Abstract

Abstract: Historically, management of patients’ reports of pain was addressed by individual health care providers, usually a physician. However, the presence of pain affects all aspects of an individual’s functioning. As a consequence, an interdisciplinary approach that incorporates the knowledge and skills of a number of health care providers is essential for successful treatment and patient management. The present article compares interdisciplinary and multidisciplinary health care. The latter is characterized by a shared philosophy, mission, and set of objectives. We highlight the unique and complementary roles and responsibilities of members of teams of health care providers, the integration of the knowledge and skills, communication, conjoint problem solving, collaboration, consensus-based decisions, and shared accountability that are the hallmarks of interdisciplinary care. The availability of interdisciplinary care is not solely the responsibility of team members, all stakeholder (institutions, people with pain, referring clinicians, and payers) need to support, encourage, and demand a comprehensive approach to pain management as it is in all of their best interests. Although emphasis on the inclusion of multiple disciplines was initiated in the treatment of adult patients with chronic non-cancer pain, the importance of the inclusion of a variety of health care professionals rapidly extended to the management of patients with cancer and acute pain. Although the interdisciplinary approach initially focused on adults, it has been expanded to encompass the entire developmental spectrum from infants and children to geriatric populations. However, there continues to be some reliance on a single discipline and treatment approach. Moreover, some third-party payers have been reluctant to reimburse for interdisciplinary treatment despite evidence that this approach can be both clinically effective and cost-effective. 3,4,6,10

The International Association for the Study of Pain (IASP) suggested a number of characteristics that distinguish among pain treatment facilities based on the disciplines involved, degree of integration of treatment, treatment options provided, focus on specific diagnosis or body location, and dedication to professional education and research. They categorize pain treatment facilities into pain clinics specializing in particular diagnostic groups (eg, headache, pelvic pain), modality-oriented clinics (eg, nerve block, acupuncture, biofeedback), multidisciplinary pain clinics, and multidisciplinary pain centers. Table 1 contains a description of these four classifications.

Key Words
Interdisciplinary, multidisciplinary, health care, communication, quality improvement

Background/history and clarification of the terms
Historically, management of patients’ reports of pain was addressed by individual health care providers, usually a physician. The presence of pain affects all aspects of an individual’s functioning. As a consequence, and even more so than other medical conditions such as asthma or hypertension, treatment of patients with pain requires attention to psychosocial and behavioral factors as well as the extent of their underlying physical pathology. This demands an interdisciplinary approach that addresses the many facets of pain.

As the complexity of pain has been more fully appreciated, there have been growing number of calls for more comprehensive approaches that incorporate the knowledge and skills of a number of health care providers. Perhaps the greatest impetus for the movement toward interdisciplinary management of patients with pain can be traced to the efforts of John J. Bonica who established one of the first multidisciplinary pain centers. Although emphasis on the inclusion of multiple disciplines was initiated in the treatment of adult patients with chronic non-cancer pain, the importance of the inclusion of a variety of health care professionals rapidly extended to the management of patients with cancer and acute pain. Although the interdisciplinary approach initially focused on adults, it has been expanded to encompass the entire developmental spectrum from infants and children to geriatric populations. However, there continues to be some reliance on a single discipline and treatment approach. Moreover, some third-party payers have been reluctant to reimburse for interdisciplinary treatment despite evidence that this approach can be both clinically effective and cost-effective.
Interdisciplinary vs. Multidisciplinary

The terms multidisciplinary and interdisciplinary are often used interchangeably; however, there are some subtle but very important differences in these terms. Although multidisciplinary care is care provided by several disciplines, it may not be coordinated and treatment may occur with different goals and in parallel rather than as an integrated approach. It is further suggested that in multidisciplinary care, professional identities are clearly defined, team membership is secondary, and leadership is often hierarchical with a physician in charge. Each team member has a clearly defined place in the overall care of the patient, contributing their expertise in relative isolation from one another.1,2 In contrast, members of interdisciplinary teams should have complementary roles that enhance patient care. Each discipline involved in the interdisciplinary team has a valuable base of knowledge and a set of discrete skills that complement each other (see Table 2 for a list of potential team members). Although roles may overlap, team members are collaborators and partners, but not substitutes for each other. Interdisciplinary teams encourage complementary roles and responsibilities, conjoint problem solving, and shared accountability. Treatment decisions are consensus-based and the process of arriving at the decisions is essential to the team’s recommendations and treatment implementation. Planned or recommended treatments, therapeutic interventions, and other activities reflect the team’s consensus view rather than the view of any single provider. Table 3 outlines the desirable attributes of interdisciplinary teams. Although we are aware that not all facilities and programs have achieved this level of integration, we will nonetheless use the term interdisciplinary as a model of coordinated pain care.

Interdisciplinary Teams: Components of Effective Care

We have already noted several features characterizing interdisciplinary care. Perhaps the most important features of interdisciplinary pain treatment, however, are the inclusion of a shared philosophy, mission, and set of objectives. Interdisciplinary models acknowledge and support the interdependence among team members that fosters an alliance of mutual respect and open communications.7 To work effectively, the environment where interdisciplinary care is provided must be conducive to cooperation and it must encourage diverse viewpoints so that team members can contribute without fear of being discounted. To accomplish this adequate time and space must be devoted to the team to optimize the processes associated with interdisciplinary care and interactions among the team members.

In short, effective, interdisciplinary care does not happen by chance or by individual providers simply working harder. It requires the concerted and coordinated activities of multiple people and disciplines, and a delivery system configured to facilitate execution. It requires teams that can effectively blend diverse skills and perspectives toward a common aim. The shared roles and responsibilities of interdisciplinary teams offer more than the sum of the competencies of the individual team members. As discussed below, institutional commitment to interdisciplinary care provides the milieu by which the team may effectively function.

Interdisciplinary Care: How Effective Care is Provided

Interdisciplinary care can be provided in acute, chronic, and cancer pain treatment facilities. Moreover, it can be provided along the spectrum from pediatric to geriatric populations. The composition of the team will vary since practice settings differ in size, complexity, resources, and patient populations (Table 1). Measurement goals will differ depending on type of pain and state of the patient’s disease. However, regardless of the population served, interdisciplinary care is patient-centered, family-centered, and stakeholder centered (ie, case manager, adjustor, employer). Treatment should be holistic, never directed toward an isolated body part or symptom. Efforts are made to achieve empowerment of the patient and his or her caregivers or significant others.

Assessment

Depending on the presenting problem, various team members should be involved in the initial assessment as well as in ongoing assessment throughout the treatment process, and when possible, at appropriate follow-up. The interdisciplinary assessment should guide the development of a treatment plan that includes input from appropriate team members. Patients and their caregivers or significant others should participate as much as possible and give input into the treatment plan and the outcome goals.

Treatment

Interdisciplinary care involves the execution of the treatment plan concurrently. That is, disciplines involved in care will be engaged in parallel and in collaboration and not sequentially whenever possible. There may, however, be circumstances and settings (eg, post-surgical pain management) where some sequential treatment may be necessary.

Each team member must be familiar with the overall treatment plan, the methods and modalities being used, and the goals of each discipline working with the patient that contribute to the overall goals (ie, reduction of pain, improved pain tolerance, and improvements in physical and emotional functioning, patient satisfaction). All goals should be clear, focused, realistic, and measurable. Evaluation of treatment effectiveness must be based on a pre-specified method of assessment; that is, How will the team, person with pain, and parents or significant others know whether these goals have been or are being met?
All of this occurs through interdisciplinary team communications and subsequent discussion between the team, patient, and significant others.

Communication

Ongoing communication among the team members, with the patient and family, referring providers, and payers is a central and necessary component of interdisciplinary care. Although there are common goals for the entire team, each discipline may target specific issues to promote the global goals of reduction of pain and adverse treatment effects in concert with improvements in physical and emotional functioning. For example a physical therapist may be focusing on upper body strength, flexibility, and endurance with the general goal being improvement of physical function and establishment of a self-management program (eg, daily exercises). A psychologist may focus on increasing interpersonal skills to help patients communicate more effectively with family members and thereby improve emotional functioning. A nurse may address components of a healthy life style, while a physician may attempt to optimize medication benefits (ie, analgesia, improved mood, and restorative sleep) limit adverse events, and monitor for adverse events and misuse. A unified message should be provided to patients such that the team members reinforce the methods being used across disciplines. By being aware of both the general and specific goals, team members can encourage patients’ efforts toward achieving goals across disciplines and reinforce patients efforts and progress during the process of treatment. This should serve to enhance treatment credibility and facilitate patient motivation, adherence with recommendations, and incorporation of techniques and skills into their daily lives. Frequent communication among team members can identify problems in any area that may be addressed in another. For example if a patient is not adhering to a recommended exercise plan, a psychologist might address the concern observed by a physical therapist. A physician who identifies adherence with medication as a problem may enlist a nurse in discussing the patient’s behaviors and concerns with the patient and significant others.

In addition to communication among members of interdisciplinary teams, communication should also incorporate patients, caregivers, and significant others. This involvement goes beyond the simple provision of information; it involves active participation of these individuals to the extent possible in treatment decisions and self-management. The involvement of patients, caregivers, and significant others requires that treatments be accommodated to patients needs (eg, availability of translators, strategies for interacting with patients who have limitations in their ability to communicate) and cultural sensitivities (eg, religious and ethnic mores). In some populations, such as in pediatrics, special attention will need to be given to incorporating family members in a meaningful way into the treatment planning and implementation. Appropriate attention to the needs of parents should be considered in treatment planning. Some of the distinguishing features interdisciplinary pain care facilities are included in Table 4. Underlying each of these is clear communication with patients, caregivers, significant others, referral sources, payers, and primary care providers. Environmental features (eg, safety), documentation, outcomes, dissemination of information, inservice education for teams, and Quality Improvement (QI) plans, are hallmarks of interdisciplinary care.

Documentation

Documentation is a basic component of all patient care. However, when multiple disciplines and treatment strategies are involved, documentation becomes critical as a means of establishing progress toward the shared short-term and long-term goals. It is essential that necessary paperwork and patient-generated documentation such as follow up assessments, should be shared, but additionally all progress notes and reports should be made available to all team members. Appropriate follow-up is essential to confirm the effectiveness of the treatment plan, to identify problems, and to prevent and treat progression, flare ups, and relapses.

Education

There have been criticisms of interdisciplinary care regarding the failure to take into consideration costs and other concerns of third-party payers. Outcomes that are important to stakeholders should be understood, considered, and when possible and reasonable, included as goals of treatment. Clear communication about the treatment plan, treatment methods, and outcomes that will be used to assess treatment effects should be outlined and provided to stakeholders as well as patients, caregivers, and significant others. Education of third-party payers about interdisciplinary pain care and some negotiation may be important to obtain their continued support.

After discharge from pain treatment service or program

At the time of discharge from interdisciplinary care, patients, caregivers, and significant others should be provided with appropriate information about continuation of care plans, appropriate strategies for maintenance, generalization, and adherence to treatment recommendation as required, follow-up procedures, strategies for addressing relapse of symptoms, and a designated contact team member to address any question or problems that might arise. An interdisciplinary team extends beyond the health professionals, patient, caregivers, and significant others involved to referral sources and primary care providers who will continue to manage patients after they leave the treatment facility. Although we have used the phrase
As with treatment of many other chronic diseases, patients with persistent pain may be treated by a primary care provider with occasional intervention provided by other disciplines. In these instances, interdisciplinary care may be episodic supplementing ongoing care coordinated by a primary care provider. Moreover, even when patients are discharged from a formal interdisciplinary treatment program, members of the interdisciplinary team may continue to provide consultation with primary care providers to enhance maintenance of benefits derived by more formal interdisciplinary care. Since patients with chronic pain will not be “cured” they will require routine care and maintenance by primary care providers. Communication beyond the setting where interdisciplinary care is provided is essential so that primary care providers and referral sources can reinforce goals attained at pain treatment facility. This communication from the interdisciplinary team may also serve as a vehicle for ongoing education and guidance to referral sources and the primary care providers related to new treatment approaches for pain, advancements in the understanding of pain, and guidance related to ever changing clinical, legislative, and administrative issues. Table 5 outlines some of the information that should be included in reports transmitted to referral sources. Communications should consist of written reports and electronic interactions but should also include telephone or face-to-face contacts to address questions from providers who will follow patients.

An important role for interdisciplinary pain management that complements direct treatment is identifying “stop rules” that is, providing guidance as to when further assessment and treatments are unwarranted and ending treatment when patients fail to show progress or are resistant to self-management. Such recommendations can protect people with chronic pain from excessive, costly, and often invasive assessments and treatments, terminate continuation of ineffective treatments, and can inform third-party payers regarding achievement of maximum medical improvement and closure of disability claims.

Quality Improvement, Research, and Dissemination

A primary distinction made by IASP8 between pain centers and clinics is research. However, it is important not to use research in the narrow sense of tests of hypotheses and the use of randomized controlled trials to evaluate treatment efficacy. Systematic efforts at QI should be integrated within interdisciplinary care in all facilities, clinics as well as centers. Data can be gathered to evaluate whether comprehensive assessments are being performed, treatment protocols are being followed, and goals and outcomes documented. These data can be used for internal purposes but also, when appropriate can be disseminated more widely. Ideally, interdisciplinary pain facilities are able to identify their mission and goals, admission criteria, services offered, patient satisfaction data, and outcome markers. The outcome criteria will vary depending on the nature of the diagnoses and patient age. For example, in all circumstances outcomes should consider pain severity, levels of emotional distress, physical functioning, patient satisfaction, health care utilization, and cost. However, the nature of the measurement criteria will vary based on age, purpose of treatment, and diagnosis. For example, time to ambulation and time of hospital discharge may be appropriate criteria in the postsurgical context, whereas ability to communicate with family may be particularly important criteria with oncology patients, and return to work may be appropriate for working-aged adults. In contrast, such goals as ability to engage in desired activities for retirees and school attendance for children and adolescents may be more appropriate for these age groups.

QI is a responsibility of all team members. All team members should have input into the QI plan and should be provided with updates on progress and problems identified so that they can be part of the solution. Whenever possible, detailed QI plans should be in place and indicators that demonstrate each of these elements should be clearly specified. The QI plan should address the following questions: Why do we do what we do? How do we know it works? How can we do it better? Interdisciplinary teams can be instrumental in developing practice standards and pain policies in their institutions, which can be enhanced through ongoing QI projects.

Interdisciplinary teams should strive to find shared opportunities to work together on QI projects, research, publications, and educational activities. These experiences further encourage collaboration among team members and promote a shared understanding of assessment and management approaches.

Evidence is mounting in support of the central role of teamwork in delivering better health care and improving outcomes both in primary care and in pain management3,4,6 Yet, despite the large and growing body of research supporting both the clinical effectiveness and cost-effectiveness of interdisciplinary care there continues to be reluctance among third-party payers to cover the costs of all components of such care. This is somewhat of a paradox -- in the days when there are calls for evidence-based health care and when pay-for-performance has become something of a mantra, there is continuing refusal to pay for the care with the best evidence.10 There are numerous explanations for the apparent disregard of the published outcomes not the least of which is a failure of dissemination of information to decision makers along with failures to attend to outcomes that are particularly relevant.
to payers --- reduction in health care utilization, return to work, and closure of disability claims. If interdisciplinary care is to survive it will have to find a way to cooperate and collaborate with stakeholders to demonstrate that the benefits are worth the costs. Dissemination of information about effective treatments to the lay public and potential consumers of treatment is an important aspect of interdisciplinary care. Failure to convey information to appropriate sources can lead to the long-term failure of even those most carefully constructed interdisciplinary programs.

Conclusions

Although there may be circumstances where individual health care providers can provide adequate care and situations where there is a lack of available resources for truly integrated interdisciplinary care, we believe that optimal care for patients with pain is best provided within the model we have described and one worthy of aspiring toward. In Tables 3 and 4 we have outlined attributes and desirable features of interdisciplinary pain management. However, for the optimal type of interdisciplinary care described to be realized in practice requires considerable goodwill and effort by many along with a commitment of resources. Table 6 outlines the key stakeholders (ie, institutions, people with pain, referring clinicians, and payers) and their roles that are required to facilitate the success of interdisciplinary pain care. Although we have described the importance of essential features of interdisciplinary care, we are cognizant that interdisciplinary care is not feasible or even appropriate in some circumstances where pain is involved (eg, acute pain following dental extraction). Conversely, we believe interdisciplinary care is essential in many others (eg, chronic noncancer pain, persistent pain associated with neoplastic disease).

References


Table 1. International Association for the Study of Pain Classification of Pain Treatment Facilities

- **Modality-oriented clinics** that offer limited treatment options and a specific type of treatment (e.g., nerve block, acupuncture, chiropractic). Although these facilities might include more than one discipline (e.g., physicians with different specialties, physician and nurse) they lack integrated and comprehensive approaches to assessment and treatment.

- **Pain clinics** that include more than one discipline but they tend to specialize on a specific diagnosis or body location (e.g., headache, pelvic pain). According to IASP, pain clinics should never consist of a single practitioner regardless of discipline and may provide multidisciplinary care. What differentiates these facilities from programs classified as multidisciplinary pain clinics or centers is their limited emphasis on a specific group of related diagnoses. The IASP category of pain clinic is somewhat problematic in that despite the focus on a particular diagnosis or body location it may include physician and non-physician providers, however, not all do. Moreover, as described by IASP, pain clinics typically do not include research and professional education as core components. Rather some treatment facilities target specific diagnoses or body locations. Thus, they might qualify as being multidisciplinary based on factors other than the target diagnosis or body location. Therefore, the terminology may be subsumed under one of the other IASP classification listed below when appropriate such as multidisciplinary headache clinic or center.

- **Multidisciplinary pain clinics** that include physicians of different specialties and non-physician providers who specialize in the assessment and management of patients with a range of painful diagnoses. Research and professional education are not central in these clinics.

- **Multidisciplinary pain centers** that consist of an organization of health care professionals and scientists who include research, professional education, and patient care as important components. The disciplines of health care providers in such centers are a function of the varieties of patients evaluated and treated. For example, a multidisciplinary pain center whose primary population is children and adolescents would necessarily include pediatricians whereas pediatricians might not be part of multidisciplinary pain centers that only treat adults.

Table 2. Members of the Interdisciplinary Pain Team

- Patient
- Family
- Physicians (e.g., physiatrist, anesthesiologist, addictionologist)
- Nurses
- Psychologists
- Physical therapists
- Occupational therapists
- Recreational therapists
- Vocational counselors
- Pharmacists
- Nutritionists/dieticians
- Social workers
- Support staff
- Volunteers
- Others

Although a variety of specialists and support staff may compose the interdisciplinary team, the focus of the team and population of patients being treated will dictate which members are essential.

Table 3. Attributes of a Well-Functioning Interdisciplinary Pain Team

- Shared philosophy, mission, objectives
- Patient and family centered
- Working together for common, agreed upon goals
- Integrated, interdependent approach
- Mutual respect and open communication, often in a team meeting format
- Frequent and effective, direct, clear, and reciprocal communication amongst team members as well as with primary care providers and referral sources
- Quality improvement efforts are ongoing and the responsibility of all team members
- Collaborative approach to clinical care, education, quality improvement and research
- Deliver evidence-based multimodal treatments
Table 4. General Features of Interdisciplinary Pain Management

- Customization of treatments to the individual patient’s needs
- Specification of measurable goals and end points of treatment when appropriate. For patients who will continue treatment through primary care providers, interdisciplinary pain programs serve as a resource and consulting role.
- Monitoring of progress toward goal achievement
- Expectation of participation on the part of the patient, caregivers, and significant others
- Feedback about progress and performance is provided to the patient, caregivers, significant others, referral sources, and primary care providers
- Maintenance and generalization strategies are prepared in advance, documented, and conveyed to appropriate individuals
- Formal follow-up is scheduled

Table 5. Some Content Areas That Should Be Included in Communications to Referral Sources and Primary Care Providers.

- The nature and results of the interdisciplinary assessment
- The goals of interdisciplinary treatment for the patient
- Patient progress and levels of goal attainment at the conclusion of treatment at the interdisciplinary facility
- Any unique problems encountered to which the provider should be alerted
- Suggestions for symptom and progress monitoring
- Recommendations for follow-up
- A contact liaison agent to whom questions from responsible agents can be directed

Table 6. Recommendations to Stakeholders to Facilitate Interdisciplinary Pain Care

Institutional Commitment

- Vision that encompasses a commitment to interdisciplinary care
- Communicates and inculcates this vision with facility administration, referral sources, providers, patients being treated, and the community at large
- Allocation of staff time to organize, implement, monitor, and modify services and programs.
- Appointment or assignment of professional and support staff to facilitate care, documentation, and quality improvement projects
- Allocation of space as needed to expedite and encourage communication and opportunities for team interaction
- Assurance of appropriate space available for provision of care that involves multiple providers
- Provision/creation of an interdisciplinary (electronic) record system

Referral Agents

- Acknowledgement of the need and appropriateness of interdisciplinary care for those referred.
- Communication regarding importance of interdisciplinary treatment and care for their patients.
- Expectation of timely feedback from the interdisciplinary team regarding treatment and progress.
- Willingness to be engaged throughout the process and to accept care of the patient after completion of program, with guidance from interdisciplinary pain team

People with Pain and Others in the Community

- Understanding of why interdisciplinary pain care is appropriate.
- Encouragement of the development of programs committed to interdisciplinary care in their communities.
- Willingness to volunteer to serve on committees devoted to fostering interdisciplinary pain care.
- Willingness to correspond with and meet decision makers and political leaders advocating and lobbying for interdisciplinary pain care in their communities.
- Active participation in treatment(s) as appropriate.
- Request that referral agents refer them to facilities that are committed to interdisciplinary pain care when possible.

Professional Organizations

- Advocate for research funding to demonstrate benefits of interdisciplinary pain care
- Educate payers regarding the need to appropriately reimburse for this work
- Provide interdisciplinary education and professional development opportunities that fosters communication and networking.