toxicity early in drug development.
- Researchers will better understand how a person's genetic makeup influences whether specific medicines are effective, ineffective or even dangerous.
- Doctors will be able to calculate the amount of drug at its site of action, not just the concentration in a patient's blood.
- Technical advances will allow doctors to deliver pharmaceuticals to specific organs or disease sites. This will increase the therapeutic benefit and reduce the bad side effects of drugs.
- Scientists and engineers will develop new, automated devices for drug delivery.
- Drugs will be safer and more effective for everyone.

NIGMS is a part of the National Institutes of Health that supports basic research to increase our understanding of life processes and lay the foundation for advances in disease diagnosis, treatment and prevention. For more information on the Institute's research and training programs, see <http://www.nigms.nih.gov>.

Tracking Benefits of Your Medication



campusmindworks.org

Medication Name: Zoloft Treatment Purpose: Treat symptoms of depression

Date Medication Started: May 4, 2009 Today's Date: June 22, 2009

My Symptoms	Before Treatment		After Treatment		Improvement Amount
	Frequency	Severity	Frequency	Severity	
Difficulty sleeping	Nearly every night (2-3 hours to fall asleep)	<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input checked="" type="checkbox"/> Severe <input type="checkbox"/> Very severe	Approximately 3x per week (45-60 minutes to fall asleep)	<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input checked="" type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe	<input type="checkbox"/> No Improvement <input type="checkbox"/> Very little improvement <input type="checkbox"/> Little improvement <input checked="" type="checkbox"/> Some improvement <input type="checkbox"/> Much improvement <input type="checkbox"/> Very much improvement
Feeling sad	Every day for most of the day	<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input checked="" type="checkbox"/> Severe <input type="checkbox"/> Very severe	A couple of days per week for a few hours	<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input checked="" type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe	<input type="checkbox"/> No Improvement <input checked="" type="checkbox"/> Very little improvement <input type="checkbox"/> Little improvement <input type="checkbox"/> Some improvement <input type="checkbox"/> Much improvement <input type="checkbox"/> Very much improvement

Tracking Benefits of Your Medication



campusmindworks.org

Medication Name: Treatment Purpose:

Date Medication Started: Today's Date:

My Symptoms	Before Treatment		After Treatment		Improvement Amount
	Frequency	Severity	Frequency	Severity	
		<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe		<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe	<input type="checkbox"/> No Improvement <input type="checkbox"/> Very little improvement <input type="checkbox"/> Little improvement <input type="checkbox"/> Some improvement <input type="checkbox"/> Much improvement <input type="checkbox"/> Very much improvement
		<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe		<input type="checkbox"/> Very mild <input type="checkbox"/> Mild <input type="checkbox"/> Somewhat mild <input type="checkbox"/> Somewhat severe <input type="checkbox"/> Severe <input type="checkbox"/> Very severe	<input type="checkbox"/> No Improvement <input type="checkbox"/> Very little improvement <input type="checkbox"/> Little improvement <input type="checkbox"/> Some improvement <input type="checkbox"/> Much improvement <input type="checkbox"/> Very much improvement

Medicines: Use Them Safely

When Jerry, age 71, came home from the drug store with his latest prescription, he placed all his pill bottles on the kitchen counter and counted them. “I take five different medications, and you take four,” he said to his wife. “We need a system. We need to know what medicines we have, what they’re for, and when we should take them.”

Modern medicine has made our lives better in many ways. It has helped us live longer, healthier lives. But people over 65 have to be careful when taking medications, especially when they’re taking many different drugs.

What Are Medicines? What Are Drugs?

Some people refer to the pills, liquids, creams, or sprays they take as “medicine,” and other people call them “drugs.” Both words can mean:

- Medicines you get from a pharmacy with a doctor’s prescription
- Pills, liquids, or creams you buy without a prescription to use now and then, for example, for aches and pains, colds, or heartburn
- Vitamins or dietary supplements you take regularly

Drugs you get without a doctor’s prescription are called over-the-counter medicines. Because mixing certain medicines can cause problems, be sure to let your doctor know about all the prescription and over-the-counter drugs you are taking.

At Your Doctor’s Office

If you’ve gone to your doctor because you don’t feel well, the doctor might decide a medicine will help and will write a prescription. Be sure you:

- Tell your doctor or nurse about all the medicines you take whenever a new drug is prescribed.
- Remind your doctor or nurse about your allergies and any problems you have had with medicines, such as rashes, indigestion, dizziness, or mood changes.
- Understand how to take the medicine before you start using it. Ask questions. It might help to write down the answers.

Questions To Ask Your Doctor About A New Medicine

- What is the name of the medicine, and why am I taking it?
- How many times a day should I take it? At what times? If the bottle says take “4 times a day,” does that mean 4 times in 24 hours or 4 times during the daytime?
- Should I take the medicine with food or without? Is there anything I should not eat or drink when taking this medicine?
- What does “as needed” mean?
- When should I stop taking the medicine?
- If I forget to take my medicine, what should I do?
- What side effects can I expect? What should I do if I have a problem?

Ask Your Pharmacist

Your pharmacist is an important part of your healthcare team. If you have questions about your medicine after you leave the doctor’s office, the pharmacist can answer many of them. For example, a pharmacist can tell you how and when to take your medicine, whether a drug may change how another medicine you are taking works, and any side effects you might have. Also, the pharmacist can answer questions about over-the-counter medications.

Try to have all your prescriptions filled at the same pharmacy so your records are in one place. The pharmacist will keep track of all your medications and will be able to tell you if a new drug might cause problems. If you’re not able to use just one pharmacy, show the new pharmacist your list of medicines and over-the-counter drugs when you drop off your prescription.

When you have a prescription filled:

- Tell the pharmacist if you have trouble swallowing pills. There may be liquid medicine available. Do not chew, break, or crush tablets without first finding out if the drug will still work.
- Make sure you can read and understand the name of the medicine and the directions on the container and on the color-coded warning stickers on the bottle. If the label is hard to read, ask your pharmacist to use larger type.
- Check that you can open the container. If not, ask the pharmacist to put your medicines in bottles that are easier to open.

- Ask about special instructions on where to store a medicine. For example, should it be kept in the refrigerator or in a dry place?
- Check the label on your medicine before leaving the pharmacy. It should have your name on it and the directions given by your doctor. If it doesn't, don't take it, and talk with the pharmacist.

Generic Or Brand Name?

When getting a prescription filled, sometimes you can choose between either a generic or brand-name drug. Generic and brand-name medicines are alike because they act the same way in the body. They contain the same active ingredients—the part of the medicine that makes it work. A generic drug is the same as a brand-name drug in dosage, safety, strength, quality, the way it works, the way it is taken, and the way it should be used. Generic drugs usually cost less.

If you want a generic drug, ask your healthcare provider if that's a choice. Not all drugs are available in the generic form, and there might be medical reasons your doctor prefers the brand-name medicine.

Now, It's Your Turn

Your doctor has prescribed a medication. The pharmacist has filled the prescription. Now it's up to you to take the medicine safely. Here are some tips that can help:

- Make a list of all the medicines you take, including over-the-counter products and dietary supplements. Show it to all of your healthcare providers including physical therapists and dentists. Keep one copy in your medicine cabinet and one in your wallet or pocketbook. The list should include the: name of each medicine, doctor who prescribed it, reason it was prescribed, amount you take, and time(s) you take it.
- Read and save in one place all written information that comes with the medicine.
- Take your medicine in the exact amount and at the time your doctor prescribes.
- Call your doctor right away if you have any problems with your medicine or if you are worried that it might be doing more harm than good. Your

doctor may be able to change your prescription to a different one that will work better for you.

- Use a memory aid to take your medicines on time. Some people use meals or bedtime as reminders to take their medicine. Other people use charts, calendars, and weekly pill boxes. Find a system that works for you.
- Do not skip doses of medication or take half doses to save money. Talk with your doctor or pharmacist if you can't afford the prescribed medicine. There may be less costly choices or special programs to help with the cost of certain drugs.
- Avoid mixing alcohol and medicine. Some medicines may not work correctly or may make you sick if taken with alcohol.
- Take your medicine until it's finished or until your doctor says it's okay to stop.
- Don't take medicines prescribed for another person or give yours to someone else.
- Don't take medicine in the dark. To avoid making a mistake, turn your light on before reaching for your pills.
- Check the expiration dates on your medicine bottles. Your pharmacist can probably tell you how to safely get rid of medicine you no longer need or that is out of date. The pharmacist might be able to dispose of it for you.
- Make sure you store all medicines and supplements out of sight and out of reach of children. And don't take your medicines in front of young children. They might try to copy you.

Shopping For Medicines Online

Medicines can cost a lot. If you have a drug plan through your insurance, you can probably save money by ordering yours from them rather than at your neighborhood pharmacy. Or, you might be thinking about buying yours on the Internet. But how can you tell which websites are safe and reliable?

The Food and Drug Administration (see *For More Information*) has more information on buying medicines and medical products online.

Medicare Prescription Drug Plans

Medicare has prescription drug plans for people with Medicare to help save money on medicines. For information please call 1-800-633-4227 (1-800-MEDICARE) or visit the Medicare website at www.medicare.gov.

What About Over-The-Counter Medicines?

Many of the ideas in this *AgePage* are also true for over-the-counter (OTC) drugs, like medicines to relieve coughs, cold, allergies, pain, and heartburn. Be careful when taking an OTC drug. For example, don't take a cough and cold product if you only have a runny nose and no cough. And, check with your doctor before taking aspirin if you are on a blood-thinning medicine, because aspirin also slows blood clotting.

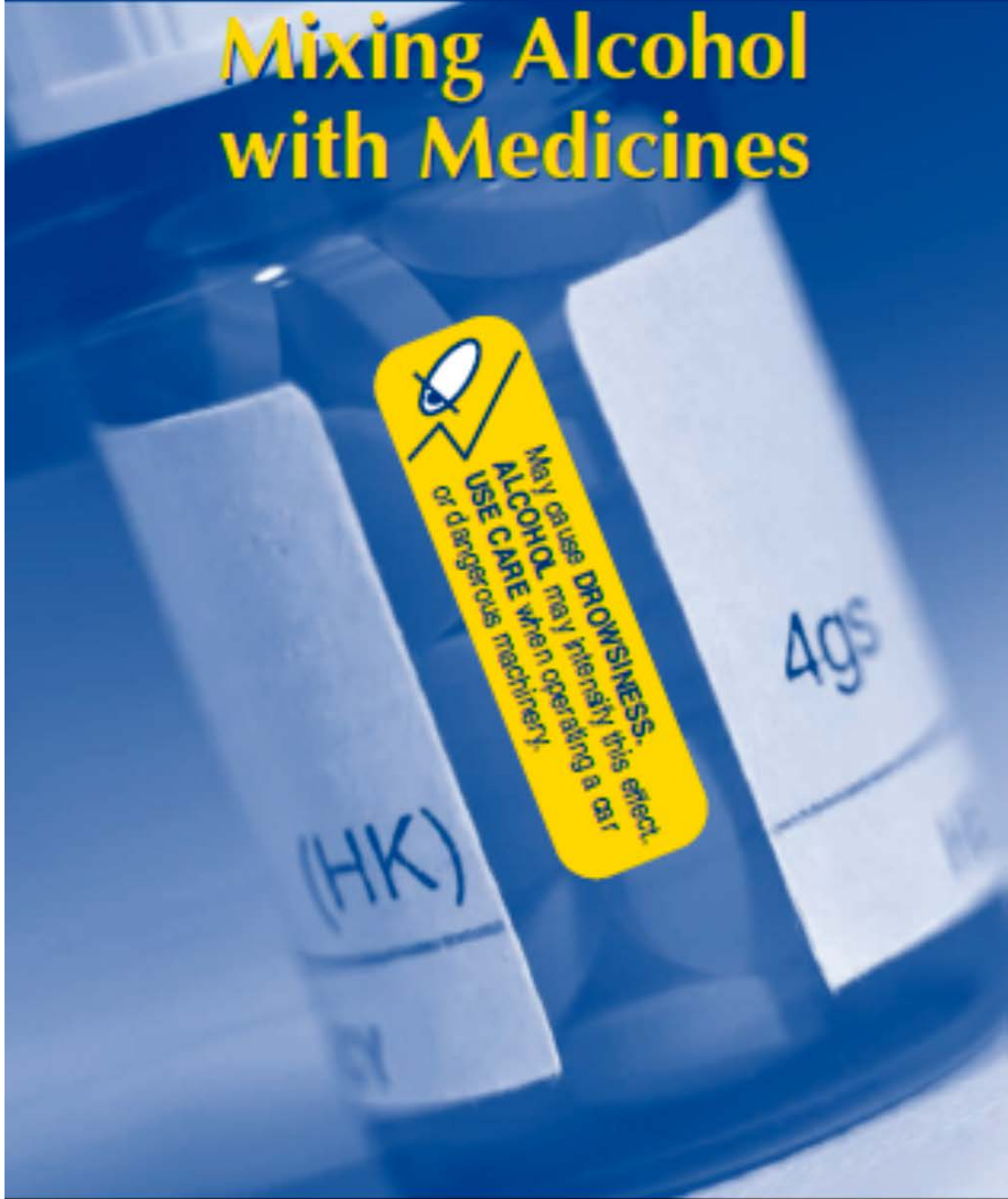
Other things to remember:

- Measure the dose of a liquid OTC medicine as carefully as you would a prescription drug. Use a measuring spoon, since spoons you eat with vary in size.
- Be careful—OTC medicines can have side effects.
- Take the amount suggested on the label. If you don't get better, see your doctor.
- Read the label—even if you have used the OTC product in the past. Important information can change.

Remember, medicines—whether prescription or over-the-counter—can hurt you if they aren't used the right way. Learn to be a smart consumer of medicine.

Source URL: <http://www.nia.nih.gov/health/publication/medicines-use-them-safely>

Harmful Interactions: Mixing Alcohol with Medicines





You've probably seen this warning on medicines you've taken. The danger is real. Mixing alcohol with certain medications can cause nausea and vomiting, headaches, drowsiness, fainting, or loss of coordination. It also can put you at risk for internal bleeding, heart problems, and difficulties in breathing. In addition to these dangers, alcohol can make a medication less effective or even useless, or it may make the medication harmful or toxic to your body.

Some medicines that you might never have suspected can react with alcohol, including many medications which can be purchased "over-the-counter"—that is, without a prescription. Even some herbal remedies can have harmful effects when combined with alcohol.

This pamphlet lists medications that can cause harm when taken with alcohol and describes the effects that can result. The list gives the brand name by which each medicine is commonly known (for example, Benadryl®) and its generic name or active ingredient (in Benadryl®, this is diphenhydramine). **The list presented here does not include all the medicines that may interact harmfully with alcohol. Most important, the list does not include all the ingredients in every medication.**

Medications are safe and effective when used appropriately. Your pharmacist or other health care provider can help you determine which medications interact harmfully with alcohol.

1

Did You Know...

Mixing alcohol and medicines can be harmful. Alcohol, like some medicines, can make you sleepy, drowsy, or lightheaded. Drinking alcohol while taking medicines can intensify these effects. You may have trouble concentrating or performing mechanical skills. Small amounts of alcohol can make it dangerous to drive, and when you mix alcohol with certain medicines you put yourself at even greater risk. Combining alcohol with some medicines can lead to falls and serious injuries, especially among older people.



Medicines may have many ingredients

Some medications—including many popular painkillers and cough, cold, and allergy remedies—contain more than one ingredient that can react with alcohol. Read the label on the medication bottle to find out exactly what ingredients a medicine contains. Ask your pharmacist if you have any questions about how alcohol might interact with a drug you are taking.

Some medicines contain alcohol

Certain medicines contain up to 10 percent alcohol. Cough syrup and laxatives may have some of the highest alcohol concentrations.

2

Alcohol affects women differently

Women, in general, have a higher risk for problems than men. When a woman drinks, the alcohol in her bloodstream typically reaches a higher level than a man's even if both are drinking the same amount. This is because women's bodies generally have less water than men's bodies. Because alcohol mixes with body water, a given amount of alcohol is more concentrated in a woman's body than in a man's. As a result, women are more susceptible to alcohol-related damage to organs such as the liver.

Older people face greater risk

Older people are at particularly high risk for harmful alcohol-medication interactions. Aging slows the body's ability to break down alcohol, so alcohol remains in a person's system longer. Older people also are more likely to take a medication that interacts with alcohol—in fact, they often need to take more than one of these medications.

Timing is important

Alcohol and medicines can interact harmfully even if they are not taken at the same time.

Remember...

Mixing alcohol and medicines puts you at risk for dangerous reactions. Protect yourself by avoiding alcohol if you are taking a medication and don't know its effect. To learn more about a medicine and whether it will interact with alcohol, talk to your pharmacist or other health care provider.

3

Commonly Used Medicines (Both Prescription and

Symptoms/Disorders	Medication (Brand name)	Medication (Generic name)	Some possible reactions with alcohol
Allergies/ Colds/Flu	• Alavert®	Loratadine	Drowsiness, dizziness; increased risk for overdose
	• Allegra®, Allegra-D®	Fexofenadin	
	• Benadryl®	Diphenhydramine	
	• Clarinex®	Desloratadine	
	• Claritin®, Claritin-D®	Loratadine	
	• Dimetapp® Cold & Allergy	Brompheniramine	
	• Sudafed®	Chlorpheniramine	
	• Sinus & Allergy	Chlorpheniramine	
	• Triaminic® Cold & Allergy	Chlorpheniramine	
	• Tylenol® Allergy Sinus	Chlorpheniramine	
Angina (chest pain), coronary heart disease	• Isordil®	Isosorbide Nitroglycerin	Rapid heartbeat, sudden changes in blood pressure, dizziness, fainting
Anxiety and epilepsy	• Ativan®	Lorazepam	Drowsiness, dizziness; increased risk for overdose; slowed or difficulty breathing; impaired motor control; unusual behavior; and memory problems
	• Klonopin®	Clonazepam	
	• Librium®	Chlordiazepoxide	
	• Paxil®	Paroxetine	
	• Vallium®	Diazepam	
	• Xanax®	Alprazolam	
	• Herbal preparations (Kava Kava)		

4

Over-the-Counter) That Interact With Alcohol

Symptoms/ Disorders	Medication (Brand name)	Medication (Generic name)	Some possible reactions with alcohol
Arthritis	• Celebrex® • Naprosyn® • Voltaren®	Celecoxib Naproxen Diclofenac	Ulcers, stomach bleeding, liver problems
Blood clots	• Coumadin®	Warfarin	Occasional drinking may lead to internal bleeding; heavier drinking also may cause bleeding or may have the opposite effect, resulting in possible blood clots, strokes, or heart attacks
Cough	• Delsym®, Robitussin Cough® • Robitussin A-C®	Dextromethorphan Guaifenesin + codeine	Drowsiness, dizziness; increased risk for overdose
Depression	• Anafranil® • Celexa® • Desyrel® • Effexor® • Elavil® • Lexapro® • Luvox® • Norpramin® • Paxil® • Prozac® • Serzone® • Wellbutrin® • Zoloft® • Herbal preparations (St. John's Wort)	Clomipramine Citalopram Trazodone Venlafaxine Amitriptyline Escitalopram Fluvoxamine Desipramine Paroxetine Fluoxetine Nefazodone Bupropion Sertraline	Drowsiness, dizziness; increased risk for overdose; increased feelings of depression or hopelessness in adolescents (suicide)

5

Commonly Used Medicines (Both Prescription and

Symptoms/ Disorders	Medication (Brand name)	Medication (Generic name)	Some possible reactions with alcohol
Diabetes	• Glucophage® • Micronase® • Orinase®	Metformin Glyburide Tolbutamide	Abnormally low blood sugar levels, flushing reaction (nausea, vomiting, headache, rapid heartbeat, sudden changes in blood pressure)
Enlarged prostate	• Cardura® • Flomax® • Hytrin® • Minipress®	Doxazosin Tamsulosin Terazosin Prazosin	Dizziness, light headedness, fainting
Heartburn, indigestion, sour stomach	• Acid® • Reglan® • Tagamet® • Zantac®	Nizatidine Metoclopramide Cimetidine Ranitidine	Rapid heartbeat, sudden changes in blood pressure (metoclopramide); increased alcohol effect
High blood pressure	• Accupril® • Capozide® • Cardura® • Catapres® • Cozaar® • Hytrin® • Lopressor® HCT • Lotensin® • Minipress® • Vasertic®	Quinapril Hydrochlorothiazide Doxazosin Clonidine Losartan Terazosin Hydrochlorothiazide Benzapril Prazosin Enalapril	Dizziness, fainting, drowsiness; heart problems such as changes in the heart's regular heartbeat (arrhythmia)

6

Over-the-Counter) That Interact With Alcohol

Symptoms/ Disorders	Medication (Brand name)	Medication (Generic name)	Some possible reactions with alcohol
High cholesterol	• Advicor® • Allocor® • Crestor® • Lipitor® • Mevacor® • Niaspan® • Pravachol® • Pravigard® • Vytorin® • Zocor®	Lovastatin + Niacin Lovastatin Rosuvastatin Atorvastatin Lovastatin Niacin Pravastatin Pravastatin + Aspirin Ezetimibe + Simvastatin Simvastatin	Liver damage (all medications); increased flushing and itching (niacin); increased stomach bleeding (pravastatin + aspirin)
Infections	• Acrodantin® • Flagyl® • Grisactin® • Nizoral® • Nydrizid® • Seromycin® • Tindamax®	Nitrofurantoin Metronidazole Griseofulvin Ketokonazole Isoniazid Cycloserine Tinidazole	Fast heartbeat, sudden changes in blood pressure; stomach pain, upset stomach, vomiting, headache, or flushing or redness of the face; liver damage (isoniazid, ketokonazole)
Muscle pain	• Flexeril® • Soma®	Cyclobenzaprine Carisoprodol	Drowsiness, dizziness; increased risk of seizures; increased risk for overdose; slowed or difficulty breathing; impaired motor control; unusual behavior; memory problems

7

Commonly Used Medicines (Both Prescription and Over-the-Counter) That Interact With Alcohol

Symptoms/ Disorders	Medication (Brand name)	Medication (Generic name)	Some possible reactions with alcohol
Nausea, motion sickness	• Antivert® • Alearax® • Dramamine® • Phenergan®	Meclizine Hydroxyzine Dimenhydrinate Promethazine	Drowsiness, dizziness; increased risk for overdose
Pain (such as headache, muscle ache, minor arthritis pain), fever, inflammation	• Advil® • Aleve® • Excedrin® • Motrin® • Tylenol®	Ibuprofen Naproxen Aspirin Acetaminophen Ibuprofen Acetaminophen	Stomach upset, bleeding and ulcers; liver damage (acetaminophen); rapid heartbeat
Seizures	• Dilantin® • Klonopin®	Phenytoin Clonazepam Phenobarbital	Drowsiness, dizziness; increased risk of seizures
Severe pain from injury, postsurgical care, oral surgery, migraines	• Darvocet-N® • Demerol® • Fiorinal® with codeine • Percocet® • Vicodin®	Propoxyphene Merepidine Butalbital + codeine Oxycodone Hydrocodone	Drowsiness, dizziness; increased risk for overdose; slowed or difficulty breathing; impaired motor control; unusual behavior; memory problems
Sleep problems	• Ambien® • Lunesta® • Prosom® • Restoril® • Somnex® • Unisom® • Herbal preparations (chamomile, valerian, lavender)	Zolpidem Eszopiclone Eszazolam Temazepam Diphenhydramine Doxylamine	Drowsiness, sleepiness, dizziness; slowed or difficulty breathing; impaired motor control; unusual behavior; memory problems Increased drowsiness

8

Resources

MedlinePlus

A service of the U.S. National Library of Medicine and the National Institutes of Health.

<http://www.nlm.nih.gov/medlineplus/dnainformation.html>

Provides information on prescription and over-the-counter medications.

U.S. Food and Drug Administration

Center for Drug Evaluation and Research

<http://www.fda.gov/cder>

Phone numbers:

Main FDA for general inquiries: 1-888-INFO-FDA

(1-888-463-6332)

Drug Information: 301-827-4570

To submit a report about Adverse Drug Reaction:

Medwatch: 1-800-FDA-1088

Provides information on prescription and over-the-counter medications, consumer drug information, and reports and publications.

National Institute on Alcohol Abuse and Alcoholism

<http://www.niaaa.nih.gov>

Phone number: 301-443-3860

Makes available free informational materials on alcohol use, alcohol abuse, and alcoholism.



NIH Publication No. 03-5329
Revised 2007

Source: National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism (2007). *Harmful Interactions: Mixing Alcohol with Medicines*. Retrieved from <http://pubs.niaaa.nih.gov/publications/Medicine/medicine.htm>

Medications: Use as Directed

The Risks of Prescription Drug Abuse

Prescription drugs help millions of people live longer and healthier lives. But if you don't take your medicines as directed, or if you take someone else's medications, the results can be deadly. Unfortunately, prescription drug abuse is all too common in the United States.

Misuse of prescription medications affects people of all ages and races. The deaths of Michael Jackson and Heath Ledger have been blamed on dangerous combinations of prescribed drugs. But medication abuse can affect ordinary people—maybe even someone you know—as well as celebrities. A federal survey in 2008 found that about 1 in 5 people ages 12 and up said they'd taken a prescription drug for nonmedical purposes at least once in their lifetimes.

People abuse prescription drugs for many reasons, including to get high, lose weight or build muscle. But this abuse carries a serious risk of addiction. And it can lead to other health problems, including irregular heartbeats, seizures, breathing problems and personality changes. Car accidents and physical injury are other concerns.

“There's a myth that prescription drugs are safe because they come from a drugstore. But when people take them outside of a doctor's supervision, we don't necessarily know how dangerous they can be,” says Dr. Wilson Compton of NIH's National Institute on Drug Abuse. “A dose that's perfectly safe for one person who's taken the drug for a long time may be potentially lethal for another. And when you combine drugs with other substances, like alcohol, you're taking a great risk.”

The 3 categories of drugs most commonly abused are stimulants, depressants and painkillers.

Stimulants—including Adderall, Dexedrine and Ritalin—are often prescribed to treat attention deficit hyperactivity disorder.

Depressants—such as Ativan, Valium and Xanax—are used to treat anxiety, panic attacks and sleep disorders.

Painkillers--

When taken exactly as prescribed, prescription painkillers like opioids can effectively manage pain and rarely cause addiction. But because of abuse, opioids and other prescription painkillers, sometimes taken in combination with other drugs, cause nearly half of overdose deaths. Opioids include morphine, codeine, hydrocodone (Vicodin) and oxycodone (such as OxyContin, Percodan or Percocet).

Opioid use among high school students is a major concern. “About 1 in 10 twelfth graders report non-medical use of Vicodin during the past year, and about 1 in 20 abused OxyContin,” says Compton.

NIH has several studies under way to learn more about prescription drug abuse and who’s at risk for addiction. “We’re also working to develop better treatments for pain that might be less addictive or less likely to be abused,” says Compton.

If you have prescription medications, take them exactly as directed. And if you have prescriptions for commonly abused drugs, maintain control of them so they don’t tempt visitors. “It appears that most people who are abusing prescription drugs are not getting them directly from physicians. In many cases, the drugs are obtained from family or friends who have prescriptions,” says Compton.

Make sure to use prescription medications the right way, just as the doctor ordered.

Strategies for Managing your Medications

- Keep a list of all your medicines in a safe place.
- Bring your list when you talk to your doctor or pharmacist.
- Use a pillbox.
- Put notes around the house to remind you to take your medicines.
- Talk to your doctor about all the medicines, remedies, and vitamins you use. Include any medicines you buy without a prescription. These are called OTC (over-the-counter) medicines.
- Ask a family member or friend to help you remember to take your pills.

What are some of your strategies for taking medications as prescribed?

List things that make it hard to take your medications as prescribed?



A helping hand with your medications...



[Pill Boxes](#)



[Pill Organizers](#)



[Pill Timers](#)



[Pill Splitters](#)



[Alarm Watches](#)



[Pill Holders](#)



[Novelty Pill Boxes](#)



[Nitroglycerin Pill Holders](#)



[Pill Crushers](#)



[Silver Pill Boxes](#)



[Medical Alert Jewelry](#)



[Pill Organizers](#)



[Weekly Pill Organizers](#)



[Pill Box Jewelry](#)



[Uplifting Pill Boxes](#)

Pill Box Products and Pill Organizers from ForgettingThePill.com

Source: ForgettingThePill (2013). Retrieved from Forgettingthepill.com

Online Health Information: Can You Trust It?

A group of older adults are gathered for their weekly computer class. They are learning to use the Internet to find health information. Maria's husband, who is 75, had a stroke the month before so she's searching the web for some basic facts about stroke rehabilitation. Walter, who is 68, has questions about what causes Alzheimer's disease because he thinks that's what his mother had. Shirley and Howard, married for 48 years, are trying to find out if the cataract surgery their eye doctor suggests really is as safe as he says. The whole group has one big worry—"How can we trust the health information we get on the Internet?"

There are thousands of health-related websites on the Internet. Some of the information on these websites is reliable. Some of it is not. Some of the information is current. Some of it is not. Choosing which website to trust is worth thinking about.

How do I find reliable health information online?

As a rule, health websites sponsored by Federal government agencies are good sources of health information. You can reach all Federal websites by visiting www.usa.gov . Large professional organizations and well-known medical schools may also be good sources of health information.

The main page of a website is called the home page. The home page shows you the features on the website. You should be able to spot the name of the sponsor of the website right away.

Places To Start

There are a few good places to start if you are looking for online health information. An excellent source of reliable information is the National Institutes of Health (www.nih.gov). You can start here to find information on almost every health topic, including:

- managing heart disease (www.nhlbi.nih.gov)
- dealing with deafness (www.nidcd.nih.gov)
- taking care of dentures (www.nidcr.nih.gov)
- caring for a loved one with Alzheimer's disease (www.nia.nih.gov/alzheimers)

In addition, you can visit the National Library of Medicine's Medline

Plus (www.medlineplus.gov) for dependable information on more than 700 health-related topics.

You can also visit NIHSeniorHealth.gov (www.nihseniorhealth.gov)—a website with health information designed specifically for older people.

What questions should I ask?

As you search online, you are likely to find websites for many health agencies and organizations that are not well-known. By answering the following questions you should be able to find more information about these websites. A lot of these details can be found under the heading, "About Us" or "Contact Us."

1. *Who sponsors the website? Can you easily identify the sponsor?*

Websites cost money—is the funding source readily apparent? Sometimes the website address itself may help—for example:

- .gov identifies a government agency
- .edu identifies an educational institution
- .org identifies professional organizations (e.g., scientific or research societies, advocacy groups)
- .com identifies commercial websites (e.g., businesses, pharmaceutical companies, sometimes hospitals)

2. *Is it obvious how you can reach the sponsor?*

Trustworthy websites will have contact information for you to use. They often have a toll-free telephone number. The website home page should list an e-mail address, phone number, or a mailing address where the sponsor and/or the authors of the information can be reached.

3. *Who wrote the information?*

Authors and contributors should be identified. Their affiliation and any financial interest in the content should also be clear. Be careful about testimonials. Personal stories may be helpful, but medical advice offered in a case history should be considered with a healthy dose of skepticism. There is a big difference between a website developed by a person with a financial interest in a topic versus a website developed using strong scientific evidence. Reliable health information comes from

scientific research that has been conducted in government, university, or private laboratories.

4. *Who reviews the information? Does the website have an editorial board?*

Click on the "About Us" page to see if there is an editorial board that checks the information before putting it online. Find out if the editorial board members are experts in the subject you are researching. For example, an advisory board made up of attorneys and accountants is not medically authoritative. Some websites have a section called, "About Our Writers" instead of an editorial policy. Dependable websites will tell you where the health information came from and how it has been reviewed.

5. *When was the information written?*

New research findings can make a difference in making medically smart choices. So, it's important to find out when the information you are reading was written. Look carefully on the home page to find out when the website was last updated. The date is often found at the bottom of the home page. Remember: older information isn't useless. Many websites provide older articles so readers can get an historical view of the information.

6. *Is your privacy protected? Does the website clearly state a privacy policy?*

This is important because, sadly, there is fraud on the Internet. Take time to read the website's policy—if the website says something like, "We share information with companies that can provide you with products," that's a sign your information isn't private. Do not give out your Social Security number. If you are asked for personal information, be sure to find out how the information is being used by contacting the website sponsor by phone, mail, or the "Contact Us" feature on the website. Be careful when buying things on the Internet. Websites without security may not protect your credit card or bank account information. Look for information saying that a website has a "secure server" before purchasing anything online.

7. *Does the website make claims that seem too good to be true? Are quick, miraculous cures promised?*

Be careful of claims that any one remedy will cure a lot of different illnesses. Be skeptical of sensational writing or dramatic cures. Make sure you can find other websites with the same information. Don't be fooled by a long list of links—any website can link to another, so no endorsement can be implied from a shared link. Take the "too good to be true" test—information that sounds unbelievable probably is unbelievable.

A Final note

Use your common sense and good judgment when evaluating health information online. There are websites on nearly every conceivable health topic and no rules overseeing the quality of the information. Take a deep breath and think a bit before acting on any health information you find on the web. Don't count on any one website. If possible, check with several sources to confirm the accuracy of your results. And remember to talk with your doctor.

For More information

Here are some helpful Federal and non-Federal resources.

National Library of Medicine, Medline Plus

www.nlm.nih.gov/medlineplus/healthywebsurfing.html

10 Questions to Help You Make Sense of Health Headlines

www.health-insight-harvard.org

Council of Better Business Bureaus

www.bbb.org

Medical Library Association

www.mlanet.org

QuackWatch

www.quackwatch.org

For information on health and aging, including the tip sheet, [Understanding Risk: What Do Those Headlines Really Mean?](#) , contact:

National Institute on Aging Information Center

P.O. Box 8057

Gaithersburg, MD 20898-8057

800-222-2225 (toll-free)

800-222-4225 (TTY/toll-free)

www.nia.nih.gov

www.nia.nih.gov/espanol

To order publications (in English or Spanish) or sign up for regular email alerts, visit www.nia.nih.gov/health .

Visit NIHSeniorHealth.gov (www.nihseniorhealth.gov), a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has health information for older adults. There are also special features that make it simple to use. For example, you can click on a button to have the text read out loud or to make the type larger.

A Quick Checklist

You can use the following checklist to help make sure that the health information you are reading online can be trusted. You might want to keep this checklist by your computer.

1. Can you easily see who sponsors the website?
2. Is the sponsor a Federal agency or a medical school, or is it related to one of these?
3. Can you find the mission or goal of the sponsor of the website?
4. Can you see who works for the agency or organization and who is the author? Is there contact information?
5. Can you tell when the information was written?
6. Is your privacy protected?
7. Does the website make claims that seem too good to be true?
Are quick, miraculous cures promised?

*National Institute on Aging
U.S. Department of Health and Human Services
National Institutes of Health*

Reprinted April 2007

Source URL: <http://www.nia.nih.gov/health/publication/online-health-information-can-you-trust-it>

Dietary Supplements

Bill's retired and lives alone. Often he's just not hungry or is too tired to fix a whole meal. Does he need a multivitamin, or should he take one of those dietary supplements he sees in ads everywhere? Bill wonders if they work—will one help keep his joints healthy or another give him more energy? And, are they safe?

What Is a Dietary Supplement?

Dietary supplements are substances you might use to add nutrients to your diet or to lower your risk of health problems, like osteoporosis or arthritis. Dietary supplements come in the form of pills, capsules, powders, gel tabs, extracts, or liquids. They might contain vitamins, minerals, fiber, amino acids, herbs or other plants, or enzymes. Sometimes, the ingredients in dietary supplements are added to foods, including drinks. A doctor's prescription is not needed to buy dietary supplements.

Should I Take a Dietary Supplement?

Do you need one? Maybe you do, but usually not. Ask yourself why you think you might want to take a dietary supplement. Are you concerned about getting enough nutrients? Is a friend, a neighbor, or someone on a commercial suggesting you take one? Some ads for dietary supplements in magazines or on TV seem to promise that these supplements will make you feel better, keep you from getting sick, or even help you live longer. Sometimes, there is little, if any, good scientific research supporting these claims. Some dietary supplements will give you nutrients that might be missing from your daily diet. But eating healthy foods is the best way to get the nutrients you need. Others may cost a lot or might not benefit you the way you would like. Some supplements can change how medicines you may already be taking will work. You should talk to your doctor or a registered dietitian for advice.

What If I'm Over 50?

People over 50 need more of some vitamins and minerals than younger adults do. Your doctor or a dietitian can tell you whether you need to change your diet or take vitamins or minerals to get enough of these:

- **Vitamin B12.** Vitamin B12 helps keep your red blood cells and nerves healthy. As people grow older, some have trouble absorbing vitamin

B12 naturally found in food. Instead, they can choose foods, like fortified cereals, that have this vitamin added or use a B12 supplement.

- **Calcium.** Calcium works with vitamin D to keep bones strong at all ages. Bone loss can lead to fractures in both older women and men. Calcium is found in milk and milk products (fat-free or low-fat is best), canned fish with soft bones, dark-green leafy vegetables like spinach, and foods with calcium added.
- **Vitamin D.** Some people's bodies make enough vitamin D if they are in the sun for 10 to 15 minutes at least twice a week. But, if you are older, you may not be able to get enough vitamin D that way. Try adding vitamin D-fortified milk and milk products, vitamin D-fortified cereals, and fatty fish to your diet, and/or use a vitamin D supplement.
- **Vitamin B6.** This vitamin is needed to form red blood cells. It is found in potatoes, bananas, chicken breasts, and fortified cereals.

Different Vitamin and Mineral Recommendations for People Over 50 (2010)

The National Academy of Sciences recommends how much of each vitamin and mineral men and women of different ages need. Sometimes, the Academy also tells us how much of a vitamin or mineral is too much.

- *Vitamin B12*—2.4 mcg (micrograms) each day (if you are taking medicine for acid reflux, you might need a different form, which your healthcare provider can give you)
- *Calcium*—Women over 50 need 1,200 mg (milligrams) each day, and men need 1,000 mg between ages 51 and 70 and 1,200 mg after 70. But not more than 2,000 mg a day.
- *Vitamin D*—600 IU (International Units) for people age 51 to 70 and 800 IU for those over 70, but not more than 4,000 IU each day
- *Vitamin B6*—1.7 mg for men and 1.5 mg for women each day

When thinking about whether you need more of a vitamin or mineral, think about how much of each nutrient you get from food and drinks, as well as from any supplements you take. Check with a doctor or dietitian to learn whether you need to supplement your diet.

What Are Antioxidants?

You might hear about *antioxidants* in the news. These are natural substances found in food that might help protect you from some diseases. Here are some common sources of antioxidants that you should be sure to include in your diet:

- *beta-carotene*—fruits and vegetables that are either dark green or dark orange
- *selenium*—seafood, liver, meat, and grains
- *vitamin C*—citrus fruits, peppers, tomatoes, and berries
- *vitamin E*—wheat germ, nuts, sesame seeds, and canola, olive, and peanut oils

Right now, research results suggest that large doses of supplements with antioxidants will not prevent chronic diseases such as heart disease or diabetes. In fact, some studies have shown that taking large doses of some antioxidants could be harmful. Again, it is best to check with your doctor before taking a dietary supplement.

What About Herbal Supplements?

Herbal supplements are dietary supplements that come from plants. A few that you may have heard of are ginkgo biloba, ginseng, echinacea, and black cohosh. Researchers are looking at using herbal supplements to prevent or treat some health problems. It's too soon to know if herbal supplements are both safe and useful. But, studies of some have not shown benefits.

Are Dietary Supplements Safe?

Scientists are still working to answer this question. The U.S. Food and Drug Administration (FDA) checks prescription medicines, such as antibiotics or blood pressure medicines, to make sure they are safe and do what they promise. The same is true for over-the-counter drugs like pain and cold medicines.

But the FDA does not consider dietary supplements to be medicines. The FDA does not watch over dietary supplements in the same way it does prescription medicines. The Federal Government does not regularly test what is in dietary supplements. So, just because you see a dietary supplement on a store shelf does not mean it is safe or that it even does what the label says it will or contains what the label says it contains.

If the FDA receives reports of possible problems with a supplement, it will issue warnings about products that are clearly unsafe. The FDA may also take these supplements off the market. The Federal Trade Commission looks into reports of ads that might misrepresent what dietary supplements do.

A few private groups, such as the U.S. Pharmacopeia (USP), NSF International, ConsumerLab.com, and the Natural Products Association (NPA), have their own "seals of approval" for dietary supplements. To get such a seal, products must be made by following good manufacturing procedures, must contain what is listed on the label, and must not have harmful levels of things that don't belong there, like lead.

What's Best for Me?

If you are thinking about using dietary supplements:

- **Learn.** Find out as much as you can about any dietary supplement you might take. Talk to your doctor, your pharmacist, or a registered dietitian. A supplement that seemed to help your neighbor might not work for you. If you are reading fact sheets or checking websites, be aware of the source of the information. Could the writer or group profit from the sale of a particular supplement? For more information from the National Institute on Aging about choosing reliable health information websites, see *For More Information*.
- **Remember.** Just because something is said to be "natural" doesn't also mean it is either safe or good for you. It could have side effects. It might make a medicine your doctor prescribed for you either weaker or stronger.
- **Tell your doctor.** He or she needs to know if you decide to go ahead and use a dietary supplement. Do not diagnose or treat your health condition without first checking with your doctor.
- **Buy wisely.** Choose brands that your doctor, dietitian, or pharmacist says are trustworthy. Don't buy dietary supplements with ingredients you don't need. Don't assume that more of something that might be good for you is even better for you.
- **Check the science.** Make sure any claim made about a dietary supplement is based on scientific proof. The company making the dietary supplement should be able to send you information on the safety and/or effectiveness of the ingredients in a product, which you can then discuss with your doctor. Remember that if something sounds too good to be true, it probably is.

What Can I Do to Stay Healthy?

Here's what one active older person does:

When she turned 60, Pearl decided she wanted to stay healthy and active as long as possible. She was careful about what she ate. She became more physically active. Now she takes a long, brisk walk 3 or 4 times a week. In bad weather, she joins the mall walkers at the local shopping mall. When it's nice outside, Pearl works in her garden. When she was younger, Pearl stopped smoking and started using a seatbelt. She's even learning how to use a computer to find healthy recipes. Last month, she danced at her granddaughter's wedding. Pearl is 84 years old.

Try following Pearl's example—stick to a healthy diet, be physically active, keep your mind active, don't smoke, see your doctor regularly, and, in most cases, only use dietary supplements suggested by your doctor or pharmacist.

For More Information

Here are some helpful resources:

Department of Agriculture

Food and Nutrition Information Center
National Agricultural Library
10301 Baltimore Avenue, Room 105
Beltsville, MD 20705
1-301-504-5414
www.nal.usda.gov/fnic

Federal Trade Commission

600 Pennsylvania Avenue, NW
Washington, DC 20580
1-877-382-4357 (toll-free)
1-866-653-4261
www.ftc.gov/bcp/menus/consumer/health.shtm

Food and Drug Administration

Center for Food Safety and Applied Nutrition
5100 Paint Branch Parkway HFS-009
College Park, MD 20740-3835
1-888-723-3366 (toll-free)
www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CFSAN

National Center for Complementary and Alternative Medicine

NCCAM Clearinghouse

P.O. Box 7923

Gaithersburg, MD 20898

1-888-644-6226 (toll-free)

1-866-464-3615 (TTY/toll-free)

www.nccam.nih.gov

National Library of Medicine

MedlinePlus

www.medlineplus.gov

Office of Dietary Supplements

6100 Executive Boulevard

Room 3B01, MSC 7517

Bethesda, MD 20892-7517

1-301-435-2920

www.ods.od.nih.gov

The Federal Government has several other websites with information on nutrition, including:

www.nutrition.gov —learn more about healthy eating, food shopping, assistance programs, and nutrition-related health subjects.

www.choosemyplate.gov —information about the *Dietary Guidelines for Americans*

For information on exercise, nutrition, and health quackery, contact:

National Institute on Aging

Information Center

P.O. Box 8057

Gaithersburg, MD 20898-8057

1-800-222-2225 (toll-free)

1-800-222-4225 (TTY/toll-free)

www.nia.nih.gov

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To sign up for regular email alerts about new publications and other information from the NIA, go to www.nia.nih.gov/health .

Visit NIHSeniorHealth (www.nihseniorhealth.gov), a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has health information for older adults. Special features make it easy to use. For example, you can click on a button to make the type larger.

National Institute on Aging
National Institutes of Health
U.S. Department of Health and Human Services

April 2008
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Source URL: <http://www.nia.nih.gov/health/publication/dietary-supplements>

Types of Blood Pressure Medications

Here's a rundown on the main types of drugs and how they work. Often, two or more drugs work better than one.

Diuretics

Diuretics are sometimes called "water pills" because they work in the kidney and flush excess water and sodium from the body.

Beta-blockers

Beta-blockers reduce nerve impulses to the heart and blood vessels. This makes the heart beat slower and with less force. Blood pressure drops and the heart works less hard.

ACE inhibitors

Angiotensin converting enzyme (ACE) inhibitors prevent the formation of a hormone called angiotensin II, which normally causes blood vessels to narrow. The ACE inhibitors cause the vessels to relax and blood pressure goes down.

Angiotensin antagonists

Angiotensin antagonists shield blood vessels from angiotensin II. As a result, the vessels become wider and blood pressure goes down.

Calcium channel blockers (CCBs)

CCBs keep calcium from entering the muscle cells of the heart and blood vessels. This causes the blood vessels to relax and pressure goes down.

Alpha-blockers

Alpha-blockers reduce nerve impulses to blood vessels, which allows blood to pass more easily, causing the blood pressure to go down.

Alpha-beta-blockers

Alpha-beta-blockers work the same way as alpha-blockers but also slow the heartbeat, as beta-blockers do. As a result, less blood is pumped through the vessels and the blood pressure goes down.

Nervous system inhibitors

Nervous system inhibitors relax blood vessels by controlling nerve impulses. This causes the blood vessels to become wider and the blood pressure to go down.

Vasodilators

Vasodilators directly open blood vessels by relaxing the muscle in the vessel walls, causing the blood pressure to go down.

Take Your Medications Properly

- Always follow prescribed directions. Read all the information provided by the pharmacist.
- Never stop taking or change your medication doses without first discussing it with your doctor.
- Be aware of potential interactions with other drugs. Tell your healthcare professional about all the medications and dietary and herbal supplements you're taking.
- Never use someone else's prescription.
- Safeguard medications by keeping track of how much you have and safely disposing of drugs you don't need.

Keeping Track / Developing a System

Keeping track of your prescribed medications can be challenging — especially if you're taking several different medicines. Writing things down will make managing your medications a lot easier. Use a medicine tracker worksheet to keep the information in one place.

Lowering High Blood Pressure

By treating high blood pressure, you can help prevent a stroke, heart attack, heart failure, kidney failure and peripheral artery disease. Keeping track of your blood pressure readings will help you monitor your blood pressure and record suggestions from your doctor.

Taking medicine may be new to you, and there may be a lot to remember. For example, why are you taking it? What time should you take it? How often do you take it and how many pills do you take? It's important to take medicine the right way — just as prescribed.

If you don't take medicine as directed, what could happen? First of all, it may not work. It could also cause side effects that may be mild — or very harmful. Without knowing it, you could counteract one medicine by taking it with another. Medicine can also make you feel sick or dizzy.

How can I remember to take my medicine?

1. _____
2. _____
3. _____
4. _____

Quick Tips for Medication Use

- Understand your medication. Know what it's for, and how and when you're supposed to take it.
- Ask your doctor or pharmacist whether to take your medicine with food or on an empty stomach.
- Make an instruction sheet for yourself by taping a sample of each pill you take on a sheet of paper and writing down all the information about each pill to remind you.
- Get some colored labels and stick them on your medicine bottles to simplify your routine. For example, blue can be for morning, red for afternoon and yellow for bedtime.
- Ask your pharmacist to help you come up with a coding system for your medications that makes them easier to take.
- Purchase timer caps for pill bottles to remind you when to take medication.

Adaptive Equipment and Changing Routines

- You can buy many types of pill containers. Some even beep when it's time to take medication. Ask your pharmacist about these aids.
- If your medication routine is too complicated, ask your physician or pharmacist to help you simplify the process, such as reducing the number of daily doses that you need.
- If your medications are too expensive, ask your physician or pharmacist about finding financial assistance.
- If you're away from home a lot, make sure you carry enough of your medication with you to take the prescribed doses while you're out. Some pharmacists will prepare blister packs for daily or weekly medications. Ask your pharmacist about this.
- If you're using a commercial pill dispenser, set a regular time each week to refill it; for example, every Friday night after you eat.
- If you have trouble understanding your physician or pharmacist, ask a friend or loved one to go with you and help you.
- If you don't feel like your medication is making a difference, talk to your physician and ask why.
- Do not stop any medications without talking to your physician or healthcare provider.

- Ask your physician if you should have a home blood pressure monitoring kit to see if your medicine is working.
- If you're monitoring your blood pressure at home, ask when you can expect to see the results from your medicine.
- If you don't feel like you're making progress, talk to your physician and ask why your progress is slow.
- If you're having trouble giving up smoking, ask your physician if you can take a smoking cessation drug to help.
- Become an active participant in making treatment decisions. Overcome barriers that keep you from following your doctor's orders.

Medication Safety Tips

- Store your medicine the way your doctor or pharmacist tells you. ALWAYS keep it away from heat, light and moisture.
- Never store medications in the bathroom. There's too much moisture there.
- Don't carry medicines next to your body. That can raise the temperature and cause some medications to break down.
- Keep track of what pills you can and can't take together, including over-the-counter medicines.
- Always get your prescription filled on time so you don't run out. Missing even one day can make a difference in the effectiveness of many medications.
- Don't stop taking a prescribed medication because your symptoms have gone away.
- Use one pharmacy for all your medicines. This will help ensure that you don't take conflicting medications.
- Try to see the same pharmacist each time.
- If you have any questions about your pills, make a note to remind yourself to ask your doctor or pharmacist.
- Tell your doctor if you have any side effects.
- Don't take more of your medicine than the prescribed dose.
- Ask your doctor or pharmacist before buying a new over-the-counter medicine, such as an antihistamine or "cold tablets," to be sure they won't interfere with your prescribed medicine.
- Always check with your doctor before you stop taking a medicine.
- Make sure that ALL of your doctors know ALL of the medicines you're taking — both prescription and over-the-counter drugs.
- Be sure to tell your doctor or pharmacist of any herbal preparations you're taking. Some herbals can interact with prescribed medications and cause them to be less effective.
- Know the names and doses of the medicines you're taking.
- Keep all medicines out of the reach of children.
- ALWAYS let your physician know about any side effects you experience.
- If you have a chronic condition, talk to your physician to determine whether your condition limits your ability to do regular physical activity in any way. Such a conversation should also help you learn about appropriate types and amounts of physical activity.
- Throw away any medicines that aren't currently prescribed to you.
- Don't share your medications with anyone else. What's right for you may be deadly for them.
- Ask for your pharmacist's advice before crushing or splitting tablets. Some should only be swallowed whole.
- If you store your medications in any container other than the one they come in, be sure to show the container to your pharmacist to ask if it will change the effectiveness of your medication.

Questions To Ask Your Doctor About Your Medication

Taking medications isn't as simple as swallowing a pill. Medicines can only help if you take them as prescribed. Take part in decisions regarding your treatment, follow the treatment plan you and your doctor agree on, watch for problems and become actively involved in solving them with your healthcare team. By following these guidelines, you can help reduce your risk of heart disease and stroke and achieve the fullest benefits from your treatment plan. Review the following questions with your healthcare team and take an active role in your health.

- What is the name of the medicine?
- Is this the brand or generic name?
- What is the medicine supposed to do?
- How and when do I take it, and for how long?
- What foods, drinks, other medicines or activities should I avoid while taking this medicine?
- Is there any written information available about the medicine?
- What happens if I miss a dose of my medicine?
- How often will I have to get the medication refilled?
- How will I know that my medication is working?
- What are the risks of taking this medication?
- What are the risks of NOT taking this medication?
- Are there less expensive medications for my conditions?

Get a Medication Checkup

Prescription and over-the-counter medicines help many people live longer, more active lives. When you take the right medicines the right way, they're safe and effective tools for good health. But using them incorrectly can harm you. The more medicines you take, the greater your risk of problems. You can protect your health by getting a checkup on your medications. Take these simple steps as outlined by the National Council on Patient Information and Education.

- Make an appointment with your doctor or your pharmacist.
- Put all your prescription and over-the-counter drugs in a bag. Be sure to include:
 - Prescriptions in vials, tubes, bottles and plastic bags
 - Sleep and motion-sickness aids
 - Headache remedies
 - Cold remedies (liquid, capsules and tablets)
 - Laxatives and upset stomach aids
 - Other prescription or over-the-counter drugs you may be taking
 - Vitamins and nutritional supplements
 - Herbal remedies
- Remember to take all of your medications in their original containers if possible.
- Take the bag to your doctor or pharmacist and get him or her to go over all of your medicines with you.
- Ask questions about anything you don't understand.

A checkup like this gives you the opportunity to ask your healthcare professional or pharmacist important questions about your medications. It can help you find dangerous medicine combinations you may be taking, medicines you may not need to take anymore, improper dosages of medicines, and mistakes that you may be making in taking them. Call your doctor or pharmacist today to schedule a medication checkup and take charge of your health.



Medicine Chart

Name: _____

Date: _____

NAME OF MEDICINE	COLOR	WHAT'S IT FOR?	DOSE	HOW OFTEN & WHAT TIME	PRESCRIBING DOCTOR	PHARMACY PHONE NO.	SPECIAL INSTRUCTIONS	REFILL DATE
Aspirin	white	Heart Disease	1 pill	once daily with light	Dr. Brown	630-555-1234	Take with food	9/1/22



cholesterol tracker



date / /

Record your cholesterol levels after each doctor visit — along with your exercise and diet goals. Watch your progress, and stick to your plan.

	date of checkup	TOTAL CHOLESTEROL	LDL	HDL	TRIGLYCERIDES
previous levels	/ /				
current levels	/ /				
my level GOALS before my next appointment	/ /				

NEXT APPOINTMENT

eat healthy

healthy foods i added to my diet this week

-
-
-
-
-

foods or drinks that i need less of

-
-
-
-
-
-

physical activity

I commit to _____ minutes of physical activity _____ times a week.

This week, I will _____ for my physical activity.

notes

www.americanheart.org/cholesterol

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BLOOD PRESSURE TRACKER - INSTRUCTIONS

- You should have your monitor's accuracy tested once a year by a healthcare professional. Date of last test: _____
- Make sure the cuff fits: measure around your upper arm and choose a monitor that comes with the correct size cuff.
- It's important to take the readings at the same time each day, such as morning and evening, or as your healthcare professional recommends.



- Don't smoke, drink caffeinated beverages or exercise within the 30 minutes before measuring your blood pressure.
- Sit with your back straight and supported (on a dining chair, for example, rather than a sofa). Your feet should be flat on the floor; don't cross your legs. Your arm should be supported on a flat surface (such as a table) with the upper arm at heart level. Make sure the middle of the cuff is placed directly over your brachial artery as shown in the picture or your monitor's instructions, or have your healthcare provider show you how.
- Each time you measure, take two or three readings, one minute apart, and record all the results. Your doctor can calculate your average blood pressure from all of your readings, tell you what category you fall into, look at all your risk factors and give you a blood pressure goal.



American Heart Association recommended blood pressure levels

Blood Pressure Category	Systolic (mm Hg)	and	Diastolic (mm Hg)
Normal	less than 120		less than 80
Prehypertension	120-139	or	80-89
High			
Stage 1	140-159	or	90-99
Stage 2	160 or higher	or	100 or higher

Blood pressure higher than 180/110 mm Hg is an emergency. Call 9-1-1 immediately. If 9-1-1 is not available, have someone drive you to the nearest emergency facility immediately.

Heart rate or pulse is the number of times your heart beats per minute. The average resting heart rate is 60-80 beats per minute, but it's generally lower in physically fit people and it usually rises with age.

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BLOOD PRESSURE TRACKER - PRINTABLE TRACKER

INSTRUCTIONS:

- Take your pressure at the same time each day, such as morning or evening, or as your healthcare professional recommends.
- Sit with your back straight and supported and your feet flat on the floor.
- Your arm should be supported on a flat surface with the upper arm at heart level.
- Make sure the middle of the cuff is placed directly over your brachial artery. Refer to the instructions page of this tracker for a picture, or check your monitor's instructions, or have your healthcare provider show you how.
- Each time you measure, take two or three readings, one minute apart, and record all the results.



NAME: _____ MY BLOOD PRESSURE TARGET GOAL IS: ___/___ mm Hg

DATE/TIME	READING 1		READING 2		READING 3		COMMENTS
	BLOOD PRESSURE	HEART RATE (PULSE)	BLOOD PRESSURE	HEART RATE (PULSE)	BLOOD PRESSURE	HEART RATE (PULSE)	
1/1/08 8:00pm	132/85 mm Hg	81 Beats Per Min.	130/90 mm Hg	70 Beats Per Min.	126/80 mm Hg	72 Beats Per Min.	at pharmacy
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	
/ /	/	/	/	/	/	/	

Blood pressure higher than 180/110 is an emergency. Call 9-1-1 immediately. If 9-1-1 is not available to you, have someone drive you to the nearest emergency facility immediately.

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BLOOD PRESSURE TRACKER - WALLET CARD

INSTRUCTIONS:

- Take your pressure at the same time each day, such as morning or evening, or as your healthcare professional recommends.
- Sit with your back straight and supported and your feet flat on the floor.
- Your arm should be supported on a flat surface with the upper arm at heart level.
- Make sure the middle of the cuff is placed directly over your brachial artery. Refer to the Instructions page of this tracker for a picture, or check your monitor's instructions, or have your healthcare provider show you how.
- Each time you measure, take two or three readings, one minute apart, and record all the results.
- Cut this card out, fold it and keep in your wallet for use when you are traveling or away from home.



DATE/TIME	BLOOD PRESSURE	HEART RATE (PULSES)	DATE/TIME	BLOOD PRESSURE	HEART RATE (PULSES)	DATE/TIME	BLOOD PRESSURE	HEART RATE (PULSES)
READING 1			READING 1			READING 1		
READING 2			READING 2			READING 2		
READING 3			READING 3			READING 3		
COMMENTS			COMMENTS			COMMENTS		
DATE/TIME			DATE/TIME			DATE/TIME		
READING 1			READING 1			READING 1		
READING 2			READING 2			READING 2		
READING 3			READING 3			READING 3		
COMMENTS			COMMENTS			COMMENTS		
DATE/TIME			DATE/TIME			DATE/TIME		
READING 1			READING 1			READING 1		
READING 2			READING 2			READING 2		
READING 3			READING 3			READING 3		
COMMENTS			COMMENTS			COMMENTS		
DATE/TIME			DATE/TIME			DATE/TIME		
READING 1			READING 1			READING 1		
READING 2			READING 2			READING 2		
READING 3			READING 3			READING 3		
COMMENTS			COMMENTS			COMMENTS		

Blood pressure higher than 180/110 is an emergency. Call 9-1-1 immediately. If 9-1-1 is not available to you, have someone drive you to the nearest emergency facility immediately.

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Source: American Heart Association. (2012). Blood Pressure Tracker. Retrieved from http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/HighBloodPressureToolsResources/Blood-Pressure-Trackers_UCM_303465_Article.jsp

Questions to ask about your medicines

Ask these questions before you leave your doctor's office.

Take this list with you each time you visit your doctor. Be sure to write your answers and keep them where you will see them.

Ask your doctor:

1. What is the name of the medicine and why am I taking it?
2. What medical condition does this medicine treat?
3. How many times a day should I take this medicine? How much medicine should I take?
4. How long will it take this medicine to work? When should I stop taking it?
5. What should I do if I miss a dose?
6. Are there any side effects I should know about? When should I call you if I am having side effects?
7. Can I safely mix this medicine with the remedies, vitamins, and OTC drugs I am taking?
8. Each time you visit, be sure to ask your doctor if you still need to be on all your medicines.

You and your pharmacist

Before you leave the pharmacy, be sure to:

- Check the label on your medicine.
- Make sure the bottle has your name on it.
- Make sure the directions are the same as your doctor said. If not, tell the pharmacist.
- Ask for an easy-open cap if you have trouble opening the bottle. Be sure to keep all medicines out of reach of children.
- Important—make sure you can read and understand the directions on the container.

Staying on track with your medicines is not always easy. Ask friends and family for help. Following these hints will help make sure you take your medicines the right way—each day.

Ask Your Pharmacist

Your pharmacist is an important part of your healthcare team. If you have questions about your medicine after you leave the doctor's office, the pharmacist can answer many of them. For example, a pharmacist can tell you how and when to take your medicine, whether a drug may change how another medicine you are taking works, and any side-effects you might have. Also, the pharmacist can answer questions about over-the-counter medications.

Try to have all your prescriptions filled at the same pharmacy so your records are in one place. The pharmacist will keep track of all your medications and will be able to tell you if a new drug might cause problems. If you're not able to use just one pharmacy, show the new pharmacist your list of medicines and over-the-counter drugs when you drop off your prescription.

When you have a prescription filled:

- Tell the pharmacist if you have trouble swallowing pills. There may be liquid medicine available. Do not chew, break, or crush tablets without first finding out if the drug will still work.
- Make sure you can read and understand the name of the medicine and the directions on the container and on the color-coded warning stickers on the bottle. If the label is hard to read, ask your pharmacist to use larger type.
- Check that you can open the container. If not, ask the pharmacist to put your medicines in bottles that are easier to open.
- Ask about special instructions on where to store a medicine. For example, should it be kept in the refrigerator or in a dry place?
- Check the label on your medicine before leaving the pharmacy. It should have your name on it and the directions given by your doctor. If it doesn't, don't take it, and talk with the pharmacist.

Generic Or Brand Name?

When getting a prescription filled, sometimes you can choose between either a generic or brand-name drug. Generic and brand-name medicines are alike because they act the same way in the body. They contain the same active ingredients—the part of the medicine that makes it work. A generic drug is the same as a brand-name drug in dosage, safety, strength, quality, the way it works, the way it is taken, and the way it should be used. Generic drugs usually cost less.

If you want a generic drug, ask your healthcare provider if that's a choice. Not all drugs are available in the generic form, and there might be medical reasons your doctor prefers the brand-name medicine.

Now, It's Your Turn

Your doctor has prescribed a medication. The pharmacist has filled the prescription. Now it's up to you to take the medicine safely. Here are some tips that can help:

- Make a list of all the medicines you take, including over-the-counter products and dietary supplements. Show it to all of your healthcare providers including physical therapists and dentists. Keep one copy in your medicine cabinet and one in your wallet or pocketbook. The list should include the: name of each medicine, doctor who prescribed it, reason it was prescribed, amount you take, and time(s) you take it.
- Read and save in one place all written information that comes with the medicine.
- Take your medicine in the exact amount and at the time your doctor prescribes.
- Call your doctor right away if you have any problems with your medicine or if you are worried that it might be doing more harm than good. Your doctor may be able to change your prescription to a different one that will work better for you.
- Use a memory aid to take your medicines on time. Some people use meals or bedtime as reminders to take their medicine. Other people use charts, calendars, and weekly pill boxes. Find a system that works for you.
- Do not skip doses of medication or take half doses to save money. Talk with your doctor or pharmacist if you can't afford the prescribed medicine. There may be less costly choices or special programs to help with the cost of certain drugs.
- Avoid mixing alcohol and medicine. Some medicines may not work correctly or may make you sick if taken with alcohol.
- Take your medicine until it's finished or until your doctor says it's okay to stop.
- Don't take medicines prescribed for another person or give yours to someone else.
- Don't take medicine in the dark. To avoid making a mistake, turn your light on before reaching for your pills.
- Check the expiration dates on your medicine bottles. Your pharmacist can probably tell you how to safely get rid of medicine you no longer need or that is out of date. The pharmacist might be able to dispose of it for you.

- Make sure you store all medicines and supplements out of sight and out of reach of children. And don't take your medicines in front of young children. They might try to copy you.

Shopping For Medicines Online

Medicines can cost a lot. If you have a drug plan through your insurance, you can probably save money by ordering yours from them rather than at your neighborhood pharmacy. Or, you might be thinking about buying yours on the Internet. But how can you tell which websites are safe and reliable? The Food and Drug Administration (see *For More Information*) has more information on buying medicines and medical products online.

Medicare Prescription Drug Plans

Medicare has prescription drug plans for people with Medicare to help save money on medicines. For information please call 1-800-633-4227 (1-800-MEDICARE) or visit the Medicare website at www.medicare.gov.

What About Over-The-Counter Medicines?

Many of the ideas in this Age Page are also true for over-the-counter (OTC) drugs, like medicines to relieve coughs, cold, allergies, pain, and heartburn. Be careful when taking an OTC drug. For example, don't take a cough and cold product if you only have a runny nose and no cough. And, check with your doctor before taking aspirin if you are on a blood-thinning medicine, because aspirin also slows blood clotting.

Other things to remember:

- Measure the dose of a liquid OTC medicine as carefully as you would a prescription drug. Use a measuring spoon, since spoons you eat with vary in size.
- Be careful—OTC medicines can have side effects.
- Take the amount suggested on the label. If you don't get better, see your doctor.
- Read the label—even if you have used the OTC product in the past. Important information can change.

Remember, medicines—whether prescription or over-the-counter—can hurt you if they aren't used the right way. Learn to be a smart consumer of medicine.

What do diabetes medicines do?

Over time, high levels of blood glucose, also called blood sugar, can cause health problems. These problems include heart disease, heart attacks, strokes, kidney disease, nerve damage, digestive problems, eye disease, and tooth and gum problems. You can help prevent health problems by keeping your blood glucose levels on target.

Everyone with diabetes needs to choose foods wisely and be physically active. If you can't reach your target blood glucose levels with wise food choices and physical activity, you may need diabetes medicines. The kind of medicine you take depends on your type of diabetes, your schedule, and your other health conditions.



You may need diabetes medicines to reach your blood glucose targets.

Diabetes medicines help keep your blood glucose in your target range. The target range is suggested by diabetes experts and your doctor or diabetes educator. See below for more information about target levels for good health.

What targets are recommended for blood glucose levels?

The National Diabetes Education Program uses blood glucose targets set by the American Diabetes Association (ADA) for most people with diabetes. To learn your daily blood glucose numbers, you'll check your blood glucose levels on your own using a blood glucose meter.

Target blood glucose levels for most people with diabetes	My targets
Before meals	70 to 130 mg/dL*
1 to 2 hours after the start of a meal	Less than 180 mg/dL

* Milligrams per deciliter.

Also, you should ask your doctor for a blood test called the A1C at least twice a year. The A1C will give you your average blood glucose for the past 3 months.

Target A1C result for people with diabetes	My targets
Less than 7 percent	

Your personal A1C goal might be higher or lower than 7 percent. Keeping your A1C as close to normal as possible—below 6 percent without having frequent low blood glucose—can help prevent long-term diabetes problems. Doctors might recommend other goals for very young children, older people, people with other health problems, or those who often have low blood glucose.

Talk with your doctor or diabetes educator about whether the target blood glucose levels and A1C result listed in the charts above are best for you. Write your own target levels in the charts. Both ways of checking your blood glucose levels are important.

If your blood glucose levels are not on target, you might need a change in how you take care of your diabetes. The results of your A1C test and your daily blood glucose checks can help you and your doctor make decisions about

- what you eat
- when you eat
- how much you eat
- what kind of exercise you do
- how much exercise you do
- the type of diabetes medicines you take
- the amount of diabetes medicines you take

What happens to blood glucose levels in people with diabetes?

Blood glucose levels go up and down throughout the day and night in people with diabetes. High blood glucose levels over time can result in heart disease and other health problems. Low blood glucose levels can make you feel shaky or pass out. But you can learn how to make sure your blood glucose levels stay on target—not too high and not too low.

What makes blood glucose levels go too high?

Your blood glucose levels can go too high if

- you eat more than usual
- you're not physically active
- you're not taking enough diabetes medicine
- you're sick or under stress
- you exercise when your blood glucose level is already high

What makes blood glucose levels go too low?

Your blood glucose levels can go too low if

- you eat less than usual
- you miss a meal or snack or eat later than usual
- you're more active than usual
- you drink alcoholic beverages on an empty stomach

Some diabetes medicines can also lower your blood glucose too much. Ask your doctor whether your diabetes medicines can cause low blood glucose. See [Insert N](#) for information about low blood glucose.



The results of your blood glucose checks can help you make decisions about your diabetes medicines, food choices, and physical activity.

Medicines for My Diabetes

Ask your doctor what type of diabetes you have.

I have

- type 1 diabetes
- type 2 diabetes
- gestational diabetes
- another type of diabetes: _____

Medicines for Type 1 Diabetes

Type 1 diabetes, once called juvenile diabetes or insulin-dependent diabetes, is usually first found in children, teenagers, or young adults. If you have type 1 diabetes, you must take insulin because your body no longer makes it. You also might need to take other types of diabetes medicines that work with insulin.

Medicines for Type 2 Diabetes

Type 2 diabetes, once called adult-onset diabetes or noninsulin-dependent diabetes, is the most common form of diabetes. It can start when the body doesn't use insulin as it should, a condition called insulin resistance. If the body can't keep up with the need for insulin, you may need diabetes medicines. Many choices are available. Your doctor might prescribe two or more medicines. The ADA recommends that most people start with metformin, a kind of diabetes pill.

Medicines for Gestational Diabetes

Gestational diabetes is diabetes that occurs for the first time during pregnancy. The hormones of pregnancy or a shortage of insulin can cause gestational diabetes. Most women with gestational diabetes control it with meal planning and physical activity. But some women need insulin to reach their target blood glucose levels.

Medicines for Other Types of Diabetes

If you have one of the rare forms of diabetes, such as diabetes caused by other medicines or monogenic diabetes, talk with your doctor about what kind of diabetes medicine would be best for you.

Types of Diabetes Medicines

Diabetes medicines come in several forms.

Insulin

If your body no longer makes enough insulin, you'll need to take it. Insulin is used for all types of diabetes. Your doctor can help you decide which way of taking insulin is best for you.

- **Taking injections.** You'll give yourself shots using a needle and syringe. The syringe is a hollow tube with a plunger. You will put your dose of insulin into the tube. Some people use an insulin pen, which looks like a pen but has a needle for its point.
- **Using an insulin pump.** An insulin pump is a small machine about the size of a cell phone, worn outside of your body on a belt or in a pocket or pouch. The pump connects to a small plastic tube and a very small needle. The needle is inserted under the skin and stays in for several days. Insulin is pumped from the machine through the tube into your body.
- **Using an insulin jet injector.** The jet injector, which looks like a large pen, sends a fine spray of insulin through the skin with high-pressure air instead of a needle.
- **Using an insulin infuser.** A small tube is inserted just beneath the skin and remains in place for several days. Insulin is injected into the end of the tube instead of through the skin.



If your body no longer makes enough insulin, you'll need to take it.

What does insulin do?

Insulin helps keep blood glucose levels on target by moving glucose from the blood into your body's cells. Your cells then use glucose for energy. In people who don't have diabetes, the body makes the right amount of insulin on its own. But when you have diabetes, you and your doctor must decide how much insulin you need throughout the day and night.

What are the possible side effects of insulin?

Possible side effects include

- low blood glucose (for more information, see [Insert N](#))
- weight gain

How and when should I take my insulin?

Your plan for taking insulin will depend on your daily routine and your type of insulin. Some people with diabetes who use insulin need to take it two, three, or four times a day to reach their blood glucose

targets. Others can take a single shot. Your doctor or diabetes educator will help you learn how and when to give yourself insulin.

Types of Insulin

Each type of insulin works at a different speed. For example, rapid-acting insulin starts to work right after you take it. Long-acting insulin works for many hours. Most people need two or more types of insulin to reach their blood glucose targets.

Look at the list of types of insulin on [Insert C](#). Check off the names of the kinds of insulin you take. Then print and write the names of your insulins under **My Insulins** in the chart on [Insert A](#).

Diabetes Pills

Along with meal planning and physical activity, diabetes pills help people with type 2 diabetes or gestational diabetes keep their blood glucose levels on target. Several kinds of pills are available. Each works in a different way. Many people take two or three kinds of pills. Some people take combination pills. Combination pills contain two kinds of diabetes medicine in one tablet. Some people take pills and insulin.



Diabetes pills help people with type 2 diabetes or gestational diabetes keep their blood glucose levels on target.

Your doctor may ask you to try one kind of pill. If it doesn't help you reach your blood glucose targets, your doctor may ask you to

- take more of the same pill
- add another kind of pill
- change to another type of pill
- start taking insulin
- start taking another injected medicine

If your doctor suggests that you take insulin or another injected medicine, it doesn't mean your diabetes is getting worse. Instead, it means you need insulin or another type of medicine to reach your blood glucose targets. Everyone is different. What works best for you depends on your usual daily routine, eating habits, and activities, and your other health conditions.

For information about the different kinds of pills and what they do, see the inserts. You'll see the brand name and the generic name—the scientific name—for each medicine. Find your diabetes pills and check off the names. Then print and write the names of your diabetes pills under **My Pills and Injected Medicines** in the chart on [Insert A](#).

Injections Other Than Insulin

In addition to insulin, two other types of injected medicines are now available. Both work with insulin—either the body's own or injected—to help keep your blood glucose from going too high after you eat. Neither is a substitute for insulin.

See the cards in the pocket of this booklet for more information about these injected medicines. Check off the kinds you take. Then write the names of your injected medicines under **My Pills and Injected Medicines** in the chart on [Insert A](#).

Talk with your doctor if you have questions about your diabetes medicines. Do not stop taking your diabetes medicines without checking with your doctor first. See [Insert B](#) for a list of questions to ask your doctor about your medicines.

What do I need to know about side effects of medicines?

A side effect is an unwanted problem caused by a medicine. For example, some diabetes medicines can cause nausea or an upset stomach when you first start taking them. Before you start a new medicine, ask your doctor about possible side effects and how you can avoid them. If the side effects of your medicine bother you, tell your doctor.

For More Information

To find diabetes educators—nurses, dietitians, and other health professionals—near you, call the American Association of Diabetes Educators toll-free at 1-800-TEAMUP4 (1-800-832-6874). Or go to www.diabeteseducator.org and see the "Find a Diabetes Educator" section.

For additional information about diabetes, contact

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This publication may contain information about medications. When prepared, this publication included the most current information available. For updates or for questions about any medications, contact the U.S. Food and Drug Administration toll-free at 1-888-INFO-FDA (1-888-463-6332) or visit www.fda.gov. Consult your health care provider for more information.

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Mental Health Medications

National Institute of Mental Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES • National Institutes of Health

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What medications are used to treat schizophrenia?



Antipsychotic medications are used to treat schizophrenia and schizophrenia-related disorders. Some of these medications have been available since the mid-1950's. They are also called conventional "typical" antipsychotics. Some of the more commonly used medications include:

- Chlorpromazine (Thorazine)
- Haloperidol (Haldol)
- Perphenazine (generic only)
- Fluphenazine (generic only)

In the 1990's, new antipsychotic medications were developed. These new medications are called second generation, or "atypical" antipsychotics.

One of these medications was clozapine (Clozaril). It is a very effective medication that treats psychotic symptoms, hallucinations, and breaks with reality, such as when a person believes he or she is the president. But clozapine can sometimes cause a serious problem called agranulocytosis, which is a loss of the white blood cells that help a person fight infection. Therefore, people who take clozapine must get their white blood cell counts checked every week or two. This problem and the cost of blood tests make treatment with clozapine difficult for many people. Still, clozapine is potentially helpful for people who do not respond to other antipsychotic medications.

Other atypical antipsychotics were developed. All of them are effective, and none cause agranulocytosis. These include:

- Risperidone (Risperdal)
- Olanzapine (Zypmexa)
- Quetiapine (Seroquel)

- Ziprasidone (Geodon)
- Aripiprazole (Abilify)
- Paliperidone (Invega)

The antipsychotics listed here are some of the medications used to treat symptoms of schizophrenia. Additional antipsychotics and other medications used for schizophrenia are listed in the chart at the end.

Note: The FDA issued a Public Health Advisory for atypical antipsychotic medications. The FDA determined that death rates are higher for elderly people with dementia who take these medications. A review of data has found a risk with conventional antipsychotics as well. Antipsychotic medications are not FDA approved for the treatment of behavioral disorders in patients with dementia.

What are the side effects?

Some people have side effects when they start taking these medications. Most side effects go away after a few days and often can be managed successfully. People who are taking antipsychotics should not drive until they adjust to their new medication. Side effects of many antipsychotics include:

- Drowsiness
- Dizziness when changing positions
- Blurred vision
- Rapid heartbeat
- Sensitivity to the sun
- Skin rashes
- Menstrual problems for women

Atypical antipsychotic medications can cause major weight gain and changes in a person's metabolism. This may increase a person's risk of



Mental Health Medications

Medications are used to treat the symptoms of mental disorders such as schizophrenia, depression, bipolar disorder (sometimes called manic-depressive illness), anxiety disorders, and attention deficit-hyperactivity disorder (ADHD). Sometimes medications are used with other treatments such as psychotherapy. This guide describes:

- Types of medications used to treat mental disorders
- Side effects of medications
- Directions for taking medications
- Warnings about medications from the U.S. Food and Drug Administration (FDA)

This booklet does not provide information about diagnosing mental disorders. Choosing the right medication, medication dose, and treatment plan should be based on a person's individual needs and medical situation, and under a doctor's care.

Information about medications is frequently updated. Check the FDA website (<http://www.fda.gov>) for the latest information on warnings, patient medication guides, or newly approved medications. Throughout this document you will see two names for medications—the generic name and its brand name. An example is fluoxetine (Prozac). See the end of this document for a complete alphabetical listing of medications.

What are psychiatric medications?

Psychiatric medications treat mental disorders. Sometimes called psychotropic or psychobehavioral medications, they have changed the lives of people with mental disorders for the better. Many

people with mental disorders live fulfilling lives with the help of these medications. Without them, people with mental disorders might suffer serious and disabling symptoms.

How are medications used to treat mental disorders?

Medications treat the symptoms of mental disorders. They cannot cure the disorder, but they make people feel better so they can function.

Medications work differently for different people. Some people get great results from medications and only need them for a short time. For example, a person with depression may feel much better after taking a medication for a few months, and may never need it again. People with disorders like schizophrenia or bipolar disorder, or people who have long-term or severe depression or anxiety may need to take medication for a much longer time.

Some people get side effects from medications and other people don't. Doses can be small or large, depending on the medication and the person. Factors that can affect how medications work in people include:

- Type of mental disorder, such as depression, anxiety, bipolar disorder, and schizophrenia
- Age, sex, and body size
- Physical illnesses
- Habits like smoking and drinking
- Liver and kidney function
- Genetics
- Other medications and herbal/vitamin supplements
- Diet
- Whether medications are taken as prescribed.

getting diabetes and high cholesterol.¹ A person's weight, glucose levels, and lipid levels should be monitored regularly by a doctor while taking an atypical antipsychotic medication.

Typical antipsychotic medications can cause side effects related to physical movement, such as:

- Rigidity
- Persistent muscle spasms
- Tremors
- Restlessness

Long-term use of typical antipsychotic medications may lead to a condition called tardive dyskinesia (TD). TD causes muscle movements a person can't control. The movements commonly happen around the mouth. TD can range from mild to severe, and in some people the problem cannot be cured. Sometimes people with TD recover partially or fully after they stop taking the medication.

Every year, an estimated 5 percent of people taking typical antipsychotics get TD. The condition happens to fewer people who take the new, atypical antipsychotics, but some people may still get TD. People who think that they might have TD should check with their doctor before stopping their medication.

How are antipsychotics taken and how do people respond to them?

Antipsychotics are usually pills that people swallow, or liquid they can drink. Some antipsychotics are shots that are given once or twice a month.

Symptoms of schizophrenia, such as feeling agitated and having hallucinations, usually go away within days. Symptoms like delusions usually go away within a few weeks. After about six weeks, many people will see a lot of improvement.

However, people respond in different ways to antipsychotic medications, and no one can tell beforehand how a person will respond. Sometimes

a person needs to try several medications before finding the right one. Doctors and patients can work together to find the best medication or medication combination, and dose.

Some people may have a relapse—their symptoms come back or get worse. Usually, relapses happen when people stop taking their medication, or when they only take it sometimes. Some people stop taking the medication because they feel better or they may feel they don't need it anymore. But no one should stop taking an antipsychotic medication without talking to his or her doctor. When a doctor says it is okay to stop taking a medication, it should be gradually tapered off, never stopped suddenly.

How do antipsychotics interact with other medications?

Antipsychotics can produce unpleasant or dangerous side effects when taken with certain medications. For this reason, all doctors treating a patient need to be aware of all the medications that person is taking. Doctors need to know about prescription and over-the-counter medicine, vitamins, minerals, and herbal supplements. People also need to discuss any alcohol or other drug use with their doctor.

To find out more about how antipsychotics work, the National Institute of Mental Health (NIMH) funded a study called CATHI (Clinical Antipsychotic Trials of Intervention Effectiveness). This study compared the effectiveness and side effects of five antipsychotics used to treat people with schizophrenia. In general, the study found that the older medication perphenazine worked as well as the newer, atypical medications, but because people respond differently to different medications, it is important that treatments be designed carefully for each person. You can find more information at <http://www.nimh.nih.gov/clinicaltrials/clinical-trials.shtml>.

What medications are used to treat depression?



Depression is commonly treated with antidepressant medications.

Antidepressants work to balance some of the natural chemicals in our brains. These chemicals are called neurotransmitters, and they affect our mood and emotional responses. Antidepressants work on neurotransmitters such as serotonin, norepinephrine, and dopamine.

The most popular types of antidepressants are called selective serotonin reuptake inhibitors (SSRIs). These include:

- Fluoxetine (Prozac)
- Citalopram (Celexa)
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Escitalopram (Lexapro).

Other types of antidepressants are serotonin and norepinephrine reuptake inhibitors (SNRIs). SNRIs are similar to SSRIs and include venlafaxine (Effexor) and duloxetine (Cymbalta). Another antidepressant that is commonly used is bupropion (Wellbutrin). Bupropion, which works on the neurotransmitter dopamine, is unique in that it does not fit into any specific drug type.

SSRIs and SNRIs are popular because they do not cause as many side effects as older classes of antidepressants. Older antidepressant medications include tricyclics, tetracyclics, and monoamine oxidase inhibitors (MAOIs). For some people, tricyclics, tetracyclics, or MAOIs may be the best medication.

What are the side effects?

Antidepressants may cause mild side effects that usually do not last long. Any unusual reactions or side effects should be reported to a doctor immediately.

The most common side effects associated with SSRIs and SNRIs include:

- Headache, which usually goes away within a few days.
- Nausea (feeling sick to your stomach), which usually goes away within a few days.
- Sleeplessness or drowsiness, which may happen during the first few weeks but then goes away. Sometimes the medication dose needs to be reduced or the time of day it is taken needs to be adjusted to help lessen these side effects.
- Agitation (feeling jittery).
- Sexual problems, which can affect both men and women and may include reduced sex drive, and problems having and enjoying sex.

Tricyclic antidepressants can cause side effects, including:

- Dry mouth.
- Constipation.
- Bladder problems. It may be hard to empty the bladder, or the urine stream may not be so strong as usual. Older men with enlarged prostate conditions may be more affected.
- Sexual problems, which can affect both men and women and may include reduced sex drive, and problems having and enjoying sex.

- Blurred vision, which usually goes away quickly.
- Drowsiness. Usually, antidepressants that make you drowsy are taken at bedtime.

People taking MAOIs need to be careful about the foods they eat and the medicines they take. Foods and medicines that contain high levels of a chemical called tyramine are dangerous for people taking MAOIs. Tyramine is found in some cheeses, wines, and pickles. The chemical is also in some medications, including decongestants and over-the-counter cold medicine.

Mixing MAOIs and tyramine can cause a sharp increase in blood pressure, which can lead to stroke. People taking MAOIs should ask their doctors for a complete list of foods, medicines, and other substances to avoid. An MAOI skin patch has recently been developed and may help reduce some of these risks. A doctor can help a person figure out if a patch or a pill will work for him or her.

How should antidepressants be taken?

People taking antidepressants need to follow their doctors' directions. The medication should be taken in the right dose for the right amount of time. It can take three or four weeks until the medicine takes effect. Some people take the medications for a short time, and some people take them for much longer periods. People with long-term or severe depression may need to take medication for a long time. Once a person is taking antidepressants, it is important not to stop taking them without the help of a doctor. Sometimes people taking antidepressants feel better and stop taking the medication too soon, and the depression may return. When it is time to stop the medication, the doctor will help the person slowly and safely decrease the dose. It's important to give the body

time to adjust to the change. People don't get addicted, or "hooked," on the medications, but stopping them abruptly can cause withdrawal symptoms.

If a medication does not work, it is helpful to be open to trying another one. A study funded by NIMH found that if a person with difficult-to-treat depression did not get better with a first medication, chances of getting better increased when the person tried a new one or added a second medication to his or her treatment. The study was called STAR*D (Sequenced Treatment Alternatives to Relieve Depression).¹³ For more information, visit <http://www.nimh.nih.gov/health/psychical/star/index.shtml>.

Are herbal medicines used to treat depression?

The herbal medicine St. John's wort has been used for centuries in many folk and herbal remedies. Today in Europe, it is used widely to treat mild-to-moderate depression. In the United States, it is one of the top-selling botanical products.

The National Institute of Health conducted a clinical trial to determine the effectiveness of treating adults who have major depression with St. John's wort. The study included 340 people diagnosed with major depression. One-third of the people took the herbal medicine, one-third took an SSRI, and one-third took a placebo, or "sugar pill." The people did not know what they were taking. The study found that St. John's wort was no more effective than the placebo in treating major depression.¹⁴ A study currently in progress is looking at the effectiveness of St. John's wort for treating mild or minor depression.

Other research has shown that St. John's wort can dangerously interact with other medications, including those used to control HIV. On February

10, 2000, the FDA issued a Public Health Advisory letter stating that the herb appears to interfere with certain medications used to treat heart disease, depression, seizures, certain cancers, and organ transplant rejection. Also, St. John's wort may interfere with oral contraceptives.

Because St. John's wort may not mix well with other medications, people should always talk with their doctors before taking it or any herbal supplement.

FDA warning on antidepressants

Antidepressants are safe and popular, but some studies have suggested that they may have unintentional effects, especially in young people. In 2004, the FDA looked at published and unpublished data on trials of antidepressants that involved nearly 4,400 children and adolescents. They found that 4 percent of those taking antidepressants thought about or tried suicide (although no suicides occurred), compared to 2 percent of those receiving placebo (sugar pill).

In 2005, the FDA decided to adopt a "black box" warning label—the most serious type of warning—for all antidepressant medications. The warning says there is an increased risk of suicidal thinking or attempts in children and adolescents taking antidepressants. In 2007, the FDA proposed that makers of all antidepressant medications extend the warning to include young adults up through age 24.

The warning also says that patients of all ages taking antidepressants should be watched closely, especially during the first few weeks of treatment. Possible side effects to look for are depression that gets worse, suicidal thinking or behavior, or any unusual changes in behavior such as trouble sleeping, agitation, or withdrawal from normal social situations. Families and caregivers should report any changes to the doctor. The latest information from the FDA can be found at <http://www.fda.gov>.

Results of a comprehensive review of pediatric trials conducted between 1988 and 2006 suggested that the benefits of antidepressant medications likely outweigh their risks to children and adolescents with major depression and anxiety disorders.¹⁵ The study was funded in part by NIMH.

Finally, the FDA has warned that combining the newer SSRI or SNRI antidepressants with one of the commonly used "triptan" medications used to treat migraine headaches could cause a life-threatening illness called "serotonin syndrome." A person with serotonin syndrome may be agitated, have hallucinations (see or hear things that are not real), have a high temperature, or have unusual blood pressure changes. Serotonin syndrome is usually associated with the older antidepressants called MAOIs, but it can happen with the newer antidepressants as well, if they are mixed with the wrong medications.

What medications are used to treat bipolar disorder?



Bipolar disorder, also called manic-depressive illness, is commonly treated with mood stabilizers. Sometimes, antipsychotics and antidepressants are used along with a mood stabilizer.

Mood stabilizers

People with bipolar disorder usually try mood stabilizers first. In general, people continue treatment with mood stabilizers for years. Lithium is a very effective mood stabilizer. It was the first mood stabilizer approved by the FDA in the 1970s for treating both manic and depressive episodes.

Anticonvulsant medications also are used as mood stabilizers. They were originally developed to treat seizures, but they were found to help control moods as well. One anticonvulsant commonly used as a mood stabilizer is valproic acid, also called divalproex sodium (Depakote). For some people, it may work better than lithium.¹⁶ Other anticonvulsants used as mood stabilizers are carbamazepine (Tegretol), lamotrigine (Lamictal) and oxcarbazepine (Trileptal).

Atypical antipsychotics

Atypical antipsychotic medications are sometimes used to treat symptoms of bipolar disorder. Often, antipsychotics are used along with other medications.

Antipsychotics used to treat people with bipolar disorder include:

- Olanzapine (Zyprexa), which helps people with severe or psychotic depression, which often is accompanied by a break with reality, hallucinations, or delusions¹⁷
- Aripiprazole (Abilify), which can be taken as a pill or as a shot
- Risperidone (Risperdal)
- Ziprasidone (Geodon)
- Clozapine (Clozaril), which is often used for people who do not respond to lithium or anticonvulsants.¹⁸

Antidepressants

Antidepressants are sometimes used to treat symptoms of depression in bipolar disorder. Fluoxetine (Prozac), paroxetine (Paxil), or sertraline (Zoloft) are a few that are used. However, people with bipolar disorder should not take an antidepressant on its own. Doing so can cause the person to rapidly switch from depression to mania, which can be dangerous.¹⁹ To prevent this problem, doctors give patients a mood stabilizer or an antipsychotic along with an antidepressant.

Research on whether antidepressants help people with bipolar depression is mixed. An NIMH-funded study found that antidepressants were no more effective than a placebo to help treat depression in people with bipolar disorder. The people were taking mood stabilizers along with

the antidepressants. You can find out more about this study, called STIP-BD (Systematic Treatment Enhancement Program for Bipolar Disorder),¹⁰ at <http://www.nimh.nih.gov/hi/clinicaltrials/step-bd/index.shtml>.

What are the side effects?

Treatments for bipolar disorder have improved over the last 10 years. But everyone responds differently to medications. If you have any side effects, tell your doctor right away. He or she may change the dose or prescribe a different medication.

Different medications for treating bipolar disorder may cause different side effects. Some medications used for treating bipolar disorder have been linked to unique and serious symptoms, which are described below.

Lithium can cause several side effects, and some of them may become serious. They include:

- Loss of coordination
- Excessive thirst
- Frequent urination
- Blackouts
- Seizures
- Slurred speech
- Fast, slow, irregular, or pounding heartbeat
- Hallucinations (seeing things or hearing voices that do not exist)
- Changes in vision
- Itching, rash
- Swelling of the eyes, face, lips, tongue, throat, hands, feet, ankles, or lower legs.

If a person with bipolar disorder is being treated with lithium, he or she should visit the doctor regularly to check the levels of lithium in the blood, and make sure the kidneys and the thyroid are working normally.

Some possible side effects linked with valproic acid/valproate sodium include:

- Changes in weight
- Nausea
- Stomach pain
- Vomiting
- Anorexia
- Loss of appetite.

Valproic acid may cause damage to the liver or pancreas, so people taking it should see their doctor regularly.

Valproic acid may affect young girls and women in unique ways. Sometimes, valproic acid may increase testosterone (a male hormone) levels in teenage girls and lead to a condition called polycystic ovarian syndrome (PCOS).^{11,12} PCOS is a disease that can affect fertility and make the menstrual cycle become irregular, but symptoms tend to go away after valproic acid is stopped.¹³ It also may cause birth defects in women who are pregnant.

Lamotrigine can cause a rare but serious skin rash that needs to be treated in a hospital. In some cases, this rash can cause permanent disability or be life-threatening.

In addition, valproic acid, lamotrigine, carbamazepine, and other anticonvulsant medications (listed in the chart at the end of this document) have an FDA warning. The warning states that their use may increase the risk of suicidal thoughts and behaviors. People taking anticonvulsant medications for bipolar or other illnesses should be closely monitored for new or worsening symptoms of depression, suicidal thoughts or behavior, or any unusual changes in mood or behavior. People taking these medications should not make any changes without talking to their health care professional.

Other medications for bipolar disorder may also be linked with rare but serious side effects. Always talk with the doctor or pharmacist about any potential side effects before taking the medication.

For information on side effects of antipsychotics, see the section on medications for treating schizophrenia.

For information on side effects and FDA warnings of antidepressants, see the section on medications for treating depression.

How should medications for bipolar disorder be taken?

Medications should be taken as directed by a doctor. Sometimes a person's treatment plan needs to be changed. When changes in medicine are needed, the doctor will guide the change. A person should never stop taking a medication without asking a doctor for help.

There is no cure for bipolar disorder, but treatment works for many people. Treatment works best when it is continuous, rather than on and off. However, mood changes can happen even when there are no breaks in treatment. Patients should be open with their doctors about treatment. Talking about how treatment is working can help it be more effective.

It may be helpful for people or their family members to keep a daily chart of mood symptoms, treatments, sleep patterns, and life events. This chart can help patients and doctors track the illness. Doctors can use the chart to treat the illness most effectively.

Because medications for bipolar disorder can have serious side effects, it is important for anyone taking them to see the doctor regularly to check for possibly dangerous changes in the body.

What medications are used to treat anxiety disorders?



Antidepressants, anti-anxiety medications, and beta-blockers are the most common medications used for anxiety disorders.

Anxiety disorders include:

- Obsessive compulsive disorder (OCD)
- Post-traumatic stress disorder (PTSD)
- Generalized anxiety disorder (GAD)
- Panic disorder
- Social phobia.

Antidepressants

Antidepressants were developed to treat depression, but they also help people with anxiety disorders. SSRIs such as fluoxetine (Prozac), sertraline (Zoloft), escitalopram (Lexapro), paroxetine (Paxil), and citalopram (Celexa) are commonly prescribed for panic disorder, OCD, PTSD, and social phobia. The SNRI venlafaxine (Effexor) is commonly used to treat GAD. The antidepressant bupropion (Wellbutrin) is also sometimes used. When treating anxiety disorders, antidepressants generally are started at low doses and increased over time.

Some tricyclic antidepressants work well for anxiety. For example, nortriptyline (Tofranil) is prescribed for panic disorder and GAD. Clomipramine (Anafranil) is used to treat OCD. Tricyclics are also started at low doses and increased over time.

MAOIs are also used for anxiety disorders. Doctors sometimes prescribe phenelzine (Nardil), tranylcypromine (Parnate), and isocarboxazid (Marplan). People who take MAOIs must avoid certain food and medicines that can interact with their medicine and cause dangerous increases in blood pressure. For more information, see the section on medications used to treat depression.

Benzodiazepines (anti-anxiety medications)

The anti-anxiety medications called benzodiazepines can start working more quickly than antidepressants. The ones used to treat anxiety disorders include:

- Clonazepam (Klonopin), which is used for social phobia and GAD
- Lorazepam (Ativan), which is used for panic disorder
- Alprazolam (Xanax), which is used for panic disorder and GAD.

Bupropion (Wellbutrin) is an anti-anxiety medication used to treat GAD. Unlike benzodiazepines, however, it takes at least two weeks for bupropion to begin working.

Clonazepam, listed above, is an anticonvulsant medication. See FDA warning on anticonvulsants under the bipolar disorder section.

Beta-blockers

Beta-blockers control some of the physical symptoms of anxiety, such as trembling and sweating. Propranolol (Inderal) is a beta-blocker usually used to treat heart conditions and high blood pressure. The medicine also helps people who have physical problems related to anxiety. For example, when a person with social phobia must face a stressful situation, such as giving a speech, or attending an important meeting, a doctor may prescribe a beta-blocker. Taking the medicine for a short period of time can help the person keep physical symptoms under control.

What are the side effects?

See the section on antidepressants for a discussion on side effects.

The most common side effects for benzodiazepines are drowsiness and dizziness. Other possible side effects include:

- Upset stomach
- Blurred vision
- Headache
- Confusion
- Grogginess
- Nightmares.

Possible side effects from bupropion (Wellbutrin) include:

- Dizziness
- Headaches
- Nausea
- Nervousness
- Lightheadedness
- Excitement
- Trouble sleeping.

Common side effects from beta-blockers include:

- Fatigue
- Cold hands
- Dizziness
- Weakness.

In addition, beta-blockers generally are not recommended for people with asthma or diabetes because they may worsen symptoms.

How should medications for anxiety disorders be taken?

People can build a tolerance to benzodiazepines if they are taken over a long period of time and may need higher and higher doses to get the same effect. Some people may become dependent on them. To avoid these problems, doctors usually prescribe the medication for short periods, a practice that is especially helpful for people who have substance abuse problems or who become dependent on medication easily. If people suddenly stop taking benzodiazepines, they may get withdrawal symptoms, or their anxiety may return. Therefore, they should be tapered off slowly.

Bupropion and beta-blockers are similar. They are usually taken on a short-term basis for anxiety. Both should be tapered off slowly. Talk to the doctor before stopping any anti-anxiety medication.

What medications are used to treat ADHD?



Attention deficit/hyperactivity disorder (ADHD) occurs in both children and adults. ADHD is commonly treated with stimulants, such as:

- Methylphenidate (Ritalin, Metadate, Concerta, Daytrana)
- Amphetamine (Adderall)
- Dextroamphetamine (Dexadrine, Dextrostat)

In 2002, the FDA approved the nonstimulant medication atomoxetine (Strattera) for use as a treatment for ADHD. In February 2007, the FDA approved the use of the stimulant lisdexamfetamine dimesylate (Vyvanse) for the treatment of ADHD in children ages 6 to 12 years.

What are the side effects?

Most side effects are minor and disappear when dosage levels are lowered. The most common side effects include:

- Decreased appetite. Children seem to be less hungry during the middle of the day, but they are often hungry by dinnertime as the medication wears off.
- Sleep problems. If a child cannot fall asleep, the doctor may prescribe a lower dose. The doctor might also suggest that parents give the medication to their child earlier in the day, or stop the afternoon or evening dose. To help ease sleeping problems, a doctor may add a prescription for a low dose of an antidepressant or a medication called clonidine.

- Stomachaches and headaches.
- Less common side effects. A few children develop sudden, repetitive movements or sounds called tics. These tics may or may not be noticeable. Changing the medication dosage may make tics go away. Some children also may appear to have a personality change, such as appearing "flat" or without emotion. Talk with your child's doctor if you see any of these side effects.

How are ADHD medications taken?

Stimulant medications can be short-acting or long-acting, and can be taken in different forms such as a pill, patch, or powder. Long-acting, sustained and extended release forms allow children to take the medication just once a day before school. Parents and doctors should decide together which medication is best for the child and whether the child needs medication only for school hours or for evenings and weekends too.

ADHD medications help many children and adults who are hyperactive and impulsive. They help people focus, work, and learn. Stimulant medication also may improve physical coordination. However, different people respond differently to medications, so children taking ADHD medications should be watched closely.

Are ADHD medications safe?

Stimulant medications are safe when given under a doctor's supervision. Some children taking them may feel slightly different or "funny."

Some parents worry that stimulant medications may lead to drug abuse or dependence, but there is little evidence of this. Research shows that teens with ADHD who took stimulant medications were less likely to abuse drugs than those who did not take stimulant medications.¹⁴

FDA warning on possible rare side effects

In 2007, the FDA required that all makers of ADHD medications develop Patient Medication Guides. The guides must alert patients to possible heart and psychiatric problems related to ADHD medicine. The FDA required the Patient Medication Guides because a review of data found that ADHD patients with heart conditions had a slightly higher risk of stroke, heart attacks, and sudden death when taking the medications. The review also found a slightly higher risk (about 1 in 1,000) for medication-related psychiatric problems, such as hearing voices, having hallucinations, becoming suspicious for no reason, or becoming manic. This happened to patients who had no history of psychiatric problems.

The FDA recommends that any treatment plan for ADHD include an initial health and family history examination. This exam should look for existing heart and psychiatric problems.

The non-stimulant ADHD medication called atomoxetine (Strattera) carries another warning. Studies show that children and teenagers with

ADHD who take atomoxetine are more likely to have suicidal thoughts than children and teenagers with ADHD who do not take atomoxetine. If your child is taking atomoxetine, watch his or her behavior carefully. A child may develop serious symptoms suddenly, so it is important to pay attention to your child's behavior every day. Ask other people who spend a lot of time with your child, such as brothers, sisters, and teachers, to tell you if they notice changes in your child's behavior. Call a doctor right away if your child shows any of the following symptoms:

- Acting more sad and withdrawn than usual
- Feeling hopeless, helpless, or worthless
- New or worsening depression
- Thinking or talking about hurting himself or herself
- Extreme worry
- Agitation
- Panic attacks
- Trouble sleeping
- Irritability
- Aggressive or violent behavior
- Acting without thinking
- Extreme increase in activity or talking
- Increased, abnormal excitement
- Any sudden or unusual changes in behavior.

While taking atomoxetine, your child should see a doctor often, especially at the beginning of treatment. Be sure that your child keeps all appointments with his or her doctor.

Which groups have special needs when taking psychiatric medications?



Psychiatric medications are taken by all types of people, but some groups have special needs, including:

- Children and adolescents
- Older adults
- Women who are pregnant or may become pregnant.

Children and adolescents

Most medications used to treat young people with mental illness are safe and effective. However, many medications have not been studied or approved for use with children. Researchers are not sure how these medications affect a child's growing body. Still, a doctor can give a young person an FDA-approved medication on an "off-label" basis. This means that the doctor prescribes the medication to help the patient even though the medicine is not approved for the specific mental disorder or age.

For these reasons, it is important to watch young people who take these medications. Young people may have different reactions and side effects than adults. Also, some medications, including antidepressants and ADHD medications, carry FDA warnings about potentially dangerous risk effects for young people. See the sections on antidepressants and ADHD medications for more information about these warnings.

More research is needed on how these medications affect children and adolescents. NIMH has funded studies on this topic. For example, NIMH funded the Prochlozoles with ADHD Treatment Study (PWTS), which involved 300 prochlorzoles (3 to 5 years old) diagnosed with ADHD. The

study found that low doses of the stimulant methylphenidate are safe and effective for prochlorzoles. However, children of this age are more sensitive to the side effects of the medication, including slower growth rates. Children taking methylphenidate should be watched closely.^{15,16,17}

In addition to medications, other treatments for young people with mental disorders should be considered. Psychotherapy, family therapy, educational courses, and behavior management techniques can help everyone involved cope with the disorder. For more information on child and adolescent mental health research, visit http://www.nimh.nih.gov/health/topics/child_and_adolescent_mental_health/index.shtml.

Older adults

Because older people often have more medical problems than other groups, they tend to take more medications than younger people, including prescribed, over-the-counter, and herbal medications. As a result, older people have a higher risk for experiencing bad drug interactions, missing doses, or overdosing.

Older people also tend to be more sensitive to medications. Even healthy older people react to medications differently than younger people because their bodies process it more slowly. Therefore, lower or less frequent doses may be needed.

Sometimes memory problems affect older people who take medications for mental disorders. An older adult may forget his or her regular dose and take too much or not enough. A good way to keep track of medicine is to use a seven-day pill

box, which can be bought at any pharmacy. At the beginning of each week, older adults and their caregivers fill the box so that it is easy to remember what medicine to take. Many pharmacies also have pillboxes with sections for medications that must be taken more than once a day.

Women who are pregnant or may become pregnant

The research on the use of psychiatric medications during pregnancy is limited. The risks are different depending on what medication is taken, and at what point during the pregnancy the medication is taken.

Research has shown that antidepressants, especially SSRIs, are safe during pregnancy. Birth defects or other problems are possible, but they are very rare.^{18,19}

However, antidepressant medications do cross the placental barrier and may reach the fetus.

Some research suggests the use of SSRIs during pregnancy is associated with miscarriage or birth defects, but other studies do not support this.¹⁸ Studies have also found that fetuses exposed to SSRIs during the third trimester may be born with "withdrawal" symptoms such as breathing problems, jitteriness, irritability, trouble feeding, or hypoglycemia (low blood sugar).

Most studies have found that these symptoms in babies are generally mild and short-lived, and no deaths have been reported. On the flip side, women who stop taking their antidepressant medication during pregnancy may get depression again and may put both themselves and their infant at risk.²⁰

In 2004, the FDA issued a warning against the use of certain antidepressants in the late third trimester. The warning said that doctors may want to gradually taper pregnant women off antidepressants in the third trimester so that the baby is not affected.²¹ After a woman delivers, she should

consult with her doctor to decide whether to return to a full dose during the period when she is most vulnerable to postpartum depression.

Some medications should not be taken during pregnancy. Benzodiazepines may cause birth defects or other infant problems, especially if taken during the first trimester. Mood stabilizers are known to cause birth defects. Benzodiazepines and lithium have been shown to cause "floppy baby syndrome," which is when a baby is floppy and limp, and cannot breathe or feed well.

Research suggests that taking antipsychotic medications during pregnancy can lead to birth defects, especially if they are taken during the first trimester. But results vary widely depending on the type of antipsychotic. The conventional antipsychotic haloperidol has been studied more than others, and has been found not to cause birth defects.^{22,23}

After the baby is born, women and their doctors should watch for postpartum depression, especially if they stopped taking their medication during pregnancy. In addition, women who nurse while taking psychiatric medications should know that a small amount of the medication passes into the breast milk. However, the medication may or may not affect the baby. It depends on the medication and when it is taken. Women taking psychiatric medications and who intend to breastfeed should discuss the potential risks and benefits with their doctors.

Decisions on medication should be based on each woman's needs and circumstances. Medications should be selected based on available scientific research, and they should be taken at the lowest possible dose. Pregnant women should be watched closely throughout their pregnancy and after delivery.

What should I ask my doctor if I am prescribed a psychiatric medication?



You and your family can help your doctor find the right medications for you. The doctor needs to know your medical history; family history; information about allergies; other medications, supplements or herbal remedies you take; and other details about your overall health. You or a family member should ask the following questions when a medication is prescribed:

- What is the name of the medication?
- What is the medication supposed to do?
- How and when should I take it?
- How much should I take?
- What should I do if I miss a dose?
- When and how should I stop taking it?

- Will it interact with other medications I take?
- Do I need to avoid any types of food or drink while taking the medication? What should I avoid?
- Should it be taken with or without food?
- Is it safe to drink alcohol while taking this medication?
- What are the side effects? What should I do if I experience them?
- Is the Patient Package Insert for the medication available?

After taking the medication for a short time, tell your doctor how you feel, if you are having side effects, and any concerns you have about the medicine.



Alphabetical List of Medications

This section identifies antipsychotic medications, antidepressant medications, mood stabilizers, anticonvulsant medications, anti-anxiety medications, and ADHD medications. Some medications are marketed under trade names, not all of which can be listed in this publication.

The first chart lists the medications by trade name; the second chart lists the medications by generic name. If your medication does not appear in this section, refer to the FDA website (<http://www.fda.gov>). Also, ask your doctor or pharmacist for more information about any medication.

Medications Organized by Trade Name

Trade Name	Generic Name	FDA Approved Age
Combination Antipsychotic and Antidepressant Medication		
Symbyax (Prozac & Zyprexa)	fluoxetine & olanzapine	18 and older
Antipsychotic Medications		
Abletyl	aripiprazole	10 and older for bipolar disorder, manic, or mixed episodes; 13 to 17 for schizophrenia and bipolar
Clazavil	clozapine	18 and older
Fasenap	risperidone	18 and older
Geophasazine (generic only)	fluphenazine	18 and older
Geodon	ziprasidone	18 and older
Haldol	haloperidol	3 and older
Invega	paliperidone	18 and older
Levamis	levamisine	18 and older
Molan	molidinone	18 and older
Navane	thioridazine	18 and older
Orap (for Tourette's syndrome)	pinociclate	12 and older
perphenazine (generic only)	perphenazine	18 and older
Risperdal	risperidone	13 and older for schizophrenia; 10 and older for bipolar mania and mixed episodes; 5 to 16 for irritability associated with autism
Seroquel	quetiapine	13 and older for schizophrenia; 18 and older for bipolar; 10 to 17 for treatment of manic and mixed episodes of bipolar disorder
Stelazine	trifluoperazine	18 and older
thioridazine (generic only)	thioridazine	2 and older
Thorazine	chlorpromazine	18 and older
Zyprexa	olanzapine	18 and older; ages 13 to 17 as second line treatment for manic or mixed episodes of bipolar disorder and schizophrenia

Trade Name	Generic Name	FDA Approved Age
Antidepressant Medications (also used for anxiety disorders)		
Anafanil (tricyclic)	clomipramine	10 and older (for OCD only)
Azocin	amocaprine	18 and older
Avonyl (tricyclic)	nortriptyline	18 and older
Celexa (SSRI)	citalopram	18 and older
Cymbalta (SNRI)	duloxetine	18 and older
Doryl	trandone	18 and older
Effexor (SNRI)	venlafaxine	18 and older
Elavil (tricyclic)	amitriptyline	18 and older
Effem	nelagifene	18 and older
Lexapro (SSRI)	escitalopram	18 and older; 12 to 17 (for major depressive disorder)
Ludomil (tricyclic)	nagrestine	18 and older
Lavox (SSRI)	fluvoxamine	8 and older (for OCD only)
Marylax (MAOI)	isocarboxazid	18 and older
Nasil (MAOI)	phenelzine	18 and older
Nispermin (tricyclic)	doxepin	18 and older
Paralox (tricyclic)	nortriptyline	18 and older
Parnate (MAOI)	tranylcypromine	18 and older
Paxil (SSRI)	paroxetine	18 and older
Penava (SSRI)	paroxetine mesylate	18 and older
Prisicq (SNRI)	desvenlafaxine	18 and older
Prozac (SSRI)	fluoxetine	8 and older
Remeron	mirtazapine	18 and older
Sarafem (SSRI)	fluoxetine	18 and older for premenstrual dysphoric disorder (PMDD)
Sinapan (tricyclic)	doxepin	12 and older
Surmontil (tricyclic)	trimipramine	18 and older
Tofranil (tricyclic)	imipramine	6 and older (for bedwetting)
Tofranil-PM (tricyclic)	imipramine pamoate	18 and older
Vivacid (tricyclic)	protriptyline	18 and older
Wellbutrin	bupropion	18 and older
Zeloh (SSRI)	nefazodone	6 and older (for OCD only)

Trade Name	Generic Name	FDA Approved Age
Mood Stabilizing and Anticonvulsant Medications		
Depakote	divalproex sodium (valproic acid)	2 and older (for seizures)
Ekalib	lithium carbonate	12 and older
Lamictal	lamotrigine	18 and older
Lithium citrate (generic only)	lithium citrate	12 and older
Lithobid	lithium carbonate	12 and older
Neurotin	gabapentin	18 and older
Topical	carbamazepine	any age (for seizures)
Topamax	topiramate	18 and older
Trileptal	oxcarbazepine	4 and older
Anti-anxiety Medications		
(All of these anti-anxiety medications are benzodiazepines, except Buipar)		
Aivan	lorazepam	18 and older
Buipar	buiparone	18 and older
Klonopin	clonazepam	18 and older
Librium	chlordiazepoxide	18 and older
onazepam (generic only)	onazepam	18 and older
Tranxex	clonazepam	18 and older
Valium	diazepam	18 and older
Xanax	alprazolam	18 and older

Trade Name	Generic Name	FDA Approved Age
ADHD Medications (All of these ADHD medications are stimulants, except Intensiv and Stratera.)		
Adderall	amphetamine	3 and older
Adderall XR	amphetamine (extended release)	6 and older
Concerta	methylphenidate (long acting)	6 and older
Daytrana	methylphenidate patch	6 and older
Desoxyn	methamphetamine	6 and older
Desoxline	dextroamphetamine	3 and older
Desomat	dextroamphetamine	3 and older
Focalin	dextromethylphenidate	6 and older
Focalin XR	dextromethylphenidate (extended release)	6 and older
Intensiv	guanfacine	6 and older
Metablate ER	methylphenidate (extended release)	6 and older
Metablate CD	methylphenidate (extended release)	6 and older
Methylis	methylphenidate (oral solution and chewable tablets)	6 and older
Ritalin	methylphenidate	6 and older
Ritalin SR	methylphenidate (extended release)	6 and older
Ritalin LA	methylphenidate (long-acting)	6 and older
Stratera	atomoxetine	6 and older
Vyvanse	lisdexamfetamine dimesylate	6 and older

Medications Organized by Generic Name

Generic Name	Trade Name	FDA Approved Age
Combination Antipsychotic and Antidepressant Medication		
fluoxetine & olanzapine	Symbyax (Prozac & Zyprexa)	18 and older
Antipsychotic Medications		
aripiprazole	Abilify	10 and older for bipolar disorder, manic, or mixed episodes; 13 to 17 for schizophrenia and bipolar
chlorpromazine	Thorazine	18 and older
clozapine	Clozaril	18 and older
fluphenazine (generic only)	Fluphenazine	18 and older
haloperidol	Haldol	3 and older
isperidone	Fanapt	18 and older
loxapine	Loxitane	18 and older
molindone	Molan	18 and older
olanzapine	Zyprexa	18 and older; ages 13 to 17 as second line treatment for manic or mixed episodes of bipolar disorder and schizophrenia
paliperidone	Invega	18 and older
perphenazine (generic only)	perphenazine	18 and older
pimozide (for Tourette's syndrome)	Orap	12 and older
quetiapine	Seroquel	13 and older for schizophrenia; 18 and older for bipolar; 10 to 17 for treatment of manic and mixed episodes of bipolar disorder
risperidone	Risperdal	13 and older for schizophrenia; 10 and older for bipolar mania and mixed episodes; 5 to 16 for irritability associated with autism
thioridazine (generic only)	thioridazine	2 and older
thiothixene	Navane	18 and older
zuclopentixol	Schizactin	18 and older
zucranthone	Geodon	18 and older

Generic Name	Trade Name	FDA Approved Age
Antidepressant Medications (also used for anxiety disorders)		
amitriptyline (tricyclic)	Elavil	18 and older
amoxapine	Asendis	18 and older
bupropion	Wellbutrin	18 and older
citalopram (SSRI)	Celexa	18 and older
clomipramine (tricyclic)	Anafanil	10 and older (for OCD only)
doxapramine (tricyclic)	Nopramin	18 and older
desvenlafaxine (SNRI)	Pristiq	18 and older
desipramine (tricyclic)	Sinequan	12 and older
duloxetine (SNRI)	Cymbalta	18 and older
escitalopram (SSRI)	Lexapro	18 and older; 12 to 17 (for major depressive disorder)
fluoxetine (SSRI)	Prozac	8 and older
fluoxetine (SSRI)	Sarafem	18 and older for premenstrual dysphoric disorder (PMDD)
fluvoxamine (SSRI)	Luvox	8 and older (for OCD only)
imipramine (tricyclic)	Tofranil	6 and older (for bedwetting)
imipramine pamoate (tricyclic)	Tofranil PM	18 and older
isocarboxazid (MAOI)	Marylax	18 and older
naphthylamine (tricyclic)	Ludkrenal	18 and older
nortriptyline	Ramoxen	18 and older
nortriptyline (tricyclic)	Aventyl, Pamelor	18 and older
paroxetine (SSRI)	Paxil	18 and older
paroxetine mesylate (SSRI)	Pexeva	18 and older
phenelzine (MAOI)	Nardil	18 and older
protriptyline (tricyclic)	Vivactil	18 and older
ndafipriline	Emman	18 and older
sertraline (SSRI)	Zoloft	6 and older (for OCD only)
tranylcypromine (MAOI)	Parnate	18 and older
trandolone	Doripid	18 and older
tricyclicamine (tricyclic)	Sumemiril	18 and older
venlafaxine (SNRI)	Effexor	18 and older

Generic Name	Trade Name	FDA Approved Age
Mood Stabilizing and Anticonvulsant Medications		
carbamazepine	Tegretol	any age (for seizures)
divalproex sodium (valproic acid)	Depakote	2 and older (for seizures)
gabapentin	Neurontin	18 and older
lamotrigine	Lamictal, Lictidol	18 and older
lithium carbonate	Eskalith, Lithobid	12 and older
lithium citrate (generic only)	lithium citrate	12 and older
oxcarbazepine	Trileptal	4 and older
topiramate	Topamax	18 and older
Anti-anxiety Medications (All of these anti-anxiety medications are benzodiazepines, except buspirone.)		
alprazolam	Xanax	18 and older
buspirone	Buclpar	18 and older
chlorazepate	Liberam	18 and older
clonazepam	Klonopin	18 and older
clonazepam	Transone	18 and older
clonazepam	Valium	18 and older
lorazepam	Ativan	18 and older
oxazepam (generic only)	oxazepam	18 and older

Generic Name Trade Name FDA Approved Age

ADHD Medications

(All of these ADHD medications are stimulants, except atomoxetine and guanfacine.)

amphetamine	Adderall	3 and older
amphetamine (extended release)	Adderall XR	6 and older
atomoxetine	Strattera	6 and older
dexmethylphenidate	Focalin	6 and older
dexmethylphenidate (extended release)	Focalin XR	6 and older
dextroamphetamine	Desoxine, Dextostat	3 and older
guanfacine	Intune	6 and older
lisdexamfetamine dimesylate	Vyvanse	6 and older
methylphenidate	Daytrana	6 and older
methylphenidate (extended release)	Ritalin	6 and older
methylphenidate (oral solution and chewable tablets)	Ritalin SR	6 and older
methylphenidate (long-acting)	Ritalin LA, Concerta	6 and older
methylphenidate patch	Daytrana	6 and older
methylphenidate (oral solution and chewable tablets)	Methylin	6 and older

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For More Information on Medications:

Visit the National Library of Medicine's MedlinePlus <http://www.nlm.nih.gov/medlineplus>

For information on Clinical Trials <http://www.nlm.nih.gov/clinicaltrials.html>

National Library of Medicine Clinical Trials Database <http://www.clinicaltrials.gov>

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National Institutes of Health
NIH Publication No. 13-0009
FEBRUARY 2013
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For More Information

Here are some helpful resources:

Agency for Healthcare Research and Quality

540 Gaither Road
Rockville, MD 20850
1-301-427-1104
www.ahrq.gov

Centers for Medicare and Medicaid Services

7500 Security Boulevard
Baltimore, MD 21244-1850
1-800-633-4227 (1-800-MEDICARE/toll-free)
www.medicare.gov

Food and Drug Administration

10903 New Hampshire Avenue
Silver Spring, MD 20993
1-888-463-6332 (toll-free)
www.fda.gov

Partnership for Prescription Assistance

1-888-477-2669 (toll-free)
www.pparx.org

For more information on health and aging, contact:

National Institute on Aging Information Center

P.O. Box 8057
Gaithersburg, MD 20898-8057
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov/health
www.nia.nih.gov/espanol

To sign up for regular email alerts about new publications and other information from the NIA, go to www.nia.nih.gov/health .

Visit www.nihseniorhealth.gov , a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has

health and wellness information for older adults. Special features make it simple to use. For example, you can click on a button to have the text read out loud or to make the type larger.

National Institute on Aging
National Institutes of Health
U.S. Department of Health & Human Services

For More Information

Here are some helpful resources:

Department of Agriculture

Food and Nutrition Information Center
National Agricultural Library
10301 Baltimore Avenue, Room 105
Beltsville, MD 20705
1-301-504-5414
www.nal.usda.gov/fnic

Federal Trade Commission

600 Pennsylvania Avenue, NW
Washington, DC 20580
1-877-382-4357 (toll-free)
1-866-653-4261
www.ftc.gov/bcp/menus/consumer/health.shtm

Food and Drug Administration

Center for Food Safety and Applied Nutrition
5100 Paint Branch Parkway HFS-009
College Park, MD 20740-3835
1-888-723-3366 (toll-free)
www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CFSAN

National Center for Complementary and Alternative Medicine

NCCAM Clearinghouse
P.O. Box 7923
Gaithersburg, MD 20898
1-888-644-6226 (toll-free)
1-866-464-3615 (TTY/toll-free)
www.nccam.nih.gov

**National Library of Medicine
MedlinePlus**

www.medlineplus.gov

Office of Dietary Supplements

6100 Executive Boulevard
Room 3B01, MSC 7517
Bethesda, MD 20892-7517
1-301-435-2920
www.ods.od.nih.gov

The Federal Government has several other websites with information on nutrition, including:

www.nutrition.gov —learn more about healthy eating, food shopping, assistance programs, and nutrition-related health subjects.

www.choosemyplate.gov —information about the *Dietary Guidelines for Americans*

For information on exercise, nutrition, and health quackery, contact:

**National Institute on Aging
Information Center**

P.O. Box 8057
Gaithersburg, MD 20898-8057
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov
www.nia.nih.gov/espanol

To sign up for regular email alerts about new publications and other information from the NIA, go to www.nia.nih.gov/health .

Visit NIHSeniorHealth (www.nihseniorhealth.gov), a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has health information for older adults. Special features make it easy to use. For example, you can click on a button to make the type larger.

AgePage

Medicines: Use Them Safely

When Jerry, age 71, came home from the drug store with his latest prescription, he placed all his pill bottles on the kitchen counter and counted them. "I take five different medications, and you take four," he said to his wife. "We need a system. We need to know what medicines we have, what they're for, and when we should take them."

Modern medicine has made our lives better in many ways. It has helped us live longer, healthier lives. But people over 65 have to be careful when taking medications, especially when they're taking many different drugs.



- ◆ Understand how to take the medicine before you start using it. Ask questions. It might help to write down the answers.

Ask Your Pharmacist

Your pharmacist is an important part of your healthcare team. If you have questions about your medicine after you leave the doctor's office, the pharmacist can answer many of them. For example, a pharmacist can tell you how and when to take your medicine, whether a drug may change how another medicine you are taking works, and any side effects you might have. Also, the pharmacist can answer questions about over-the-counter medications.

Try to have all your prescriptions filled at the same pharmacy so your records are in one place. The pharmacist will keep track of all your medications and will be able to tell you if a new drug might cause problems. If you're not able to use just one pharmacy, show the new pharmacist your list of medicines and over-the-counter drugs when you drop off your prescription.

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What Are Medicines? What Are Drugs?

Some people refer to the pills, liquids, creams, or sprays they take as "medicine," and other people call them "drugs." Both words can mean:

- ◆ Medicines you get from a pharmacy with a doctor's prescription
- ◆ Pills, liquids, or creams you buy without a prescription to use now and then, for example, for aches and pains, colds, or heartburn
- ◆ Vitamins or dietary supplements you take regularly

Drugs you get without a doctor's prescription are called over-the-counter medicines. Because mixing certain medicines can cause problems, be sure to let your doctor know about all the prescription and over-the-counter drugs you are taking.

At Your Doctor's Office

If you've gone to your doctor because you don't feel well, the doctor might decide a medicine will help and will write a prescription. Be sure you:

- ◆ Tell your doctor or nurse about all the medicines you take whenever a new drug is prescribed.

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When you have a prescription filled:

- ◆ Tell the pharmacist if you have trouble swallowing pills. There may be liquid medicine available. Do not chew, break, or crush tablets without first finding out if the drug will still work.
- ◆ Make sure you can read and understand the name of the medicine and the directions on the container and on the color-coded warning stickers on the bottle. If the label is hard to read, ask your pharmacist to use larger type.
- ◆ Check that you can open the container. If not, ask the pharmacist to put your medicines in bottles that are easier to open.
- ◆ Ask about special instructions on where to store a medicine. For example, should it be kept in the refrigerator or in a dry place?

Generic Or Brand Name?

When getting a prescription filled, sometimes you can choose between either a generic or brand-name drug. Generic and brand-name medicines are alike because they act the same way in the body. They contain the same active ingredients—the part of the medicine that makes it work. A generic drug is the same as a brand-name drug in dosage, safety, strength, quality, the way it works, the way it is taken, and the way it should be used. Generic drugs usually cost less.

If you want a generic drug, ask your healthcare provider if that's a choice. Not all drugs are available in the generic form, and there might be medical reasons your doctor prefers the brand-name medicine.

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- ◆ Remind your doctor or nurse about your allergies and any problems you have had with medicines, such as rashes, indigestion, dizziness, or mood changes.

Questions To Ask Your Doctor About A New Medicine

- ◆ What is the name of the medicine, and why am I taking it?
- ◆ How many times a day should I take it? At what times? If the bottle says take "4 times a day," does that mean 4 times in 24 hours or 4 times during the daytime?
- ◆ Should I take the medicine with food or without? Is there anything I should not eat or drink when taking this medicine?
- ◆ What does "as needed" mean?
- ◆ When should I stop taking the medicine?
- ◆ If I forget to take my medicine, what should I do?
- ◆ What side effects can I expect? What should I do if I have a problem?

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- ◆ Check the label on your medicine before leaving the pharmacy. It should have your name on it and the directions given by your doctor. If it doesn't, don't take it, and talk with the pharmacist.

Now, It's Your Turn

Your doctor has prescribed a medication. The pharmacist has filled the prescription. Now it's up to you to take the medicine safely. Here are some tips that can help:

- ◆ Make a list of all the medicines you take, including over-the-counter products and dietary supplements. Show it to all of your healthcare providers including physical therapists and dentists. Keep one copy in your medicine cabinet and one in your wallet or pocketbook. The list should include the name of each

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medicine, doctor who prescribed it, reason it was prescribed, amount you take, and time(s) you take it.

- ◆ Read and save in one place all written information that comes with the medicine.
- ◆ Take your medicine in the exact amount and at the time your doctor prescribes.
- ◆ Call your doctor right away if you have any problems with your medicine or if you are worried that it might be doing more harm than good. Your doctor may be able to change your prescription to a different one that will work better for you.
- ◆ Use a memory aid to take your medicines on time. Some people use meals or bedtime as reminders to take their medicine. Other people use charts, calendars, and weekly pill boxes. Find a system that works for you.
- ◆ Do not skip doses of medication or take half doses to save money. Talk with your doctor or pharmacist if you can't afford the prescribed medicine. There may be less costly choices or special programs to help with the cost of certain drugs.

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because aspirin also slows blood clotting. Other things to remember:

- ◆ Measure the dose of a liquid OTC medicine as carefully as you would a prescription drug. Use a measuring spoon, since spoons you eat with vary in size.
- ◆ Be careful—OTC medicines can have side effects.
- ◆ Take the amount suggested on the label. If you don't get better, see your doctor.
- ◆ Read the label—even if you have used the OTC product in the past. Important information can change. Remember, medicines—whether prescription or over-the-counter—can hurt you if they aren't used the right way. Learn to be a smart consumer of medicine.

For More Information

Here are some helpful resources:

Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850
1-301-427-1104
www.ahrq.gov

10

◆ Avoid mixing alcohol and medicine. Some medicines may not work correctly or may make you sick if taken with alcohol.

- ◆ Take your medicine until it's finished or until your doctor says it's okay to stop.
- ◆ Don't take medicines prescribed for another person or give yours to someone else.
- ◆ Don't take medicine in the dark. To avoid making a mistake, turn your light on before reaching for your pills.
- ◆ Check the expiration dates on your medicine bottles. Your pharmacist can probably tell you how to safely get rid of medicine you no longer need or that is out of date. The pharmacist might be able to dispose of it for you.
- ◆ Make sure you store all medicines and supplements out of sight and out of reach of children. And don't take your medicines in front of young children. They might try to copy you.

Shopping For Medicines Online

Medicines can cost a lot. If you have a drug plan through your insurance, you can probably save money by ordering yours from them rather than at your neighborhood pharmacy. Or, you might be thinking about buying yours on the

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Centers for Medicare and Medicaid Services

7500 Security Boulevard
Baltimore, MD 21244-1850
1-800-633-4227
(1-800-MEDICARE/toll-free)
www.medicare.gov

Food and Drug Administration

10903 New Hampshire Avenue
Silver Spring, MD 20993
1-888-463-6332 (toll-free)
www.fda.gov

Partnership for Prescription Assistance

1-888-477-2669 (toll-free)
www.pparc.org

For more information on health and aging, contact:

National Institute on Aging Information Center

P.O. Box 8057
Gaithersburg, MD 20898-8057
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov
www.nia.nih.gov/Espanol

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Medicare Prescription Drug Plans

Medicare has prescription drug plans for people with Medicare to help save money on medicines. For information please call 1-800-633-4227 (1-800-MEDICARE) or visit the Medicare website at www.medicare.gov.

Internet. But how can you tell which websites are safe and reliable? The Food and Drug Administration (see For More Information) has more information on buying medicines and medical products online.

What About Over-The-Counter Medicines?

Many of the ideas in this *AgePage* are also true for over-the-counter (OTC) drugs, like medicines to relieve coughs, cold, allergies, pain, and heartburn. Be careful when taking an OTC drug. For example, don't take a cough and cold product if you only have a runny nose and no cough. And, check with your doctor before taking aspirin if you are on a blood-thinning medicine,

9

To sign up for regular email alerts about new publications and other information from the NIA, go to www.nia.nih.gov/health.

Visit www.nihseniorhealth.gov, a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has health and wellness information for older adults. Special features make it simple to use. For example, you can click on a button to have the text read out loud or to make the type larger.

◆ ◆ ◆ ◆
National Institute on Aging

National Institutes of Health
U.S. Department of Health & Human Services

May 2009
Reprinted July 2011



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Appendix F: Program Development Checklist

1. Discuss your idea with your supervisor or Department Chair.

2. Conduct a needs assessment to:

- Identify your target audience (anticipated population, accessible population, and the number of people who express committed interest to participate in the program)
- Consider the amount of information you intend to deliver and timeline (i.e. Should this be a weekend seminar? Weekly groups?)

3. Write up a proposal with the following information:

- Name of the program
- Short description of the program
- How does it meet the organization's mission and goals
- Target audience (results of your needs assessment, competitor?)
- Length of the program
- Capacity of the program
- Estimated out of pocket costs ; tentative budget
- Propose a timeline (start date)
- Expected outcomes of the program
- Program needs
 - Personnel
 - Environment & spacing
 - Supplies & equipment required

4. Seek approval from your Department Chair and the head person of your organization.

- Discuss any conflict of interest or non-compete contractual obligations (solicit input from other departments and organization's legal department)
- Identify any liability or safety issues and develop plan

5. Development.

- Curriculum
 - Leader materials
 - Participant workbooks

- Handouts, posters, etc.
- Registration forms
- Pre and post knowledge surveys
- Satisfaction survey
- Review and comply with copyright requirements; obtain consent as necessary

6. Recruitment.

- Develop flyers, internet postings, ads, etc.
- Identify locations and key personnel to gain permission to post
- Network with others to expand recruitment through electronic messaging

7. Implementation.

- Reserve meeting rooms in advance
- Reminder calls or emails to participants for first class
- Assemble all supplies and participant materials (two days prior)
 - Extra pens/pencils
 - Handouts
 - Workbooks
 - Posters or other visual media
- Familiarize yourself with and set-up any technologies used in presenting class before day of implementation
- Set up space ½ hour before class begins
 - Water and refreshments
 - Tissue
 - Signs on doors or elevator to direct participants

The Success and Challenges of Program Development

May 3, 2013

Elizabeth Bair, OTS & Eva Shing, OTS

Project Advisor: Sean Roush, OTD, OTR/L

School of Occupational Therapy

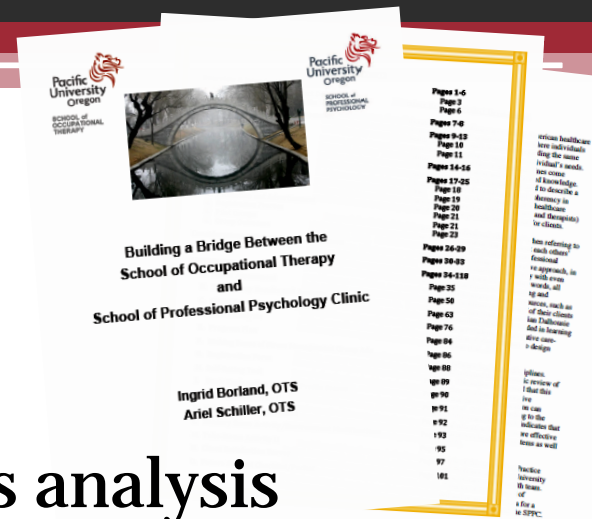


Introduction

- **Pacific Psychology Clinic**
 - **Mission:** committed to providing affordable and accessible psychological services
 - **Services:** outpatient assessment, counseling, and therapy (1:1 and group)
 - **Clientele:** all ages with common diagnosis of ADHD, depression, anxiety, relationship issues, PTSD.



Needs & Opportunities





- **Borland and Schiller (2012) needs analysis**
 - Limited mental health groups led by health professionals in the local community
 - Lack of groups co-led by OT & PSY in the community & U.S. educational system
 - Clients of Pacific Psychology Clinic often have both mental and physical health conditions
 - PSY student therapists have limited or lack of experience with OT
 - PSY student therapists identified physical health issues as a barrier to their treatment

Project Goals




- A comprehensive health education class co-lead by OT & PSY students
- OT contributions:
 - Knowledge of mental & physical conditions
 - Profession of “doing”
- Models
 - Model of Human Occupation [MOHO]
 - Transtheoretical Model of Change



Evidence

- **Needs**
 - High rate of medical & mental health conditions 
 - Medical & mental health conditions interacts 
- **Best practice**
 - Continuity of care among disciplines
 - Specific programs to increase self-management skills
- **Current existing programs**
 - Stanford Chronic Disease Self-Management Program
 - Peer-led vs. clinician-led

Outcome

- **Successes**
 - **Successful recruitment of PSY student**
 - **An abundance of free credible resources from government & non-profit organization** 
- **Barriers**
 - **Copyrights** 
 - **Contractual obligation with Stanford CDSMP** 
- **Next Step**

Discussion

- Limitations

- Contractual obligations
- Time constraints
- Limited interaction with PSY student

- Recommendations

- Health education class alternatives
- Increase communication among CHP



Summary

- **High need for free or affordable services for individuals with co-morbid medical & mental health conditions**
- **Future directions of interdisciplinary education & practice**
- **Be aware of contractual obligations within large organizations**

Pacific University CommonKnowledge:
<http://commons.pacificu.edu/ipp/>

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Questions?



Thank you!

