The Integrated Case Management Manual

Assisting Complex Patients Regain Physical and Mental Health
Roger G. Kathol, MD, acquired extensive experience in the clinical integration of general medical and mental health services for complex patients as the director of a Complexity Intervention Unit (the new term for Medical Psychiatry Unit) at the University of Iowa Hospitals between 1986 and 1999. Thereafter, he assisted in the integration of physical and mental health care management as medical director at Blue Cross Blue Shield of Minnesota for several years. As president of Cartesian Solutions, Inc., he has consulted to numerous national and international organizations, hospitals and clinics, insurance companies, care management companies, employers, and government agencies wishing to coordinate medical and mental health care management services. In these positions, he has designed many integrated case management programs and trained case managers and practicing physicians from varied specialties in cross-disciplinary techniques so that they could coordinate care for patients with multimorbidity. Dr. Kathol has over 150 peer-reviewed publications related to the interaction of general medical and mental health disorders, and, with Suzanne Gatteau, has authored a book, *Healing Body and Mind: A Critical Issue for Health Care Reform*, (2007) which explains how to transition today’s siloed care to integrated care through purchaser, health plan, provider, and patient partnerships.

Rebecca Perez, RN, BSN, CCM, has experienced firsthand the impact that segregation of physical and behavioral health has on the coordination of care, health service delivery, and patient outcomes during 15 years in acute care nursing and 15 in case management. As a result, Ms. Perez, a resident of St. Louis, Missouri, coauthored the depression chapter of the *Case Management Adherence Guidelines* (2006), has written numerous patient education articles on case management integration, and has presented nationally on and contributed to the development of integrated case management curricula. She currently serves on the national board of directors for the Case Management Society of America and has been active in her local chapter. Ms. Perez is president and owner of Carative Health Solutions, which provides direct care/case management services and consults to case management professionals on strategies to apply integrated case management principles in their programs. She has been involved in the creation of the integrated case management training curriculum at the Case Management Society of America since its inception and is currently an accredited trainer.

Janice S. Cohen, PhD, CPsych, is a clinical psychologist at the Children’s Hospital of Eastern Ontario (CHEO), as well as clinical professor in the School of Psychology at the University of Ottawa. Throughout her career, Dr. Cohen’s clinical and research activities have focused on children and youth who have complex medical and mental health issues. As clinical head of the Behavioural Neurosciences and Consultation Liaison Team at CHEO, she has championed integrative collaborative health care, most recently through her initiative to develop a multifaceted clinical decision-making tool, the Pediatric INTERMED Complexity Assessment Grid (PIM-CAG), to improve assessment and treatment planning for children and youth with complex health needs. Dr. Cohen is currently principal investigator of a funded research project at CHEO examining the psychometric properties of the PIM-CAG in children and youth with inflammatory bowel diseases. She is a recipient of an Expertise Mobilization Award from the Provincial Centre of Excellence for Child and Youth Mental Health at CHEO in support of her work on the development of the PIM-CAG. Dr. Cohen’s other ongoing research projects include a multisite Canadian study investigating knowledge translation strategies in pediatric procedural pain. For over a decade, Dr. Cohen also served as the Director of Training in Psychology at CHEO and has received awards from national and international professional bodies for her contributions to training.
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Foreword

In today’s U.S. health care system, mental illness is either treated separately from physical disease (15%) or goes poorly or untreated (85%), leading to persistent physical and mental illness, disability, and high health care service use. At the same time there is increasing empirical evidence that integrated care—that is, combining physical and mental condition treatment—in multimorbid patients improves quality of life and medical outcomes while reducing total health care costs.

Case managers are a vital element in the health care delivery system. They work with patients and their family/caregivers in providing case management, care coordination, and resource management. Yet, in today’s world, case managers coming from physical health backgrounds focus solely on assisting with physical disease, and those coming from mental health backgrounds focus solely on mental health care, with little or no coordination of the support services they provide. Patients find this type of care management frustrating and often voice their dissatisfaction with such a fragmented approach to their care needs. This fragmented approach may lead not only to patient dissatisfaction but also to medication errors, to patient safety concerns, to miscommunication, and to duplication of resource use.

Case managers need to learn and deploy a new set of skills in supporting multimorbid patients. It is essential to assess both medical and mental health issues in a single evaluation and to coordinate appropriate integrated health interventions and treatment planning to achieve effective strategies for safe care. Yet case managers need tools and resources for deploying an integrated health model (physical and mental health treatment) to the medically complex patient.

The Case Management Society of America (CMSA), a multidisciplinary organization committed to supporting the development of case management professionals, is excited about the new approach to care outlined in this book. Case managers studying this manual will enhance their knowledge about physical and mental health conditions and will learn a new evaluation and assistance technology to help facilitate care for complex patients. The program is particularly appropriate for case managers who wish to augment their skill sets. Additionally, disease managers who are involved with the thorough assessment of medically complex patients will also find this program of value.

Case managers are part of a collaborative partnership in emerging models of care delivery within multidisciplinary health care teams. Being prepared and using an integrated case management approach will assist them in contributing to the research of improving efficiency, effectiveness, accountability, and positive outcomes in their clinical settings.

CMSA would like to acknowledge Dr. Roger Kathol for his commitment to case management and his efforts in developing a comprehensive educational resource for the professional development of integrated health case managers. Dr. Kathol, working with a collaborative team, has published this manual and has created an accompanying course that builds on CMSA’s strategic initiative of education and research in acknowledging case managers as pioneers of health care change.

CMSA encourages you to enhance your ability to work with complex patients, learn how to apply new, evidence-based assessments, and push forward the change needed for improved quality and safe care for all patients.

Cheri Lattimer, RN, BSN
Executive Director, Case Management Society of America
Having provided clinical services to patients at the interface of general medicine and psychiatry throughout our professional careers, we have been impressed with the degree to which health issues related to the mind and body interact. Yet each of us work in systems of care that rigorously separate and approach physical and mental conditions as if the mind and body have no connection. The purpose of this book, therefore, is to help case managers see that the assessment and treatment of mental health and general medical conditions are more similar than dissimilar. Segregation of care in these domains, and in other domains that create barriers to health, is counterproductive. Rather, assistance with return to health can be more effectively and efficiently accomplished when a unified approach is used.

This manual was written to apply this principle to the practice of case management, a discipline in which nurses and other health professionals assist patients/clients (hereafter referred to as patients) with health complexity in overcoming barriers to improvement. Case managers were chosen as the target audience for this manual because they primarily and routinely work with patients who have multiple, poorly controlled health conditions, a high percentage of which involve both general medical and mental health issues and/or social and health system challenges. Their patients are also the ones who use a high percentage of health resources. Thus, if improved support for their care can be achieved through the systematic application of complexity measurement and an integrated approach to breaking down complexity-based health barriers in multiple domains, we reason that case managers can become major contributors to better health at a lower total health-related cost as care delivery and payment reform measures are introduced.

We consider this manual to be an introduction to the next generation of case management: integrated case management. Unlike traditional case management, it guides case managers with either medical or mental health backgrounds as they develop skills that will allow them to connect and assist with health issues in the biological, psychological, social, and health system domains while maintaining a personal relationship with the patient. Patient handoffs are the exception and follow through on care manager assistance over time is the rule.

Integrated case management does this by linking health complexity assessments to integrated assistance techniques. Based on a color-coded level of complexity grid (see color tables), case managers prioritize associated barriers to improvement in various domains, build care plans, and assist patients as they stabilize or return to health. Core components in the integrated case management process include: a relationship and communication between complex patients and the case manager, a longitudinal outcomes orientation, the systematic assessment of complexity, the use of complexity item scores and their interactions to guide health improvement actions, and case manager accountability for health outcomes in all risks and needs domains. In essence, the integrated process transforms traditional case management into an approach that systematizes assessments, connects evaluation findings to multidomain actions, and moves managed patients toward documentable improvement and graduation.

Case managers studying this manual will develop new and important cross-disciplinary skills, which will allow them to alter the health trajectory of some of the most needy patients in the health system. Tools, which help them initiate programs and complete this task, can be found in the Appendices at the back of the manual. Additional support documents can be found on the Springer Publishing Web site (www.springerpub.com/kathol.com) and Case Management Society of America (CMSA) Web site. For those wishing to initiate integrated case management programs in their practice location and have completed training in integrated case management practices, Health Insurance Portability and Accountability Act (HIPAA) compliant software documentation support is available on the CMSA Web site or can be purchased for onsite installation from CMSA.

Roger G. Kathol, MD
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Janice S. Cohen, PhD, CPsych
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The following professionals deserve recognition for the ideas, insights, editorial comments, and general suggestions that they made to this completed work. Some contributed to formative development of the organization and content, as the original drafts were written (Rachel Happel, RN, and Byron Bair, MD), while others reviewed content shortly before the manual was sent to the publisher (Jessica Cox, RN, Frits Huyse, MD, PhD, Mary Kathol, MD, Corine Latour, RN, PhD, Dan Rome, MD, and Pat Stricker, RN, MEd). Some provided suggestions and edits for specific sections of the book (Peter Dehnel, MD, Jos Dobber, MSc, Corine Latour, RN, PhD, John Lyons, PhD, William Sheehan, MD, Read Sulik, MD, Steve Thurber, PhD, and Shirelle Washington, RN).

Others, many of whom are members of the INTERMED Foundation Board, contributed through discussions, by providing general insights about various topics included in the book (Peter de Jonge, PhD, Frits Huyse, MD, PhD, Corine Latour, RN, PhD, Elena Lobo, PhD, Joris Slaets, MD, PhD, Wolfgang Söllner, MD, and Frederick Stiefel, MD). Still others contributed ideas related to iterative changes made as field testing with case managers was performed during the two years prior to publication (Deborah Gutteridge, MS, Shirelle Washington, RN, and Cheri Lattimer, RN, BSN). The authors also wish to thank over 80 case managers who participated in developmental phases of integrated case management training for their valuable feedback about the manual and the training process. Without their input, this manual would not have been possible.

Finally, special appreciation goes to Mary Kathol, MD, who provided invaluable suggestions regarding the educational presentation and manual formatting.
Overview of the Development of the INTERMED Method

The literature presents relevant arguments substantiating the effectiveness of the assessment and treatment of psychosocial comorbidities when they are integrated into the provision of general medical care. Based on this, in 1995, an international group, including Frits Huyse (the Netherlands), John Lyons (United States), Fritz Stiefel (Switzerland), Joris Slaets (the Netherlands), and Peter De Jonge (the Netherlands), supported by a European grant, began to synchronize their individual research and clinical strategies to develop an integrated approach toward the care of the complex medically ill. In 2008 Roger Kathol (United States), among others, joined the group. The outcome of this group’s work is the INTERMED method: a practical, visualized approach to risk and needs management, including decision support and outcomes management. One goal of the INTERMED method is to operationalize the biopsychosocial model of disease and to fill the gap between general medical care and mental health care. Another goal is to improve the health care provider’s awareness of patients’ integrated health risks and needs through the systematic assessment represented in the Complexity Assessment Grids, which counteract these risks and deliver preventive and thereby cost-effective care. Three specialized versions of the Complexity Assessment Grid are currently in a process of validation: a geriatric version, a U.S. case management adult version, and a U.S. case management pediatric version.

The INTERMED method is supported by an Internet-based software in Europe (www.intermedfoundation.org). The current adult European version 6, which was developed based on empirical studies using previous versions, makes the method generic for application in epidemiologic studies, as well as in primary and secondary care.

THE PEDIATRIC INTERMED COMPLEXITY ASSESSMENT GRID (PIM-CAG)

In 2005 Frits Huyse, John Lyons, Lise Bisnaire (Children’s Hospital of Eastern Ontario) and Janice Cohen (Children’s Hospital of Eastern Ontario) began developing an adaptation of the INTERMED tool for use with children and youth. Other members of the development group included Roger Kathol (Cartesian Solutions, Inc.), Peter Dehnel (pediatrician in Minnesota), and Read Sulik (jointly boarded child psychiatrist and pediatrician from Minnesota), among others. In fall 2009 a pediatric version for case managers, which is complementary to the U.S. case management adult version (25 variables), was developed for inclusion in this manual. Janice Cohen, involved in the construction of the case management version, continues to conduct her research with the original version of the tool, which consists of 33 variables. In Lausanne, Switzerland, in November 2009, during a council meeting of the INTERMED Foundation, the 33-variable version was endorsed as the Pediatric INTERMED, version 1 (PIM v1). The 25-variable version is a specialized version of the PIM v1 for case managers.
Introduction

OBJECTIVES

- To give an overview of the manual
- To summarize the principles and value of integrated case management
- To explain the importance of studying the manual
- To describe the addition of integrated pediatric case management
- To indicate the level of proficiency at the completion of manual study
- To encourage international application of integrated case management principles and practice

Integrated case management is characterized by a health professional giving personal multidimensional assistance to targeted patients with health complexity as they learn how to regain stable health and function.

MANUAL OVERVIEW

This manual is an introductory text for integrated case management. It is intended to expand the skill set of practicing case managers, from nursing and other health professions. It has been written to address the training needs of case managers coming from either general medical or mental health sector backgrounds and should allow them to work with patients experiencing both physical and mental health barriers to improvement. It teaches them a new and systematic approach to the evaluation of and assistance for biological, psychological, social, and health system problems. These are four targeted domains that contribute to health complexity and lead to medical and mental health treatment resistance, persistent symptoms and illness complications, functional impairment, and high health care service use.

The manual can also serve as a companion textbook for advanced-level nursing and social work courses given at academic institutions worldwide. While it is an introductory text for integrated case management, this is an area of practice with sufficient complexity that those studying the manual should have a firm grasp of basic knowledge and skills in their specialty area, such as nursing (nurses), social services (social workers), medicine (physicians), rehabilitation (disability/workers’ compensation counselors), and so forth; comfort with general medical or mental health care; and a willingness to learn the cross-disciplinary and health complexity content used in integrated case management.

Finally, the manual will serve as the source for knowledge-based material associated with the Case Management Society of America (CMSA) integrated case management certificate course. Those studying the manual for this course will be expected to attend local or Web-based seminars and pass tests related to each chapter prior to entry into a face-to-face onsite training experience.

INTEGRATED CASE MANAGEMENT

The integrated case management manual has been under development since 2006, albeit in pieces, and is based on 15 years of research from sources throughout the world. It is the composite work of many individuals and research groups that have had a vested interest in addressing the needs of patients heretofore orphaned because their illnesses fell at the interface of noncommunicating segments of the health system, the general medical and behavioral health sectors. Evidence accumulating now shows that a high percentage of the few patients with health complexity, which use the majority of health care resources, have concurrent physical and behavioral issues contributing to poor outcomes. With this knowledge, it has now been possible to garner support for the development of this manual and the training program associated with it.

A core component of integrated case management, grounded in a relationship-based approach to interaction with patients, includes the ability to assist patients with complexity receive integrated physical health, mental health, and substance use disorder services without cross-disciplinary handoffs. However, it is also designed in such a way that it evaluates
and incorporates action steps in the social and health system domains, both of which create barriers to improved health outcomes in their own right. It does this through the use of complexity assessment technology, the adult (IM-CAG) and pediatric (PIM-CAG) INTERMED-Complexity Assessment Grid, imported from Europe (de Jonge, Hoogervorst, Huyse, & Polman, 2004; de Jonge, Huyse, Stiefel, Slaets, & Gans, 2001; Huyse, de Jonge, Lyons, Stiefel, & Slaets, 1999; Huyse, Lyons et al., 1999; Latour, Huyse, de Vos, & Stalman, 2007; Stiefel et al., 1999; Stiefel et al., 2006), which has been adapted for application in health systems throughout the world.

The program goes far beyond linking physical and mental health needs. It more accurately focuses on uncovering and equally addressing barriers to improved health outcomes in complex patients in multiple domains. Put simply, patients who are candidates for case management, regardless of whether they have only general medical problems, only mental health or chemical dependence problems, or both, can be helped using the single evaluation and assistance paradigm taught in this manual.

Additional positive features available through use of the integrated case management framework of care include the following:

- The incorporation of practical high-risk case finding and enrollment procedures as a first step in value-based case management programs
- A systematic strategy in performing assessments with the stratification of actionable items
- The ability to assess, develop care plans, and provide integrated case management for complex children, adolescents, and adults
- An outcome-oriented method to estimate the number of cases that a case manager can carry and still perform effective case management
- An approach for case managers to document progress in overcoming barriers to health for the patients with whom they work
- A mechanism to measure clinical, functional, financial, quality of life, and satisfaction performance for patients, providers, and health managers—individually and in aggregate
- Steps to case closure
- A means to measure the value brought to populations or to purchasers through integrated case management using complexity assessment grid (CAG) technology.

Those studying this manual will come from diverse health care backgrounds. Many will be nurses, but not all. Many will have backgrounds in which the majority of their prior clinical activity has been provided to general medical patients. Others will have devoted most of their time to the development of skills related to the care of patients with mental health or substance use disorders. The chapters of the integrated case management manual have been created with this in mind. They are intended to provide the basics needed, regardless of the reader’s background, to initiate the practice of cross-disciplinary case management.

**MANUAL STUDY**

The number of hours needed by integrated case management professionals to master the knowledge base found in the manual will vary based on their prior training, background, and experience. In addition to the manual, however, there are also supplemental readings suggested in the text. These supplementary materials facilitate the development of the skills needed to gain cross-disciplinary information about the health conditions of their patients. This, along with the face-to-face application of learned information about integrated case management, is considered a core feature of the learning process.

Those with more extensive health system and case management experience will find that the manual expands their understanding of health complexity and approaches that improve complex patient outcomes. For those with experience in both the medical and psychiatric health sectors, some of the material will already be familiar. For none, however, will it be possible to initiate integrated case management practices without studying the manual because all will need to: (a) understand how to link open-ended questions with cells in the IM-CAG and PIM-CAG, (b) know how to use CAG anchor points to complete patient assessments, (c) know how to connect CAG scores from items in its four domains to concrete actions and to create care plans, and (d) be able to systematically work with patients through health improvement while documenting health change for patients and value to the health system. That is information currently found only in this manual.

For those intending to use the knowledge base derived from manual study, the CMSA has developed a face-to-face training course designed to allow case managers to consolidate their understanding of the integrated case management approach, practice asking questions outlined in the manual in typical case management mock scenarios under the supervision of certified integrated case management trainers, score the IM-CAG and PIM-CAG using established anchor points, and initiate integrated case management procedures. Those completing the adult and pediatric course will receive a certificate of completion through CMSA. Case management supervisors, working in developed programs specializing in case management,
will have the opportunity to become certified trainers for personnel working in their system through a train-the-trainer course offered through CMSA.

For those taking a course in integrated case management through accredited academic programs, it is anticipated that the manual course would be accompanied by practicum application in the clinical setting before integrated case management training would be considered complete. Ultimately, it is anticipated that integrated case management will become an area of nursing and social work practice with advanced certification requirements.

**INTEGRATED PEDIATRIC CASE MANAGEMENT**

One of the most consistent recommendations of those participating in the beta testing of the adult integrated case management manual and training program was that a pediatric version of integrated case management ought to be developed. In this manual, a pediatric version is introduced, which has been developed through the collaborative efforts of pediatricians, child psychiatrists and child psychologists, pediatric case managers, and investigators who were involved in the development of the adult integrated case management program. While the pediatric version does not yet have the same depth of research supporting its use in children and adolescents that the adult version does, readers will recognize the parallel between the adult and pediatric versions yet readily appreciate the differences. The PIM-CAG contains five additional items—that is, cognitive development, adverse developmental events, caregiver/parent health and function, caregiver/family support, and school functioning—in addition to alteration of the content of several items in the IM-CAG to make it pertinent to children and youth (e.g., in the “School and Community Participation”).

Pediatric integrated case management is in its infancy but it can draw on the 15 years of experience with the IM-CAG and the expertise of clinicians who recognize the challenges of children and youth with health complexity. The authors of the first edition of this book are fully aware of the need for formative research using this approach to improve care for children and adolescents who present challenges to their many treating practitioners due to a complicated interplay of personal, health, social, and health system factors that will predictably lead to poor short- and long-term outcomes. Nonetheless, they felt that one of the ways in which research could be facilitated would be to develop the starting pediatric methodology based on experience from the adult setting. Health complexity does not appear to differentiate among populations of different ages. Children and adolescents with complex presentations are as likely as adults to demonstrate treatment resistance, symptom persistence, personal and social impairment, and high health care service use as adults. It just did not make sense to delay the availability of integrated case management for them while waiting for basic research to be completed.

Importantly, there is little downside to introducing the pediatric version at this point. Experience with adult integrated case management suggests that children exposed to a pediatric equivalent should do better than those who are not exposed. Treating providers will be supported in their care and potentially have better outcomes for their patients. Finally, since children and adolescents with health complexity will be targeted for intervention, purchasers of care and those who distribute health resources to providers of care should see a reduction in total health care spending. Improved health of their highest-cost enrollees should lead to lower total health care service use.

Since pediatric integrated case management has a number of additional training variables that require attention as its clinical implementation is rolled out, additional face-to-face training, offered by CMSA after completion of the face-to-face adult training, will be necessary to obtain a pediatric certificate of completion. Those completing the pediatric training program will be equipped to address the needs of children and adolescents as well as their adult caregivers/parents. While they may choose to focus clinical attention on children/youth and the family unit, with the combined training they will be able to recognize when they are able to address the case management needs of the family unit and when the caregiver/parent may require referral to obtain their own case management support. As with adult integrated case management, a pediatric integrated case management training course will be offered for supervisors of developed pediatric case management training programs.

**INTERNATIONAL APPLICATION OF INTEGRATED CASE MANAGEMENT PRINCIPLES AND PRACTICE**

The principles of integrated case management delineated in the “Integrated Case Management” section above can be applied in health systems throughout the world. While this manual is primarily written for a U.S. case manager readership, with adaptation, case managers in many clinical settings, who provide services in other cultures and countries, can use the core integrated case management principles to better respond to the needs of their complex patients. Health complexity, as defined by the INTERMED system
Solidification of knowledge and skills, however, occurs as case managers start working with real patients. After reading and studying the manual and learning to apply its principles, the next stage of training occurs at the case manager’s worksite through case conferences, supervisory relationships (both medical and psychiatric), continuing education, and staff level cross-fertilization. Those who invest themselves well and have support through their place of employment will find that they become more and more proficient in assisting most patients with complex and comorbid general medical and mental conditions. By the third to fourth month of initiating the use of integrated management practices, most case managers will feel comfortable in the use of the CAG and cross-disciplinary service to patients. Importantly, they will understand where their limitations lie and know where to find answers for the interesting and perplexing challenges their patients present.

Welcome to the next generation of case management. We hope you appreciate the value that you will bring to the patients you encounter using integrated approaches to case management assistance. Perhaps more importantly, we hope you derive as much pleasure as we have in assisting some of the most complicated patients in our health system recapture their humanity through return to health stability.

REFERENCES

Case Management, Integrated Case Management, and Complexity Assessment Grids

OBJECTIVES

- To review health system changes that led to the development of the specialty of case management
- To differentiate the types of care management, of which case management is one
- To summarize the 2010 Standards of Practice for Case Management
- To describe the difference between the application of traditional versus integrated case management
- To introduce concepts related to Complexity Assessment Grid (CAG) methodology
- To discuss the synergy between the goals of integrated case management and use of CAG methodology

INTRODUCTION

Before health care became big business and was recognized to have a major effect on national economies, the focus of medical practice for most physicians was to assist patients in the process of healing. For some this meant cure from an acute illness, for some stabilization of a chronic illness, and for others support through the progression of an ultimately fatal condition. For all, however, the physician-patient encounter addressed more than the illness of the patient. It was a pact in which all of the issues contributing to a patient’s potential improvement were factored into the therapeutic relationship. Telling the patient about his or her illness and its consequences; involving the patient’s significant others in discussions about treatment; ensuring ways to get medications and get to appointments; discussing life stresses; addressing communication barriers; and dealing with the patient’s emotional state were all a part of this pact. The doctor and patient were conspirators in a quest to maximize the patient’s health.

This changed when national health systems began looking for ways to streamline patient-doctor encounters to reduce costs. In an attempt to efficiently use limited health care resources given by high-cost health care providers during the past 25 years, medical visits have been transformed. Addressing so-called illness issues and delivering specific health-related services has become the center of the doctor-patient interaction. Discussions about physical and mental health findings, test results, and treatment options form content during 7- to 15-minute clinic appointments. Physician throughput has become as large a goal as patient improvement and is often mandated by hospital or clinic administrators dedicated to maximizing clinical service income.

For 70% of patients, this change has led to no disruption in health because they are healthy, have uncomplicated or readily treatable disease, or have sufficient intellect or personal resources to make it through their illness episode (left side of Figure 1.1). For the 30% of patients with chronic disease or the complex interactions of illness and life situations, however, the transition has led to more difficulty in managing their health, higher clinical care service use, and more disability for conditions that may have been less impairing in years past.

This problem initiated the development of a new industry, the care management industry, in which clinical, health system-savvy personnel assist the 20% of patients/clients (hereafter referred to as patients) that use four-fifths of health care services, as well as those who are at risk of falling into this group of patients in the future. These professionals try to help their patients understand their illnesses, overcome biopsychosocial and health system barriers to improvement, adhere to their providers’ recommended treatments, and navigate health systems that have become so complicated and fragmented that many patients do not even know who to ask for help, let alone for what to ask.
FIGURE 1.1 Health care cost savings opportunity.

Average Annual Per Capita Health Care Costs: $6,100 in 2007 US$

Standard Care
70% of Population

- Annual Cost: $0/person
- Annual Savings Opportunity: $0/person

Integrated Disease Management
20% of Population

- Annual Savings Opportunity: <$1,000/person
- Annual Cost: ~$2,250/person
- Annual Savings Opportunity: >$3,000/person
- Annual Cost: up to $12,000/person

Integrated Case Management
10% of Population

- Annual Savings Opportunity: >$6,000/person
- Annual Cost: >$12,000/person

50% of Spending on Remaining 5% of Patients
- 50% of Spending; 95% of Patients
- 30% of Spending; 90% of Patients
- 20% of Spending; 80% of Patients

The term care management has many definitions within the health care industry. In this book, we have chosen to define it as the use of trained health personnel (mostly nurses, but also social workers, psychologists, rehabilitation counselors, and other health professionals, including some physicians) to work directly with selected populations of patients in an attempt to improve their health and thus contain their health-related costs. Care managers do not treat patients. Rather, they collaborate with patients to facilitate healthy behaviors and improve health outcomes in those at risk for developing or who already have health complexity or illness combinations. Care managers are described by a variety of names (Exhibit 1.1). These names portray the locations in which the care managers work and the populations that they serve.

At the prevention end, there are health coaches and wellness counselors. They assist those at risk for poor outcomes unless healthy behaviors are adopted. The thrust for these coaches and counselors is to foster healthy eating habits, exercise, and preventive measures known to reduce the onset of illness or illness progression. For those with specific chronic illnesses, there are disease managers. Disease managers educate the patients that they work with about their illness or illnesses and treatments (e.g., diabetes, depression, kidney disease, etc.). In some settings, disease managers also help patients learn strategies and skills designed to help them stabilize symptoms and prevent progression. At the illness acuity/severity end, disease managers may actively evaluate and assist patients with obtaining disease-specific, evidence-based practices from their treating providers. When evidence-based services are not being delivered, the disease manager collaborates with the patient in overcoming disease-specific barriers to improvement (e.g., adherence to recommended treatment, documentation of clinical outcome variables, attendance at appointments, seeking second opinions from other specialists, etc.).

For employees who develop a medical condition that is either the result of a work-related event (workers’ compensation) or merely interferes with an employee’s ability to perform at work (disability/rehabilitation), there are managers who facilitate efficient use of the medical system and advocate, on behalf of the employee, for effective medical support. Employee assistance programs (EAPs) provide another form of care management. While focusing on worksite issues, such as personnel conflicts, jobsite reentry after an illness, and so forth, they also often help employees get needed health services, such as through substance use disorder programs or company-sponsored health fairs. Some even provide time-limited situational counseling or crisis intervention.

Notably absent from those included among care managers are managers with the primary responsibility of adjudicating whether a requested health service is covered or meets medical necessity criteria (utilization managers). These individuals, who most often work for health plans, more correctly manage claims rather than patients. While there is always some utilization management activity associated with most forms of care management, it is easy to separate the two because utilization managers spend little time talking with patients and virtually none in helping them overcome barriers to improvement. They primarily interact with providers and delivery system personnel.
CASE MANAGEMENT

Case management falls within the rubric of care management. These managers assist patients with health complexity or those whose illness control is worse than expected given the level of acuity/severity. On the general medical side, most often these professionals are nurses, though clinicians from other disciplines are also represented. On the mental health side, case managers, such as those who assist seriously and persistently mentally ill patients, provide management services as a part of assertive community treatment (ACT) teams. Mental health case managers often include social workers, psychologists, and substance use disorder counselors, in addition to nurses.

Case managers usually work with the 2%-5% of the population who use a third to a half of health care resources (far right side of Figure 1.1). According to the 2010 Standards of Practice for Case Management (Case Management Society of America [CMSA], 2010) delineated by the CMSA, the following is used to define case management: “Case management is a collaborative process which assesses, plans, implements, coordinates, monitors and evaluates options and services to meet an individual’s health needs through communication and available resources to promote quality cost-effective outcomes.” (CMSA, 2010).

Principal case manager functions include:

- Conducting a comprehensive assessment of the patient’s health needs
- Educating the patient and members of the health care delivery team about case management, identified barriers to health improvement, community resources, insurance benefits, and so forth, so that informed decisions can be made
- Developing and carrying out a care plan collaboratively with the patient, the patient’s family, the primary care physician/provider, other health care providers, the payer, and/or the community that maximizes health, quality of life, appropriate use of health services, and conservation of health care resources
- Facilitating communication and coordination among members of the patient’s biological and psychological health care teams to minimize fragmentation and maximize evidence-based care delivery
- Involving the patient in the decision-making process
- Problem solving and exploring options for improving care
- Considering alternative plans, when necessary, to achieve desired outcomes
- Striving to improve the quality of care and maintain cost effectiveness on a case-by-case basis
- Assisting patients in safely transitioning their care information and needed procedures among care settings (e.g., inpatient, outpatient, nursing facility, rehabilitation center, etc.)
- Advocating for patients to receive quality care, the health care team to be supported in providing quality services, the payer to conserve health resources, and the purchaser to minimize disability and impairment at an affordable cost
- Encouraging the patient to similarly self-advocate

Activities associated with these functions make up the current Standards of Practice for Case Management, summarized in Exhibit 1.2. For the first time since Standards of Practice for Case Management were defined by CMSA in 1995, case manager responsibilities include the coordination of biological, psychological, social, and health system barriers to improvement as core activities. With the patient at the center, working as a team with the case manager, the two collaborate in coordinating resources from the community, the patient’s health care team, and those who pay to foster health in an attempt to reverse the life circumstances that have led to their health complexity (Figure 1.2).

Locations in which case management is offered are quite diverse. They include but are not limited to: hospitals and integrated care delivery systems, ambulatory care clinics, corporations, public and private health insurance programs, independent case management companies, government-sponsored programs, provider agencies and facilities, geriatric services facilities, telephonic triage and call centers, life care planning programs, and disease management companies. Since case management is provided in such a wide range of settings

![FIGURE 1.2 Case management model.](image-url)
EXHIBIT 1.2 Case Management Standards of Practice

Case managers with active licensure and up-to-date competence in their specialty area of practice should be able to:

- Supervise high-risk case identification procedures
- Obtain appropriate and informed patient consent
- Provide complete, comprehensive, culturally and linguistically sensitive assessments
- Identify actionable barriers to improvement in multiple domains
- Create a prioritized short-, medium-, and long-term culturally and linguistically diverse care plans
- Monitor progress related to the care plan
- Move toward, document, and measure patient outcomes
- Satisfy a patient’s need for case management assistance and close the case
- Facilitate the coordination, communication, and collaboration among the patient’s providers
- Assist patients in getting quality care while attempting to conserve scarce health resources
- Advocate for patients and teach them to advocate for themselves
- Use the ethical principles of beneficence, nonmaleficence, autonomy, justice, and fidelity in fulfilling case management activities
- Adhere to applicable local, state, and federal laws

Adapted from Case Management Society of America, Standards of Practice for Case Management, 2010, p. 7.

and to populations with varied needs, approaches to case management in various settings require customization so that parochial needs are met; however, the standards of practice should remain the same.

INTEGRATED CASE MANAGEMENT

To date, traditional case management has largely been separated into that provided by management personnel with backgrounds in general medical care and that provided by those with backgrounds and training in mental health and substance use disorders, the combination of which will hereafter be known as mental conditions. Case managers with medical backgrounds concentrate their efforts almost entirely on biological factors that contribute to poor physical health. Only occasionally are social factors, such as difficulty in getting to appointments or paying for medications, or unhealthy behaviors, such as dietary indiscretion or smoking, that contribute to treatment resistance and symptom persistence addressed. Conversely, case managers associated with mental health programs only target assistance with the diagnosis and treatment of mental conditions and unhealthy behaviors that predict poor mental health outcomes. Rarely do case managers coming from one or the other background choose to address health issues outside of their area of practice contributing to a patient’s poor health situation, other than perhaps to refer for cross-disciplinary care when blatant symptoms become too prominent to ignore.

Integrated case management, until now mostly performed by individual clinicians dedicated to working at the interface of physical and mental health, is an approach proposed as a replacement for traditional case management. To date, reimbursement barriers and limited knowledge about practical models for implementation of integrated practices have impeded its growth. This has changed as more has been learned about the destructiveness of health service fragmentation, the need for a patient-centered approach to care, and the negative impact of concurrent medical and psychiatric illness (Institute of Medicine, Committee on Crossing the Quality Chasm: Adaptation to Mental Health and Addictive Disorders, 2006; Institute of Medicine, Committee on Quality of Health Care in America, 2001; Kathol, Saravay, Lobo, & Ormel, 2006; President’s New Freedom Commission on Mental Health, 2003). Further, integrated case management has been facilitated by a better understanding of health complexity and how to measure it (Huyse & Stiefel, 2006).

Integrated case management is designed to topple general medical and mental condition silos by training professionals from both the physical health and mental health sectors in techniques that will allow them to provide interdisciplinary assistance, using the 2010 Standards of Practice for Case Management, to patients with health complexity. This is possible because case managers by definition do not treat patients. Rather, they assist their patients in getting outcome-changing care—that is, stabilizing health by using their understanding of health and the health system to guide them through the health care maze. Case managers with physical health backgrounds do not have to know how to diagnose and treat depression, psychotic illness, or eating disorders. They use their understanding of illness, treatment, and the components of care that prevent improvement to
help the patient get and follow through on care from his or her treating providers. Likewise, case managers with mental health backgrounds do the same.

This does not mean that it is unnecessary for case managers from either sector to know something about cross-disciplinary illnesses and treatments. A basic reciprocal understanding is necessary for members of both groups. This is why this manual has been written and the integrated case management training program has been developed by CMSA. All case managers who choose to extend their capabilities by providing integrated case management need to develop the skills required to assist patients with concurrent and treatment-resistant physical and mental illness in overcoming the challenges they face in getting the type of care that will return them to health or at least to stable control of their disorders. Examples of the type of cross-disciplinary information needed by case managers using integrated case management techniques are provided in Chapters 5 and 6. Perhaps the first and most difficult challenge for a case manager who is considering entry into integrated case management is deciding that he or she is willing to put forth the effort to learn new techniques that can improve the health of his or her patients.

**INTEGRATED PEDIATRIC CASE MANAGEMENT**

There are clearly special skills needed to work with children and adolescents and their caregivers/parents as a part of the case management process. While the *Standards of Practice for Case Management* remain the same, there are unique challenges faced by case managers who choose to assist children/youth and their families with health complexity because they must deal with a different set of illnesses and practitioners, both general medical and mental health. Moreover, they must consider the contributions of caregivers/parents, teachers, coaches, and peers in their assessments and care plan development. Finally, they often must include assistance not only to the child/youth, but also to caregivers/parents and teachers involved with the child/youth before outcome change and health stabilization can be expected.

Since children/youth are at as great, if not greater, risk for multiple factors contributing to health complexity than are adults, an approach to integrated pediatric case management has been added to this manual that parallels the approach that is taken in adults. This will allow case management programs that understand the importance of correcting mental health issues as a means of reversing persistent physical symptoms to include a child/youth component in their case management services, particularly if they have already decided to provide adult integrated case management and have a child/youth population to serve as well.

**INTERMED METHODOLOGY**

It is with integrated case management that INTERMED methodology enters the scene. The INTERMED, the formal name used by the European developers for this method of complexity assessment, approach was designed to reconnect siloed factors in the health system that influence health outcomes for a patient. It has been undergoing development, standardization, and validation in seven languages (English, French, German, Spanish, Italian, Dutch, and Japanese) for the past 15 years (de Jonge, Bauer, Huyse, & Latour, 2003; de Jonge, Hoogervorst, Huyse, & Polman, 2004; de Jonge, Latour, & Huyse, 2003; Huyse, Stiefel, & de Jonge, 2006; Lyons, 2006; Stiefel et al., 2006) with a focus on health complexity. Health complexity includes two components: complexity of the patient (the case) as well as complexity of the health system (the care; de Jonge, Huyse, & Stiefel, 2006). For instance, diabetes is complicated by depression. Depression, in turn, negatively influences adherence to diabetes management (a case characteristic). It also necessitates communication between physical and mental health service providers (a care characteristic). The INTERMED method addresses both the case and the care components.

Health complexity can be defined as the interference in standard care by biological, psychological, social, and health system factors, which require a shift from standard (biomedical) care to individualized (integrated) support for care in order for patient outcomes to improve. Individualized support for care is largely delivered through the services of case managers.

Until now, the field of case management focused on identifying patients at risk for future poor outcomes. While these patients could be uncovered using health plan claims databases, predictive modeling schema, health risk assessments, or clinical characteristics of hospitalized or high service using outpatients in general medical or surgical settings, discovery procedures did little to suggest a systematic way to reveal, disentangle, and overcome barriers to improvement. Once patients were identified, case managers assisted them by maximizing illness understanding and fostering adherence to treatment for primary and secondary, but mainly *physical health*, conditions. The hope was that such assistance would decrease medical/surgical complications and reduce health care service use. Indeed, studies suggest that it does so to some extent for specific health conditions (Goetzel, Ozminkowski, Villagra, & Duffy, 2005). Interventions included instructing patients about their general medical disorders, altering factors that led to treatment nonadherence, and, in the more robust case management programs, confirming that progress toward recovery was occurring.
In these programs, the greatest, if not exclusive, attention was given to factors affecting appropriate general medical diagnostic assessments and treatment. To the extent that personal and social issues were revealed during unstructured interviews and led to nonadherence with medical intervention, they were included in case management activities. In most patients, psychological aspects were actively avoided because they were considered outside the purview of general medical health—that is, they were carved out of the process. Health system components entered into the case management process mainly when medical necessity decisions were required or, occasionally, when case managers were allowed to flex insurance benefits.

With the introduction of the INTERMED integrated system of case management, attention to the physical health domain (general medical disease) lost its position of dominance. It took its place alongside psychological, social, and health system factors as a shared set components that influence health and outcomes. Thus, through INTERMED methodology, complexity became defined as a composite of interacting historical, current state, and vulnerability health risks and health needs from each of these four domains in which barriers to care could arise.

The INTERMED was developed based on the assumption that return to health is dependent on altering factors in all four domains that interfere with patients’ ability to get better. This includes such things as whether significant family members agree with the diagnosis and treatment; whether the patient has a co-occurring, adherence-altering depression; whether the patient has transportation to an appointment and the money to fill prescriptions; or whether the patient knows how and has the energy to find a specialist in her provider network to treat her complicated general medical and psychiatric conditions.

Inherent in the INTERMED system is the understanding that an uncomplicated and otherwise easily treatable physical illness could be made complex by the presence of one or more factors in other domains in a patient’s life. For instance, pneumococcal pneumonia in most patients can be controlled by the administration of penicillin. However, if the patient lives on an Indian reservation and has a cultural aversion to taking oral medication or the patient has paranoid psychosis and is concerned about being poisoned, a simple course of antibiotics becomes much more complicated. Cultural and mental health factors must be considered to effectively treat an otherwise uncomplicated, yet potentially serious, health problem. All that may be required to effectively treat the Native American would be a shot of benzathine (long-acting) penicillin. The paranoid patient, on the other hand, may require admission with supervised administration. The concept of health complexity, using the INTERMED system, paints a more complete picture of the patient so that assistance in all domains is brought to the patient, not in isolation, but in relation to each other.

In order to optimize the effects of the health risks and needs assessment, the INTERMED is designed to be clinically relevant—that is, it leads the case manager to ask, “How should I act based on this score?” It also enhances communication between and among the patients and their providers. Improved clinical relevance and the communimetric, rather than psychometric, approach are synergistic since together they allow the case manager and patient to immediately understand and address the question, “Is action needed and how intensively?” (Lyons, 2009). All the health risks and needs assessed with the INTERMED method are translated into scores, which lead to: immediate action (red, level 3), treatment administration or the development of a treatment plan (orange, level 2), monitoring or prevention (yellow, level 1), or no action (green, level 0) for the patient. Enhanced communication is supported by the organization of risks and needs into a grid, that is, the Complexity Assessment Grid (CAG), in which the seriousness of the risks or needs is visualized with colors and thus easily communicated once interpretation of the grid is understood (see Table 1.1 for an example of the grid without color indicators). This is covered in greater detail in Chapter 3 and within the color insert section.

In this introduction to integrated physical and mental condition case management, the authors have taken lessons learned from the development of the INTERMED, adapted them for use by case managers in most national health systems, including the United States, and renamed the resulting tool the INTERMED-Complexity Assessment Grid (IM-CAG). For this reason, the case management adaptation found in this manual is very similar to the approved European INTERMED Foundation version. Viewing both Appendix 6 and Appendix 15 allows a head-to-head comparison. For children/youth, a pediatric version of the IM-CAG (the PIM-CAG) has been developed. The pediatric version contains 25 cells yet uses the same domain and anchor point system (Table 1.2). It has been adapted to reflect complexity items, such as family and school, which affect and are affected by the child’s/youth’s health and function. The structure and approach to uncovering complexity and linking it to actions in children and adolescents, however, are similar to those in the adult version.

For convenience, an abbreviation system uses corresponding letters from the grid headings to represent IM-CAG complexity items and to denote their place on the grid (see Table 1.3). In this system the first letter of the time frame (H)istorical, Current state, or V)ulnerability) is followed by the first letter(s) of the domain.
### TABLE 1.1  INTERMED-Complexity Assessment Grid

<table>
<thead>
<tr>
<th>Biological domain</th>
<th>Health risks and health needs</th>
<th>Psychological domain</th>
<th>Health risks and health needs</th>
<th>Social domain</th>
<th>Health System domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical</td>
<td>Current state</td>
<td>(Future) Vulnerability</td>
<td>Historical</td>
<td>Current state</td>
<td>(Future) Vulnerability</td>
</tr>
<tr>
<td>1. Barriers to coping</td>
<td>2. Mental health history</td>
<td>2. Diagnostic/therapeutic challenge</td>
<td>1. Mental health symptoms</td>
<td>Social domain</td>
<td>Health System domain</td>
</tr>
<tr>
<td>1. Symptom severity/impairment</td>
<td>2. Diagnostic/therapeutic challenge</td>
<td>1. Getting needed services</td>
<td>2. Coordination of care</td>
<td>Health system impediments</td>
<td></td>
</tr>
<tr>
<td>1. Access to care</td>
<td>2. Treatment experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Huyse et al., 1999.

### TABLE 1.2  Pediatric INTERMED-Complexity Assessment Grid

<table>
<thead>
<tr>
<th>Biological domain</th>
<th>Health risks and health needs</th>
<th>Psychological domain</th>
<th>Health risks and health needs</th>
<th>Social domain</th>
<th>Health System domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical</td>
<td>Current state</td>
<td>(Future) Vulnerability</td>
<td>Historical</td>
<td>Current state</td>
<td>(Future) Vulnerability</td>
</tr>
<tr>
<td>1. Access to care</td>
<td>2. Treatment experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Huyse et al., 1999.

Title (Biological, Psychological, Social, or Health system). If there are multiple complexity items within a grid box, a corresponding number is placed at the end of the abbreviation. For instance, the complexity item “Chronicity” is located within the Historical time frame in the Biological domain and it is the 1st option within that box; therefore, it is abbreviated “HB1.” “Coordination of care” is a Current state item of the Health system domain and it is the 2nd option, thus it is abbreviated “CHS2.” Since there is only one Vulnerability item for each domain, no number is added for the four items relating to Vulnerability. For example, “Mental health threat” is abbreviated “VP” (Vulnerability time frame; Psychological domain) and “Health system impediments” uses the “VHS” abbreviation (Vulnerability time frame; Health system domain). When first learning the abbreviation system, it may be convenient to think of a football (gridiron) metaphor. The sequence of letters is “T-D” for both the abbreviation system “Time frame”-“Domain” and the football score of touchdown (T-D). Abbreviations for the PIM-CAG complexity items parallel the IM-CAG abbreviation system; however, there are five extra complexity items (HP3, HP4, HS3, CS3, and CS4). An example of these additional items is “CS3” for “Caregiver/family support,” which corresponds to the Current state time column, the Social domain row, and the 3rd item in this box on the pediatric complexity assessment grid.

While the IM-CAG and PIM-CAG are designed to provide an overall picture of the needs, risks, and vulnerabilities of complex patients with actionable steps related to each cell, they are constructed with the understanding that the relationship between the patient (and family) and the case manager is what drives the achievement of goals and leads to health improvement. They are, therefore, patient-centered and further enhanced by the use of motivational interviewing techniques when gathering information and developing and implementing care plans collaboratively with
patients. The IM-CAG and PIM-CAG help guide the case manager to determine the greatest needs and the domains in which complexity is introduced. Most importantly, identified complexity immediately translates into actionable steps mutually taken by the case manager and patient to improve health.

REFERENCES


CHAPTER 2

Overview of Health Complexity and the Interaction Between Physical Health and Mental Conditions

OBJECTIVES

- To define “health complexity” and “mental conditions” and their importance in case management
- To describe the adverse interaction of physical and common comorbid mental conditions in patients with health complexity
- To discuss the difficulty in getting concurrent physical and mental condition treatment and its impact on health and cost outcomes
- To review illness multimorbidity in children and adolescents
- To summarize the potential value of physical and mental condition health service integration

INTRODUCTION

Procedures described in this integrated case management manual are applicable for all forms of care management (see Exhibit 1.1); however, emphasis is on the development of integrated management skills for managers who perform case and, to some extent, disease management since these are the areas of management practice with the greatest opportunity for health, function, and economic performance enhancement. Case managers, as defined in Chapter 1, work primarily with patients having high health complexity. Disease managers work with patients having chronic illnesses. Up to a half of these individuals will have multiple chronic conditions, and some will have health complexity. Patients in disease management programs, on average, necessarily require less health support and intensity of assistance by management personnel.

Disease managers, however, either work closely with case managers or assume what would appropriately be considered case management activities when the small but significant percentage of their patients experience increased complexity during the course of their targeted condition. For this reason, the activities described in this manual are directly applicable and can bring value to those performing both case and disease management. For purposes of simplicity, the term “case management” will henceforth encompass both case and disease managers working with complex patients.

Although the manual focuses on case manager activities, it does not diminish the potential value of using integrated case management techniques and tools for patients assisted by wellness, employee assistance, disability management, or workers’ compensation programs. Populations served by these programs will necessarily have lower complexity than patients found in case management programs. Nonetheless, the principles of integrated case management apply equally to patients with less complexity, plus there will continue to be a small percentage from these populations that exhibit poorly controlled health problems. In these patients, the integrated case management approach should be considered for implementation either by a subset of managers trained in integrated management skills or by referral to a management group that uses them. The only reason not to utilize an integrated management approach for all patients supported through these programs is that the return on investment decreases as complexity decreases. Strategically, therefore, it makes the most sense to target the most complex first and work down the complexity scale as resources and personnel become available.

Chapter 2 of the manual assists case managers, regardless of their backgrounds, training, or clinical activity, in understanding the concepts of health complexity, mental conditions and how they relate to general medical problems, and the impact that the interaction of the two have on health and cost outcomes. It emphasizes the importance of uncovering and assisting with both medical and psychiatric contributions to patient problems. Perhaps more importantly, however, it attempts to demonstrate the need for coordination of physical and mental condition services for patients so
affected in an attempt to maximize clinical, functional, and economic outcomes.

**HEALTH COMPLEXITY**

As described in Chapter 1, health complexity is defined as the interference with standard care by the interaction of biological, psychological, social, and health system factors. It includes two components, case and care complexity, and requires a shift from standard (biomedical) care to individualized (integrated) care in order for patient outcomes to improve (de Jonge, Huyse, & Stiefel, 2006). Patient-based case complexity is manifest in many clinical situations, such as when patients experience adverse medication events or drug interactions or when symptoms overlap from multimorbid illness (e.g. chronic lung disease and anxiety or hypothyroidism and depression). Health system-based, care complexity is manifest by the way that health services are supported by the system, delivered by practitioners, and available to the patient. For instance, patients experience care complexity when delays in care occur with long wait lists, translation services are not available, or clinicians providing care do not talk with each other and coordinate services.

It is important to realize that support for health services is often prioritized by the degree to which there is research evidence to document value in the current care delivery environment. While this manual argues that evidence-based practices should be used when they are available, most outcome studies documenting clinical service value are performed in pure, noncomorbid populations. Thus, even when studies are available, they may not generalize to complex, multimorbid patients. Rather than taking a nihilistic attitude in these complicated, high-cost patients—that is, providing no care because evidence-based interventions are not available—case managers need to become comfortable in supporting best practice approaches when evidence is limited. Interfering factors are the rule rather than the exception in these patients, thus results of existing research need to be adjusted to maximize benefit to patients.

**FIGURE 2.1** Health complexity requiring individualized physical and mental condition care integration.

![Health complexity diagram](image-url)
“Individualized care” means that health professionals, such as integrated case managers (Figure 2.1), help patients with health complexity bring their illnesses under control using health system navigation and advocacy techniques. These augment patients’ capabilities to access best practice care, to improve exposure to evidence-based care, and to adhere to the outcome-enhancing treatments recommended by their doctors.

In the current health care system, there is a tendency to equate complexity with acuity and severity, often harbingers of complications related to physical or mental illness. While acuity and severity are clearly components of complexity, the concept of complexity used in this manual includes psychological, social, and health system risks and needs, which can also create barriers to and challenges for health. For instance, essential hypertension in most patients can be controlled by antihypertensive medications. However, if a patient has coexisting memory impairment, has an influential family member who believes that medications poison a person’s body, or speaks little English but must order his or her prescriptions by mail, then easily treatable hypertension becomes treatment refractory. It leads to unnecessary medication additions/alterations and/or hypertensive complications. Psychological, social, and health system factors in such patients trump the acuity and severity of the physical illness, which is low in hypertensive patients, in making them treatment nonresponsive.

Health complexity is an important concept that expands on acuity and severity by helping to identify the small percentage of patients who use the majority of health resources (Figure 2.2; Zuvekas & Cohen, 2007). Predictive modeling elements, such as those published by Monheit and summarized in Table 2.1 (Monheit, 2003) can be used to uncover patients at risk for future health needs and high service use. The Case Management Society of America (CMSA) Standards of Practice for Case Management also contain a list of risk factors associated with poor outcomes (CMSA, 2010). While these are useful to efficiently screen for those who might be candidates for case management, it is through the measurement of

<table>
<thead>
<tr>
<th>Patient features</th>
<th>Marginal effect</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 75 years of age</td>
<td>9.9</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>“Fair to poor” health</td>
<td>18.4</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Prior high service use</td>
<td>20.7</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>5.8</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>Having the following illnesses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health disease</td>
<td>11.0</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Cancer</td>
<td>9.9</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Infectious disease</td>
<td>9.0</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>7.7</td>
<td>&lt; .05</td>
</tr>
</tbody>
</table>

health complexity, learned in this manual, that specific barriers to care and the actions needed to change them can be identified.

MENTAL HEALTH CONDITIONS

Mental health disorders and subthreshold symptoms, which lead to impairment by altering emotions, thinking, or behavior in the absence of mind-altering substances, and substance use disorders, which lead to impairment by altering emotions, thinking, or behavior in relation to substances known to affect mental function, will together be described by the term “mental conditions” in this manual. Just as with any general medical condition, the key factor is that those affected by a mental condition suffer, lose personal effectiveness, and benefit from intervention (Exhibit 2.1; unexplained physical complaints references: Hansen, Fink, Frydenberg, & Oxhoj, 2002; Inouye, Bogardus, Williams, Leo-Summers, & Agostini, 2003; Katon, Russo, et al., 2006; Katon, Unutzer, et al., 2006; Parthasarathy, Mertens, Moore, & Weisner, 2003; Rost, Kashner, & Smith, 1994; Smith, Monson, & Ray, 1986; Toft, 2004) whether it is the mental health or substance use disorder difficulty or a combination of the two that cause symptoms.

Some consider problems with chemical dependence in a separate category from other mental disorders because they are the result of inappropriate use of mind-altering substances (i.e., conditions created by the patients themselves). While the two have differing etiologies, it does not follow that those who are impaired because of substance use disorders do not need or deserve treatment. Data now demonstrate that patients with drug abuse problems exposed to evidence-based treatment have less impairment, better function, and ultimately lower total health care costs (Fleming et al., 2002; Holder & Blose, 1992; Parthasarathy & Weisner, 2005).

If one took the argument that those with chemical dependence should not be treated since they were volitionally responsible for their symptom onset to its logical conclusion, then the health system should also refuse treatment for obese patients with diabetes or heart disease, for smokers with chronic obstructive lung disease or lung cancer, and for promiscuous individuals with sexually transmitted diseases, including HIV and cervical cancer. There is no logical rationale for doing so since it would be associated with substantial suffering and ultimately higher health care costs as patients would seek treatment for more extensive and life-threatening diseases resulting from substance use disorder-related physical and mental health complications.

Another misconception about mental conditions is that they are untreatable. This is something that has changed dramatically in the past 30 years. The science of mental condition treatment for many illnesses

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**EXHIBIT 2.1** Health Care Delivery-Based Integration Improves Outcomes and Lowers Costs

- **Depression and diabetes**: 2 months fewer days of depression/year; projected $2.9 million/year lower total health costs/100,000 diabetic patients
- **Panic disorder in primary care**: 2 months fewer days of anxiety/year; projected $1.7 million/year lower total health costs/100,000 primary care patients
- **Substance use disorders with medical compromise**: 14% increase in abstinence; $2,050 lower annual health care cost/patient in integrated program
- **Delirium prevention programs**: 30% lower incidence of delirium; projected $16.5 million/year reduction in inpatient costs/30,000 admissions
- **Unexplained physical complaints**: no increase in missed general medical illness or adverse events; 9% to 53% decrease in costs associated with increased health care service utilization
- **Health complexity**: halved depression prevalence; statistical improvement of quality of life and perceived physical and mental health; 7% reduction in new admissions at 12 months

---

Summarized from:


c “Utilization and Cost Impact of Integrating Substance Abuse Treatment and Primary Care,” by S. Parthasarathy, J. Mertens, C. Moore, and Weisner, C., 2002, Medical Care, 41(3).


Summary of eight experimental/control outcome studies (references in text).

The Integrated Case Management Manual is now on par with that of physical health conditions (Table 2.2). Importantly, in no discipline do all conditions have effective (evidence-based) treatments. Some are partially treatable. For others, palliation is all that is available. The same is true for mental health disorders.

Understanding that many common mental conditions are as treatable as general medical disorders allows the case manager to project a sense of optimism to the patient. Even in patients who have illnesses with worse prognoses, many of whom come to the attention of case managers, recognizing that interventions that maximize function and/or provide palliation is as important as identifying interventions that lead to recovery for both physical and mental conditions. Case managers who assist with noncurative interventions can also bring great comfort to their patients.

Case managers support patients in getting the right evaluations from an appropriate provider in a timely fashion and in helping them follow through on treatment recommendations. Components that contribute to effective case management can be found in Exhibit 2.2.

### Table 2.2 Mental Conditions Are as Treatable as Physical Illnesses

<table>
<thead>
<tr>
<th>Mental Conditions</th>
<th>Physical Illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conditions That Have Highly Effective Treatments</strong></td>
<td></td>
</tr>
<tr>
<td>Affective/anxiety disorders</td>
<td>Peptic ulcers</td>
</tr>
<tr>
<td>Delirium</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>Acute psychoses</td>
<td>Kidney stones</td>
</tr>
<tr>
<td><strong>Conditions That Have Less Effective Treatments</strong></td>
<td></td>
</tr>
<tr>
<td>Attention deficit hyperactivity disorders</td>
<td>Common colds</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>Back pain</td>
</tr>
<tr>
<td><strong>Conditions That Respond Poorly to Treatment</strong></td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td>Pancreatic cancer</td>
</tr>
<tr>
<td>Antisocial/borderline personality disorder</td>
<td>Amyotrophic lateral sclerosis</td>
</tr>
<tr>
<td>Paranoid disorder</td>
<td>Completed stroke</td>
</tr>
</tbody>
</table>

### General Medical and Mental Condition Comorbidity, Treatment, and Interaction

The Venn diagram in Figure 2.3 illustrates the little-acknowledged fact that 85% of mental conditions are seen primarily in the general medical sector. Importantly, in the current health care environment, virtually all mental health dollars are targeted to assist the 15% of patients seen in the mental health sector (the dark gray sliver) in an artificially designed and independently managed behavioral health system. Mental conditions for patients seen in the general medical sector are either not treated (65%) or are ineffectively treated by primary and specialty medical practitioners (Kessler et al., 2005). This is true in virtually all countries and cultures (Demyttenaere et al., 2004). Only 13% of mental health patients have been shown to receive minimally effective mental health treatment in the non-mental health setting (Wang et al., 2005; Wang, Demler, & Kessler, 2002). This

### Exhibit 2.2 Requirements for Effective Assistance Through Case Management

**Patient’s responsibilities:**

1. Be willing to form a relationship with the case manager; maintain trust
2. Learn about and participate in illness stabilization/recovery
3. Initiate agreed upon treatments and recommendations
4. Participate actively and diligently in the improvement process
5. Give feedback on the success, failure, and problems with treatment

**Case manager’s responsibilities:**

1. Build a relationship with the patient; maintain positive regard
2. Provide an adequate understanding of illnesses
3. Identify and reverse of barriers to improvement
4. Facilitate outcome-changing interventions
5. Confirm improvement; adjust based on treatment nonresponse (follow up with patient and providers)
is associated with doubling of total health care costs, the majority of which are for medical services (Kathol et al., 2005)

It is no longer acceptable from a health and cost perspective to continue independent, and to a large degree segregated, general medical and mental health assessment and treatment. In addition to the fact that this division perpetuates the stigma of having a mental health problem, projected estimates suggest that to continue to divide services in this way will lead to net system-wide additional costs for complex patients with mental conditions in the trillions of dollars during the next decade in the United States alone (Exhibit 2.3; Kathol, Melek, Bair, & Sargent, 2008). Reversing even a portion of this anticipated health system loss requires the adoption of business practices in which mental condition treatment would become incorporated as a basic component of general medical care at each level of the health industry. Integrated case management is one of the first steps possible in this transition process. Case managers taking part in this training program, who actually implement integrated care practices, will be frontrunners for the next generation of health care.

**COMORBIDITY AND TREATMENT**

The prevalence of psychiatric illness in patients with physical disorders and especially those with chronic medical illnesses has been documented to be high in a number of studies. The international actuarial firm of Milliman, Inc. recently summarized this data for a number of chronic medical conditions (Exhibit 2.4; Aina & Susman, 2006; Anderson & Horvath, 2004; Bayliss, Steiner, Fernald, Crane, & Main, 2003; Kessler, Ormel, Demler, & Stang, 2003). Further analyses of the literature, in fact, demonstrates an interaction between the apparent level of general medical morbidity and the frequency of concurrent psychiatric illness (Kroenke & Rosmarin, 2006). When community samples are assessed for the point prevalence of psychiatric illness, approximately one-tenth of the population is affected. For patients seen in the outpatient general medical clinic setting, the prevalence increases to approximately one-fourth (Cole, Saravay, & Hall, 1997). Medical inpatients, however, show the highest prevalence of comorbid psychiatric illness, with an average of two-fifths showing some form of mental condition symptoms (Hansen et al., 2001; Silverstone, 1996).
While patients with some illnesses or in some clinical settings have much greater propensity for the co-occurrence of general medical and psychiatric illness, such as those with burns or those admitted to medical or surgical intensive care units, the presence of chronic or persistent physical conditions also puts patients at greater risk (Harter et al., 2007). Other factors, besides the presence of a medical illness, also contribute to the risk of concurrent general medical and mental health conditions. Some of these factors include preexisting psychiatric illness, multiple medications, increased age, poor social support, the involvement of numerous physicians, low socioeconomic status, and others. Consideration of these factors is important when triaging populations of patients in the medical setting, to identify those who are not more likely to benefit from the assistance of case management (see Appendix 2; Huyse, Stiefel, & de Jonge, 2006).

Since the majority of patients with mental conditions are seen in the general medical setting, it does not mean that concurrent illness is any less likely to be seen nor any less important in the mental health sector (Jones et al., 2004). Seventy-five percent of patients with serious and persistent mental illness, such as schizophrenia, eating disorders, or bipolar illness, have been shown to have at least one medical illness. Multiple medical illnesses are found in 50% (Exhibit 2.5). For instance, bipolar patients experience twice as much heart disease, migraines, and asthma and have mortality rates 1.5 to 2 times community standards, excluding suicide and homicide as causes of death (McIntyre et al., 2006). Even patients with less severe psychiatric illness are at double or more the risk for medical comorbidity.

If the point prevalence of mental conditions in patients seen in the physical health setting and general medical disorders in the mental health setting is as high as the preceding data suggest, it is important to understand the level of access that patients with concurrent illness have to treatment for both conditions regardless of setting. For this, there is now excellent data showing that only a third of patients with mental conditions in the medical setting receive any form of

**EXHIBIT 2.3** Accumulated Data About the Top 5% of Patients Using 50% of Health Resources

- ~60% to 80% have comorbid mental conditions
- ~70% to 85% receive no mental health treatment
- ~80% to 90% of those with mental conditions see no mental health specialists
- ~5% to 15% get mental health treatment that would be expected to improve outcomes
- ~$2 trillion is the projected U.S. health system additional spending for patients with mental conditions during the next 10 years if mental health management is not integrated with general medical management

**EXHIBIT 2.4** Mental Condition Comorbidity in Patients With Physical Illness

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurological</td>
<td>37.5%</td>
</tr>
<tr>
<td>Heart disease</td>
<td>34.6%</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>30.9%</td>
</tr>
<tr>
<td>Cancer</td>
<td>30.3%</td>
</tr>
<tr>
<td>Arthritis</td>
<td>25.3%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>25.0%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>22.4%</td>
</tr>
</tbody>
</table>

From Melek S., Milliman presentation at the Milliman Healthcare Symposium, March, 2006 (summary of four studies, see references in text).

**EXHIBIT 2.5** Prevalence of Medical Disorders in Medicaid Patients with Serious and Persistent Mental Illness

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulmonary</td>
<td>31%</td>
</tr>
<tr>
<td>Heart disease</td>
<td>22%</td>
</tr>
<tr>
<td>Gastrointestinal disease</td>
<td>25%</td>
</tr>
<tr>
<td>Skin and connective tissue</td>
<td>19%</td>
</tr>
<tr>
<td>Metabolic</td>
<td>15%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>12%</td>
</tr>
<tr>
<td>Any medical illness</td>
<td>75%</td>
</tr>
<tr>
<td>Two or more medical illnesses</td>
<td>50%</td>
</tr>
</tbody>
</table>

intervention. In a comparison of medical care for patients with schizophrenia to a community sample, 39% of patients with schizophrenia received no treatment compared to 17% of those without schizophrenia (Vahia et al., 2008). These findings are supported in another study showing that barriers to treatment are substantially more likely for those with mental health difficulties (Table 2.3; Bradford et al., 2008). Importantly, poor access to treatment has significant consequences in terms of morbidity and mortality (Figure 2.5; Miller, Paschall, & Svendsen, 2006).

In a series of studies in different populations (end-stage renal disease, diabetes mellitus, multiple sclerosis, rheumatoid arthritis, back pain, general internal medicine [inpatient], and psychiatric consultation [inpatient]) performed in Europe using the INTERMED method, it was possible to illustrate the importance of the medical and mental health interaction (de Jonge, Bauer, Huyse, & Latour, 2003; de Jonge, Ruinemans, Huyse, & ter Wee, 2003; Fischer et al., 2000; Hoogevorst et al., 2003; Koch et al., 2001; Stiefel et al., 1999). In fact, using this approach, the proportion with health complexity—that is, those who would benefit from individualized, integrated care—could be defined. In all the studies, an INTERMED assessment was performed at baseline, and then clinical, quality of life, and health care utilization outcomes were documented. Patients with increased health complexity in terms of baseline INTERMED scores were consistently sicker, more impaired, and incurred higher cost than those with lower treatment (Figure 2.4; Demyttenaere et al., 2004; Kessler et al., 2005). Even in those who receive treatment, minimally effective care occurs in only 13% (Exhibit 2.6; Kessler, Berglund, et al., 2003). This bodes poorly for patients in terms of health and cost outcomes, as we will see in the discussion of the interaction of physical and mental conditions that follows.

Patients with mental conditions fare no better with regard to access to general medical assessments and
FIGURE 2.5 Medicaid patients with mental conditions at risk for concurrent physical illness.


FIGURE 2.6 Relationship of complexity to clinical context and health outcomes.

Higher complexity predicts:
- Higher HbA1c in diabetic patients
- Longer lengths of stays
- Lower perceived quality of life
- Greater emotional difficulties
- Higher mortality

Courtesy of Dr. Frits Huyse.
scores. There was also a remarkable variation among populations (Figure 2.6). Using an INTERMED cut-off score of 21, only 17% of multiple sclerosis patients qualified as complex, while nearly 70% of patients with diabetes mellitus did. Thus, the INTERMED approach to risk and needs assessment has internal validity as a predictor of future poor health outcomes and can be used to identify medical and mental health populations at greatest risk.

Part of the reason that patients with concurrent general medical and mental health problems have difficulty in receiving effective and coordinated physical and mental health care is that the general medical and mental health systems are segregated, both clinically and financially. A significant challenge for case managers, using integrated case management techniques, therefore, will be to help patients bridge this divide. Currently, segregated case management systems (independent physical and mental health) use management approaches that essentially throw patients over the wall so that general medical managers will not be accountable for outcomes in the mental health domain and vice versa (Figure 2.7). Since such handoffs rarely occur and when they do most often lead to little health enhancement, independent management practices contribute to health care cost shifts mainly in the form of increased medical service use (Figure 2.8) in large part due to psychiatric illness nontreatment (Rosenheck, Druss, Stolar, Leslie, & Sledge, 1999). With integrated case management using IM-CAG methodology, the clinical and financial disconnect can be attenuated.

**IMPACT OF COMORBIDITY ON HEALTH AND COST OUTCOMES**

Perhaps the best way to appreciate the massive impact of concurrent general medical and mental health conditions, particularly in patients with chronic illness or health complexity, is to review the difference in health care expenditures (health care service use) for those with and those without mental condition comorbidity. Several studies now demonstrate that patients grappling with mental health and chemical dependence issues use twice the health care resources of those who don’t have such issues (Figure 2.9; Kathol et al., 2005; Thomas et al., 2005). Of significant note, the majority of health care resource use is for medical and pharmacy claims, not for behavioral health assessment and treatment. In fact, in the numerous populations in which these findings have been reported to date, the amount used for additional physical health services (over the general medical service use baseline seen in those without mental conditions) far exceeds the total spent for behavioral health services. For instance, in the Thomas et al. study (Figure 2.9), extra medical spending on patients with mental conditions
FIGURE 2.8 Physical and mental health pots of gold.


FIGURE 2.9 Claims expenditures for 6,500 Medicaid patients with and without mental condition service use.
was $2,045 ($4,694 [$1,264 + $3,430] – $2,649), nearly double the total amount spent on mental condition treatment ($1,038). What this says is that for those who have mental health service needs, the potential for cost savings through improved mental condition care occurs more through reduction in spending on the general medical side than on the mental health side. This points to the importance of connecting physical and mental health support through integrated case management.

From the perspective of integrated case management, it is useful to understand the dynamic of the physical and mental health interaction and the importance of connecting general medical and mental condition services while assisting patients with return to or stabilization of health. Perhaps the best way to do this is to review the effect of depression—a health comorbidity seen in approximately 30% of patients with diabetes mellitus—on diabetic symptoms, treatment, and outcomes. Figures 2.10 through 2.13 and Tables 2.4 and 2.5 demonstrate that depression associated with diabetes: (a) increases the odds for physical complaints associated with diabetes, (b) puts the patient at greater risk for nonadherence to diabetic treatment recommendations, (c) leads to increased risk for diabetic complications and poor diabetic control, and (d) is associated with work impairment and disability (Egede, 2004; Katon, Simon, et al., 2004; Katon, von Korff, et al., 2004; Katon, Lin, et al., 2004; Lin et al., 2004; Ludman et al., 2004).

**FIGURE 2.10** Relationship of depression to diabetic symptoms.


Recent studies demonstrate that physical and mental health multimorbidity in children has similar consequences to that found in adults (Hysing, Elgen, Gillberg, Lie, & Lundervold, 2007; McDougall et al., 2004; Waters, Davis, Nicolas, Wake, & Lo, 2008). Nearly 7% of children and adolescents drawn from a school-based epidemiologic sample had four or more combined general medical and mental health conditions (Waters et al., 2008). This was associated with significantly greater child/youth impairment of health and well-being on 8 of 12 Child Health Questionnaire domains even when compared to children/youth with three or fewer conditions.

Children/youth with chronic conditions, such as asthma and cystic fibrosis, are at greater risk for poor outcomes than those without (Hysing et al., 2007). Of particular concern is the finding that these children/youth not only have worse health but that they are less able to participate in age-appropriate activities (McDougall et al., 2004).

**VALUE OF INTEGRATED PHYSICAL AND MENTAL HEALTH CASE MANAGEMENT**

We are in the early stages of initiating case management practices that attempt to integrate physical and mental

---

**GENERAL MEDICAL AND MENTAL HEALTH INTERACTION IN CHILDREN AND ADOLESCENTS**

Recent studies demonstrate that physical and mental health multimorbidity in children has similar consequences to that found in adults (Hysing, Elgen, Gillberg, Lie, & Lundervold, 2007; McDougall et al., 2004; Waters, Davis, Nicolas, Wake, & Lo, 2008). Nearly 7% of children and adolescents drawn from a school-based epidemiologic sample had four or more combined general medical and mental health conditions (Waters et al., 2008). This was associated with significantly greater child/youth impairment of health and well-being on 8 of 12 Child Health Questionnaire domains even when compared to children/youth with three or fewer conditions.

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**VALUE OF INTEGRATED PHYSICAL AND MENTAL HEALTH CASE MANAGEMENT**

We are in the early stages of initiating case management practices that attempt to integrate physical and mental
FIGURE 2.11 Medication adherence in patients with diabetes.


FIGURE 2.12 Depression effect on cardiac risk factors in diabetic patients.


CVD = cardiovascular disease.
health assistance in care plans, thus a limited amount can be said of the potential clinical and economic value that they bring to improved health and function for patients with health complexity. On the face of it, one would expect that the integration of physical and mental condition case management would bring significant improvement, both in health and cost. In fact, that is what existing studies show for the few patients who have been assisted using early forms of integrated case management.

In the clinical setting, strong evidence exists for improved outcomes through the integration of care management capabilities for depressed elderly patients and for patients with depression and diabetes mellitus (Figure 2.14; Katon & Seelig, 2008; Seelig & Katon, 2008; Unutzer et al., 2002). The same was found in a European study in which diabetic and rheumatoid arthritis patients were selected based on their complexity. Care management interventions in these patients led to improved depressive symptoms and lower

### TABLE 2.4 Depression Effect on Self-Care in Diabetic Patients

<table>
<thead>
<tr>
<th>Self-care activities (past 7 days)</th>
<th>No major depression</th>
<th>Major depression</th>
<th>Odds ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy eating ≤ 1 time/week</td>
<td>8.8%</td>
<td>17.2%</td>
<td>2.1</td>
<td>1.59–2.72</td>
</tr>
<tr>
<td>5 servings of fruit/vegetables ≤ 1 time/week</td>
<td>21.1%</td>
<td>32.4%</td>
<td>1.8</td>
<td>1.43–2.17</td>
</tr>
<tr>
<td>High fat foods ≥ 6 times/week</td>
<td>11.9%</td>
<td>15.5%</td>
<td>1.3</td>
<td>1.01–1.73</td>
</tr>
<tr>
<td>Physical activity (&gt;30 min) ≤ 1 time/week</td>
<td>27.3%</td>
<td>44.1%</td>
<td>1.9</td>
<td>1.53–2.27</td>
</tr>
<tr>
<td>Specific exercise session ≤ 1 time/week</td>
<td>45.8%</td>
<td>62.1%</td>
<td>1.7</td>
<td>1.43–2.12</td>
</tr>
<tr>
<td>Smoking: Yes</td>
<td>7.7%</td>
<td>16.1%</td>
<td>1.9</td>
<td>1.42–2.51</td>
</tr>
</tbody>
</table>

TABLE 2.5  Annual Work Days Lost and Disability Days for Depression and Diabetes

<table>
<thead>
<tr>
<th></th>
<th>Neither</th>
<th>Diabetes</th>
<th>Depression</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work days lost</td>
<td>4.5</td>
<td>6.3</td>
<td>13.2</td>
<td>13.1</td>
</tr>
<tr>
<td>Odds ratio</td>
<td>(1.0)</td>
<td>(1.5)</td>
<td>(3.08)</td>
<td>(3.25)</td>
</tr>
<tr>
<td>Disability bed days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>2.2</td>
<td>3.5</td>
<td>7.9</td>
<td>23.4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6.5</td>
<td>8.5</td>
<td>23.2</td>
<td>45.8</td>
</tr>
<tr>
<td>Odds ratio</td>
<td>(1.0)</td>
<td>(1.63)</td>
<td>(4.0)</td>
<td>(5.61)</td>
</tr>
</tbody>
</table>


FIGURE 2.14  Integrated treatment of patients with diabetes improves depression and lowers cost.


hospitalization rates (Stiefel et al., 2008). Long-term follow-up now indicates that early clinical improvement and further cost reduction persists up to 4 to 5 years (Katon et al., 2008; Simon et al., 2007; Unutzer et al., 2008).

In the health plan setting, integrated case management for complex patients has demonstrated value in a small Medicaid health plan in Colorado (Exhibit 2.7). More recent data from a national health plan, which initiated an integrated general medical and depression disease management program, has also been able to show positive clinical (Table 2.6) and economic (Exhibit 2.8) results. While these data represent early findings of the integration of general medical and psychiatric case management practices, they are encouraging for the future of an integrated case management industry. In fact, the claims cost differential between those with and those without concurrent mental conditions in general medical patients suggests that much greater health-improving and cost savings opportunities are yet on the horizon since current integrated case management practices do not systematically address the social and health system factors that are found in this manual’s integrated case management approach.
Chapter 2  Overview of Health Complexity and the Interaction Between Physical Health and Mental Conditions

**EXHIBIT 2.7**  Net Savings with ColoradoAccess Care Integration

- Office visits: 22% decrease
- Emergency room visits: 26% decrease
- Hospital admissions: 72% decrease
- Hospital days: 76% decrease
- Medical and pharmaceutical costs: 24% decrease

**Total net savings $400 (per member, per month)**


**EXHIBIT 2.8**  Net Savings with Integrated Depression/Medical Case Management

- Medical costs: $175 to $222 PMPM decrease
- Inpatient care: $129 to $170 PMPM decrease
- Pharmacy costs: $21 to $40 PMPM decrease
- Antidepressant: $8 to $11 PMPM increase
- Net cost: $136 to $201 PMPM decrease

Net medical cost reduction with return on investment (ROI) 3:1

Average work days gained per month: 3.95

Improvement in work performance: 11.2%

From Un H: Aetna—www.academyhealth.org/2006/tuesday/611/unh.ppt

Data acquired from member responses to intake and discharge questions. PMPM = per member, per month.

**TABLE 2.6**  Integrated Depression/Medical Case Management: Clinical Outcomes

<table>
<thead>
<tr>
<th>Mental health survey</th>
<th>Intake</th>
<th>Discharge</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>79%</td>
<td>44%</td>
<td>35% drop in depression</td>
</tr>
<tr>
<td>Energy level</td>
<td>49%</td>
<td>75%</td>
<td>26% increase in energy</td>
</tr>
<tr>
<td>Work limitations</td>
<td>63%</td>
<td>29%</td>
<td>34% drop in work limitations</td>
</tr>
<tr>
<td>Social limitations</td>
<td>71%</td>
<td>41%</td>
<td>30% drop in social limitations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical health survey</th>
<th>Intake</th>
<th>Discharge</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>General health</td>
<td>5%</td>
<td>9%</td>
<td>4% increase in general health</td>
</tr>
<tr>
<td>Work limitations</td>
<td>61%</td>
<td>48%</td>
<td>13% drop in work limitations</td>
</tr>
<tr>
<td>Does less work</td>
<td>64%</td>
<td>45%</td>
<td>19% increase in work</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>12%</td>
<td>5%</td>
<td>7% decrease in bodily pain</td>
</tr>
</tbody>
</table>

From Un H: Aetna—www.academyhealth.org/2006/tuesday/611/unh.ppt

Data acquired from member responses to intake and discharge questions.
Perhaps the most sobering factor that supports the adoption of integrated case management procedures, however, is the estimated cost of doing nothing. Actuaries from Milliman, Inc., recently published a report on the cost of maintaining the status quo in patients with 10 common chronic or acute physical illnesses (Melek & Norris, 2008). In the report, they projected that the cost to the U.S. in additional health service use for patients with a chronic illness and concurrent mental health conditions in commercial and Medicare programs alone would be between $136 and $351 billion annually (Exhibit 2.9). It is at least in part through the use of integrated case management procedures in complex patients that this cost gap can be closed.

**REFERENCES**


| **EXHIBIT 2.9** Net Annual Cost of Unchecked Dis-Integrated Care |
|------------------|------------------|
| Population       | Annual additional cost  |
| Commercial       | $83.4–$241.2      |
| Medicare         | $49.2–$109.8      |
| **Total**        | **$132.6–$351.0** |


