

Commentary

Missed opportunities: School as an undervalued site for effective pain management

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When children are physically, emotionally, and mentally well, they are far more likely to succeed in school (People for Education, 2010). Therefore it is not surprising that when children experience chronic pain, school success is often threatened. Although limited, research in this area indicates that children and adolescents with chronic pain tend to experience significant difficulties with social functioning, poorer academic performance, and increased challenges in meeting the demands of the school environment (Logan et al., 2007). It is of particular importance then, that students' needs with respect to pain management are identified and addressed appropriately by both health care and education professionals (Sexson & Madan-Swain, 1993; Chan et al., 2005) to ensure school success. Unfortunately, many education and health care systems often function independently of one another, leading to a silo approach to addressing the well-being of children and youth with chronic health conditions like chronic pain. Despite convincing evidence to suggest that school-based health initiatives implemented by school personnel can be successful, very few health programs are implemented at the school level (Larsson & Carlsson, 1996; Greenberg et al., 2001; Wilson et al., 2003). In fact, during a meeting on mental health by the Standing Senate Committee on Social Affairs, Science and Technology, Goldbloom stated "I see the school as the most underdeveloped site for effective health care..." (Senate of Canada, 2005). With this in mind, we argue that an interdisciplinary or, more appropriately, an

interinstitutional approach to the management of pain and other chronic health conditions in the school setting is optimal. As such, the goal of this commentary is to examine current barriers to interinstitutional collaboration between school and health care professionals and to provide suggestions for overcoming these barriers using examples of successfully implemented interdisciplinary models. We will conclude by providing recommendations for improving interinstitutional collaboration between school and health care professionals.

The communication barrier

As medical science develops effective treatments for an increasing number of chronic conditions, more and more children are reentering the school system after prolonged or frequent absences due to serious medical conditions. This means that an increasing number of students challenged by chronic health conditions require support from both medical and school staff to manage their conditions in the school setting (Mescon & Honig, 1995). As such, collaboration and consultation between health care and education professionals is becoming increasingly necessary to ensure optimal outcomes for children and adolescents (Papa et al., 1998). However, there are inherent challenges associated with collaboration across multiple teams and settings. Interdisciplinary teams are based on integrated knowledge and expertise (D'Amour et al., 2005), but most professionals (e.g. teachers, physicians, school administrators, psychologists) are trained in

specialized programs that may or may not provide opportunities for formal training in consultation with other disciplines. Therefore, many professionals operate independently and may not possess an adequate understanding of the roles, responsibilities, and skills that each collaborator on an interdisciplinary team possesses (Shoffner & Briggs, 2001). All members of interdisciplinary teams bring a different skill set, personal set of experiences, and unique set of responsibilities to the table. Members are also likely to differ in their approach to problems as best practices often vary between professions which can make collaboration increasingly challenging (Kaplan, 1995). Such diversity amongst team members makes it important for all parties to be open to the advice and guidance of their colleagues. Research has shown that however challenging interdisciplinary collaboration may be, when these unique skill sets and expertise are combined, it often results in the most effective outcomes for children and youth (Barnsteiner et al., 2007). It is important, then, for all team members to be aware of the expertise of their colleagues and to present their recommendations in a collaborative rather than in an authoritative or expert manner.

Gaps in education and training

With the introduction of so many new subspecialties within the education and health care fields, there is increasing recognition that one professional does not possess all of the skills necessary to work with diverse populations of children and adolescents (Cordess, 1996). As many education and health care professionals hone their areas of expertise, gaps develop in the general training required to work with children and youth. For instance, teachers are provided with extensive training with respect to academic functioning of children and adolescents. However, many teachers feel as though they are not adequately prepared and do not have access to enough resources to meet the needs of students with more diverse needs like those with chronic medical conditions such as chronic pain (Nabors et al., 2008; MacNevin, 2011). Teachers can employ a variety of strategies in the classroom to help ease the symptoms of chronic pain, but research has shown that the current training structure for frontline school personnel

does not provide adequate opportunity to learn effective strategies for students to manage chronic health conditions (e.g. deep breathing, progressive muscle relaxation; Sexson & Madan-Swain, 1993; Logan & Curran, 2005; MacNevin, 2011). Health care professionals face similar gaps in training, with few professional health programs offering opportunities to interact across and between different health programs (Barnsteiner et al., 2007). Even when trainees are practicing similar skills and competencies, very seldom do programs offer the opportunity to consult with peers from different areas of study about case conceptualization or treatment approaches (Carlisle et al., 2004; Barnsteiner et al., 2007). Given that trainees enrolled in health sciences programs have few opportunities to consult with students and professionals in other disciplines, it is not surprising that even fewer opportunities exist to collaborate with non-health care professionals. This can make it difficult for pediatric health care personnel to address educational concerns of patients and their families, as few possess direct knowledge of and experience in the education system. These gaps further emphasize the importance of interdisciplinary training and collaboration, as education and health care professionals cannot meet every need of every student independently. Formal training in consultation is becoming increasingly important to ensure the most effective, integrative approach to the well-being of children and adolescents (Margison & Shore, 2009).

Although there are gaps in training for both health care and education professionals, there are also personnel who have the ability to liaise with both systems to facilitate an interdisciplinary approach to the treatment and management of chronic pain and other chronic health conditions. Specifically, professionals such as school psychologists and school nurses often possess unique knowledge and insight into both the health care and education systems and are likely to be trained in interdisciplinary consultation. Specifically, most school psychologists receive formal training in consultation and are encouraged to collaborate with interdisciplinary teams to develop appropriate and effective strategies for students with chronic health concerns as well as

various other developmental challenges. School psychologists are also trained in evidence-based practice and can provide insight into the most effective, empirically-supported strategies for students with challenges like chronic pain. Whereas school psychologists are trained primarily in school settings, school nurses are initially trained in the health care setting. Still, these professionals possess the unique skill set required to work in both the education and health care system. Although trained as health care professionals, school nurses receive additional training to prepare them for work in the school setting including effective forms of consultation between home, school, and the health care team (Mills & Mills, 1995).

Although the roles of these professionals vary between and within countries, school boards, and even schools (Corkum et al., 2007; Jordan et al., 2009), the standard training that most school psychologists and school nurses receive provide them with a unique skill set that enables them to facilitate and organize interdisciplinary collaboration. Unfortunately, many school and health care personnel are unaware of the scope of training and practice required to work as a school psychologist or school nurse, which can result in underuse of their services. Additionally, not all schools have access to these professionals on a full-time basis, meaning that school personnel do not work closely with these professionals frequently nor are they able to access their services easily. To ensure that school psychologists, school nurses, and other valuable personnel are able to liaise effectively with both systems, it is essential that teachers and others working in the school system are aware of the skill set they possess in order to make the most use of the time these professionals do have at a given school.

Interdisciplinary training and treatment models

Communication barriers and training gaps challenge interdisciplinary collaboration with respect to the management of pediatric chronic pain and other chronic health conditions in the school setting, but several models have been developed to address some of these challenges. Specifically, some pediatric pain programs have successfully

implemented an educational component to their rehabilitation service, ensuring that academic objectives continue to be met by patients. One such program is the Lucile Packard Children's Hospital at Stanford Pediatric Pain Management Clinic. This program is primarily an all-day, outpatient clinic that incorporates psychoeducational assessments and interventions to help restore and maintain students' academic functioning. A similar Pediatric Pain Rehabilitation Clinic is located at the Kennedy Krieger Institute in Baltimore, Maryland. This program also provides neuropsychological and psychoeducational testing with a focus on ensuring a smooth transition back to school and to the community after discharge from the clinic. Personnel at the Kennedy Krieger Institute begin working on a discharge plan as soon as the patient enters the program. Personnel contact outside agencies, including the patient's school, to ensure that an appropriate and effective discharge plan can be developed. There are also follow-up calls to ensure that transition back to school and home has been successful. These programs offer excellent examples of multidisciplinary teams working across settings to ensure that students with chronic pain succeed in all aspects of functioning.

Whereas some clinical health settings include school-based components in their interventions, schools are also beginning to undertake health initiatives at the classroom- and school-wide level. For example, some schools use classroom-based, teacher-implemented mental health programming to address a wide array of behavioral, social, and emotional concerns (Rones & Hoagwood, 2000). One such program is Promoting Alternative Thinking Strategies (PATHS; Greenberg et al., 1995), which aims to increase students' ability to discuss and understand emotions as well interact positively with same-age peers. Participation in this program tends to be associated with increased emotional vocabulary, increased ability to discuss emotional experiences, and greater understanding of others' feelings. Many similar school-based, teacher-implemented mental health initiatives have been successful in improving symptoms in a wide variety of students including those with stress, conduct problems, and substance use problems; however, programs dedicated to the health needs of

students are not widely distributed or implemented at the school level. Using the same basic principles employed by school-based mental health programs, it is plausible that very similar programs could be developed or adapted to meet the needs of students with chronic health conditions such as chronic pain. Such programs could include cognitive and behavioral strategies to manage the condition in the school setting, as well as seeking support from peers with similar difficulties, and learning how to reintegrate into school following extended absences.

Training in interdisciplinary collaboration

In addition to clinic- and school-based initiatives designed to facilitate collaboration among various professionals, many medical and allied health professional training programs are also facilitating interdisciplinary collaboration using unique interdisciplinary learning opportunities. For example, many universities with large allied health professional training programs have taken steps to implement health mentor programs in which students from various disciplines including dentistry, medicine, speech language pathology, occupational therapy, nursing, and physiotherapy are assigned to a community member challenged by a chronic medical condition. These students are asked to meet with the patient and to gain perspective of his or her experience with the health care system. Students are encouraged to ask questions regarding the collaboration between health care professionals who have treated these patients and to think critically about the experiences these patients have had throughout their illness. Although such programs are effective in facilitating collaboration across disciplines, they often do not include students in clinical psychology programs and typically do not extend to students enrolled in teacher training programs. Whereas research shows that it is important to collaborate within a given discipline, it is also important to extend collaboration across various disciplines and settings in order to provide the most effective care to all patients (Barnsteiner et al., 2007).

Whereas many professional health care training programs are attempting to move toward interdisciplinary training models, teacher training programs appear to be several steps behind this

trend (Welch, 1998). According to Friend and Cook (1990), “teachers are being set up to fail because they enter their profession with content expertise and method, but without the skills to work effectively with their colleagues” (p.77). Most teacher training programs focus on curriculum development and diverse teaching methods but do not adequately prepare teachers to consult and collaborate with colleagues in other disciplines. Given that research has shown that teachers can effectively implement a variety of school-based health and academic interventions in consultation with fellow professionals, collaboration between experts becomes increasingly important in meeting the needs of diverse students including those with chronic pain and other chronic health conditions (Domitrovich et al., 2010). Unfortunately, teacher training programs do not appear to be changing to reflect this trend. Lanier and Little (1986) soberly sum up the challenges with the current teacher education model by stating that although there have been evident weaknesses in teacher training for decades, “the troublesome circumstances remain basically unchanged” (p.527). The coordinators of teacher training programs are encouraged to engage in changes to curriculum that reflect the needs of the current educational environment. This must include specific training in consultation to enable teachers to consult effectively within the education system and across various other disciplines. There are currently many professions whose primary role is to maintain the health and well-being of students and so it is of particular importance that these professionals, including teachers, know how to consult effectively.

With recent advances in technology, there have been an increasing number of electronic, interdisciplinary education initiatives in the health sciences field which could also be easily adopted by teacher training programs to help facilitate collaboration across teams and settings (Kennedy et al., 2008). One such initiative is the use of virtual or e-cases which present a realistic medical case using multimedia imagery including images, animations, and audio (Posel et al., 2006, 2008). These e-cases are developed with specific guidelines: (a) the cases reflect realistic situations, (b) the cases cannot be completed alone, as they are too complex for one

discipline to approach independently; and (c) the cases encourage interdependent collaboration and problem-solving (Barr et al., 2005; D'Eon, 2005; Steinart, 2005). The concept of virtual cases could be easily applied to interdisciplinary collaboration between education and health care practitioner training programs. These e-cases would reflect specific referral problems (e.g. juvenile arthritis causing frequent absences and decreased academic achievement, school reentry following surgical procedures) that would facilitate collaborative case conceptualization and development of treatment plans. Use of e-cases would encourage open collaboration and patient/student-centered practice amongst education and health care trainees.

Electronic education tools are not only being used in professional training programs but also for continued professional development and consultation in current health care and education practice. For example, our group is currently developing a website that aims to teach educators about pediatric chronic pain and how to help manage it in the classroom. It will provide basic definitions, prevalence rates, potential classroom accommodations, and resources for teachers working with students with chronic pain conditions. The website may also be used as an adjunct to the basic information given to schools by health care providers. In addition to standard websites, an electronic tool currently being used in education and health care practice is *telehealth*. Telehealth can facilitate communication between the school and health care teams by allowing personnel from several locations to communicate through video-conferencing (Darkins & Cary, 2000). Telehealth also provides an opportunity for students with chronic health conditions to meet with health care professionals and school team members simultaneously and allows educators and health care professions to share professional development seminars and consult on a variety of cases. With these advances in technology, students and professionals from a variety of disciplines can collaborate via interactive electronic applications or standard web-based tools, making an

interdisciplinary approach to the well-being of children and adolescents more feasible than ever.

Future directions and recommendations

To meet the needs of a growing number of students with health care concerns such as chronic pain, it is essential to promote interdisciplinary collaboration between the school and health care teams to avoid a silo approach to managing chronic pain in the school setting. To facilitate effective communication between these two groups, health care and education professionals must be trained in models of consultation and must be provided with opportunities to learn with and about other professionals. With advances in technology, training programs are encouraged to use tools such as e-cases, telehealth, and educational websites designed to meet the educational needs of various professionals and help bridge the gap between professionals caring for the same population. Universities are encouraged to push the envelope and provide cross-disciplinary classes for students to learn skills and develop competencies in consultation with professionals from a wide array of disciplines. Clinically, health care training programs and school-based health initiatives must continue developing in consultation with one another. An integrative approach to the care of children and adolescents will likely lead to more positive long-term outcomes for many of these students. With respect to managing pediatric chronic pain in the classroom, it is important for all professionals involved to rally their efforts and begin talking, interacting, and developing integrative approaches to health care, as it is clear that no single professional possesses all the skills necessary to manage the challenges inherent in chronic pain.

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