

HOT SPOT

The Newsletter of the Rapid Response Radiotherapy Program
of the Odette Cancer Centre



Volume 11, Issue 4, November 2009

Editorial

By Arjun Sahgal, MD, FRCPC

This issue of **Hot Spot** has a special focus on ethics, and this is an area of great importance in medicine for which we often do not have sufficient training. A provocative piece by Dr. Philip Hébert raises important ethical issues in a scenario format. In particular, he raises our awareness and challenges us to think about possible ethical situations surrounding the real threat of an H1N1 virus pandemic this year. The process for an ethics consult via an on-line request form at Sunnybrook is introduced, and represents an excellent resource to use when faced with tough ethical situations. In this issue, other important aspects with

respect to the Canadian health care system are discussed. These include the role of family caregivers by Michele Chaban, and electronic medical record programs, as currently instituted at the Temmy Latner Centre for Palliative Care by Christopher Obwanga.

The colon cancer special insert provides a summary of the role of monoclonal antibodies in colon cancer therapy. Dr. Yoo-Joung Ko provides an excellent brief synopsis of how they are currently used in our health care system. The second insert written by Dr. Christine Simmons provides a detailed summary of symptoms associated with side effects of

anti-hormonal therapy in breast cancer survivors, and potential treatments for the resulting estrogen deprivation. Dr. Ewa Szumacher has once again compiled a list of the latest events in continuing medical education. Dr. Carlo DeAngelis continues with Part 4 in his pharmacy column on Opioid Dose Equivalency—Dose Conversion for Transdermal Fentanyl and Methadone. We hope you find the **Hot Spot** resourceful.

A brief primer on scarcity and fairness

By Philip Hébert, MD, PhD, FCFPC

It is sometimes asked whether health care providers have an obligation to provide all care to all patients at all times. Posed in such an extreme fashion, the answer would obviously be, “No.” It is not possible to provide all needed care to all patients in a timely way. This may be on account of geography, the nature of the disease, the lack of effective treatment or the scarcity of such. This lack of availability may also be exacerbated during extreme times—for example, large-scale medical emergencies, war, or economic recessions. Combining a pandemic, such as the current H1N1 virus outbreak, with the global recession may result in demands for scarce critical care resources that, seemingly, cannot be met in a non-arbitrary way.

This scenario should concern families and health providers alike. It is difficult

enough to meet the physical and mental challenges of critical illness. It would be doubly so should the resources required for life-support be insufficient to meet the needs of all. Where needed resources are in short supply, the needs of some must be prioritized over the needs of others. As one astute writer has observed, prioritizing the needs of some patients means *posteriorizing* the needs of others (Tallis, 2004). Can such discriminations among patients be made in a fair way?

Case

A viral epidemic, due to virus XN, has caused widespread serious illness, with many patients requiring respiratory support. While all age groups are affected and the aged are more likely to be sick, it

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is the youngest who are more likely to be critically ill. Lacking effective treatment for virus XN, treatment is only supportive. Complete respiratory collapse in affected individuals can be sudden and is catastrophic. Your hospital is at 120% capacity. There are 12 beds in the ICU with all patients intubated, and six more beds in a step-down unit, also ventilated. There are 10 patients in the ER awaiting admission, including three patients very ill with virus XN. One of the beds for ventilation has become available. A decision has to be made as to who should get that bed.

Of these three patients, one, a 13-year-old boy with Down's syndrome from a large, caring family, is the sickest. There is a 90% chance he will die in the near future, even with respiratory support and admission to the ICU. If he survives, however, his long-term prognosis is good. The second is an 80-year-old world-renowned pianist with a history of peripheral vascular disease and a serious stroke one year ago. Her short-term prognosis is excellent: with prompt respiratory support, there is a 90% chance she will survive to discharge. However, her long-term prognosis is poor, given her age and co-morbid conditions. The third affected patient, a 35-year-old stockbroker, married with two young children, is now septic and in acute renal failure. His short-term prognosis is poor: he has a 30% chance of survival to discharge.

Of these three patients, who should have priority of access to the ventilator in the ICU?

In the past, scarce medical resources would often have been allocated by social criteria. On that basis, the stockbroker might have been prioritized, as a productive member of society. The aging pianist would come in a close second, as a prior contributor. The boy with Down's would come last, as a past and future non-contributor. If, instead, we used purely medically based criteria, the pianist would be prioritized, as, with treatment, her short-term prognosis is so favourable. The boy with Down's would not be prioritized because his treatment is likely to fail. On the other hand, if increasing age were a factor counting against aggressive care, then the pianist

would be the last to receive treatment and the boy would be the first. This is "age-ism" and wrong in some people's eyes. All lives are equally important and a year of life gained at 80 is as important as a year of life gained at age 13.

All such traditional answers to the problem of scarce resource allocation seem to be unfair and cruel. As a result, some would refuse to make choices among ill. Every patient is worthy of treatment and allocation decisions should simply be a matter of mere chance or fate. Treatment priority is a matter decided by a roll of the dice or by who turns up first to be admitted.

A recent paper in the **Annals of Internal Medicine** (White et al. 2009) addressed the problem of fair decision-making during times of scarcity. The authors advocate the use of a mixed set of criteria to arrive at an allocation score to guide decision-makers. Rather than a single principle or perspective, they recommend a numerical scoring system that would reflect three different aspects of a patient's situation: the patient's short-term prognosis, long-term prognosis and, interestingly, the patient's "stage of life". This latter factor would give priority of treatment, other things being equal, to those who have gone through fewer of "life's stages". Short-term prognosis reflects how sick the patient is currently and how likely it is that aggressive treatment will be successful. (The less likely it is that a patient will survive in the short-run is also a measure of an intervention's futility.) Long-term prognosis reflects the presence or absence of co-morbid conditions that impact the likelihood of one-year survival. (Other things being equal, scarce treatment ought to go to the individual likely to benefit the longest.)

This scoring system has the advantage of combining medical prognostic data with the principle of "fair innings". The priority for treatment opportunities goes to those who have yet to experience the diversity that life offers. In other words, everybody is due at least five innings to make it a fair game; anything greater than nine is pure gravy.

Applied to our case scenario, the stockbroker would lose points due to his poor short-term prognosis, but gain some for having gone through only some of the lifecycle and gain some more points, as

his initial health is so good. The pianist patient gains points for short-term survival, but loses more as she is more likely to succumb to her co-morbid conditions in the next year and as she has also passed through life's stages. As a result, of the three patients, she would be the last to gain access to the ICU. The boy with Down's, although losing points for short-term prognosis, gains many more back as his long-term prognosis is so good and he has yet to go through many of life's stages. On this scheme, the boy would be prioritized for the one open ICU bed. The stockbroker would come in a close second to the boy. (His access might come first if the boy's immediate survival diminished to a vanishing point making ICU treatment futile.)

The main difficulty with this whole scheme, as the authors acknowledge, is that prognostic scores are notoriously uncertain. The most attractive feature of the proposed prioritization scheme is not the numbers but, rather, its intuitive appeal. Any acceptable, non-arbitrary model for making contentious prioritization decisions ought to reflect the complexity of such decisions. The model these authors offer does so, and should be a reminder that no single principle will apply without exception, and this applies to their model, as well. Using the life-cycle principle, for example, would generally favour treatment of children first. This may be acceptable for everyday practice but, in medical catastrophes, the adult's well being will be required to protect the child's and so the adult with more experience of the life-cycle may be prioritized for treatment. More generally, there must be a place for family and community in this model that does not lead us back into the bad old days of "social worth". Any allocation decision that did not, in part, reflect ties of kith and kin—the interdependence of members of a family, the emotional bonds between them—would be a poor decision indeed. These are mere quibbles, however. The authors' attempt at fairness and clinical usefulness remains.

Finally, the authors recognize that the acceptability of any such access-to-treatment process requires public support through openness and community dialogue, or "meaningful public engagement," something that we have not, as yet, had. But if the experience of Obama's quest for a new health care

system teaches us anything, it is that public engagement is an enterprise fraught with danger and uncertainty. Some public opinions are far from the expansive and altruistic perspective that fair allocation decisions require.

Critical illness may be unfortunate, but the allocation of scarce interventions need not be unfair or arbitrary. An approach to prioritizing access that utilizes a more

nuanced view of prognosis and the stages of life does a better job of rationalizing who gets what when.

About the author

*Philip Hébert, MD, PhD, FCFPC, is the author of **Doing Right**, an introduction to medical ethics for all health care providers published by Oxford University, now in its second edition.*

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Are family caregivers an essential component of our health care system?

By Michele Chaban, MSW, RSW, PhD

It is estimated that 80% of all caregivers in our home health care system are family members. The other 20% of caregiving comes from interprofessional health care providers. Depending on your definition of “family caregiver” and the source of your statistics, it is estimated that there are one (end of life), three, five or seven (all family caregivers) million family caregivers in Canada. Even at its lowest denominator, it is a formidable group.

Family caregivers are not only a part of health care, they are an ingredient of health itself. Social networks are considered to be

a determinant of health. If we define family as anyone who is emotionally connected by birth or sentiment to the person who is at risk—family caregivers come from our social networks. The National Profile of Family Caregivers in Canada 2002 indicates that the majority of family caregivers are less than 55 years of age. This is an age for maximizing one’s earning potential pre-retirement, being the high point or culmination of one’s career, as well as caring for the generations both before and after you.

The 1996 Canadian Census indicated that one out of every six adults over 15 years of age provided care for the elderly. If one out of six adults shared a common condition, then this number would constitute a population health issue—an identity that would mobilize supportive resources. It is estimated that the fiscal value for their caregiving work is \$20 to \$30 billion. They also spend more than \$27 billion a year on caregiving resources, making them both a work and economic force. For both these reasons and more, family caregivers’ importance is not fully recognized. Consider this: what if family caregivers decided to relinquish their caregiving roles? It is likely that the health care system would collapse under the displaced demands of care.

While a typical family caregiver is a 46-year-old, married and employed woman, men now represent 39% of all caregivers. Male caregivers who provide the same amount of care hours as women feel more burdened by the care, would prefer to work more hours at their job and pay someone else to do the bulk of family caregiving. This runs the risk of marginalizing men as participants in care in their own families.

Even though family caregiving is a highly rewarding commitment, its intensity and duration takes its toll on our health.

One in four Canadian workers suffers from caregiver stress. Absenteeism due to caregiver stress costs Canadian business \$2 to \$3 billion each year (\$1 billion in direct costs and \$1 to \$2 billion in indirect costs). As a society, we are already paying a hidden price for family caregivers who are not adequately supported in their tasks.

The social scaffolding for family caregiving networks needs to be built and managed, as would any community. How to do this effectively and efficiently requires an interprofessional group that is able to translate its expertise into family caregiving capacity for a healthier workforce.

Without doubt, both family and interprofessional health care givers could benefit from enhanced support and respite resources. Amongst all that 20% of us do in health care, we need to remember to mobilize these resources for the other 80% of home health caregivers.

For further information on this subject, contact Donn Fenn or Terry Morgan at the Family Caregiver Network Magazine or navCare, a multi-agency resource committed to the above.

About the author

Michele Chaban, MSW, RSW, PhD is co-founder of Toronto-based Habitat Healing (habitathealing.com), a family education and counselling service. Michele is the current Director of the Contemplative End-of-Life Care Program at The Institute of Traditional Medicine in Toronto, a unique national program which joins many forms of scholarship and skills. She is also co-director of the Clinical Mindfulness Program at University of Toronto, Faculty of Social Work. Her work is dedicated to wholism at many levels including humanizing health care systems for patients, families and professional caregivers.

1. Identify, empathize and advocate for family caregivers’ needs and networks.
2. Connect family caregivers with appropriate interprofessional resources that will lessen the demands of care, promoting endurance and resiliency over the course of time (i.e., energy conservation [OTs], psycho-educational counselling, mindfulness meditation, resource management and fiscal planning [social work], pain management and ambulatory transferring strategies [nursing, rehabilitation medicine], respite care [CCAC, hospices]).
3. Educate family and professional caregivers in the importance and strategies for building family caregiver networks.
4. Refer family caregivers to resources that will help them develop family caregiver networks through education, coordination, navigation (CCAC, Hospice, navCare, The Family Caregiver Magazine).

Ethics Centre launches new on-line consult request on Sunnynet!

By Sally Bean, JD, MA Clinical & Research Ethicist

What?

Do you or your team need to request an ethics consult, education event or debriefing session? The Sunnybrook Ethics Centre has launched a new on-line ethics request form that will allow all staff and volunteers to request ethics support on-line from our dynamic ethics team.

Why?

Our available services and activities are intended to promote ethical decision-

making throughout the organization with the ultimate goal of enhancing patient care. We recognize that ethical issues arise outside the typical Monday to Friday 8:30 a.m. to 5:00 p.m. timeframe. Therefore, we have developed a quick and accessible mechanism for Sunnybrook staff and volunteers to request ethics support whenever the need arises.

How?

Access our on-line consult request tool 24 hours a day on the Ethics Centre

home page: <http://sunnynet.ca/Default.aspx?cid=104246&lang=1> or by accessing the request tool directly from the intranet: <http://ec/>. We will make every effort to promptly respond to your request during normal business hours, which are Monday to Friday, 8:30 a.m. to 5:00 p.m. If you have any questions or clarifications, please contact the Ethics Centre's administrative assistant at extension 4818.

Improving data capture and standardization in a home palliative care program

By Christopher Obwanga, BSc, Research Coordinator, Temmy Latner Centre for Palliative Care

The Temmy Latner Centre for Palliative care employs an electronic medical record (EMR) program in delivering home-care services. The EMR has accorded the centre the ability to capture real-time data from patients' bedside, creating a new interface between patient care and research initiatives (Porcheret, Hughes, & Evans, 2004). Secondary data analyses of these databases pose a challenge, as most EMRs have been developed to facilitate the provision of care, and not for research purposes (Harpe, 2009). As a result of the EMR offering flexibility as a clinical tool, data capture is inconsistent, limiting the quality of data available for research. Patients' progress notes are mainly captured as free text, which not only affects the accuracy and completeness of data, but also requires more complex data manipulation prior to analysis.

As an attempt to address some of these limitations, the centre has embarked on a continuous quality improvement process of data entry standardization through a working group comprising health care providers (HCPs), administrative and research personnel. Following a survey of users, the group intends to achieve data consistency through the use of templates. An audit of a cohort of patients (n = 64) who died in the month of December 2008 shows CPR as the most commonly documented advance directive with a completion rate of 42% followed by IV

hydration (12.5%), artificial nutrition (3.1%) and transfusion (3.1%). Using these completion rates as a baseline, the committee will generate a follow-up visit or "encounter" template to capture the evolving discussion around advanced directives and goals of care using hard coded drop-down menus. Analysis of these fields of interest will compare the completion rates of the data pre-/post-template implementation as the outcome. Through iterative loops in the data standardization process, the committee will put forward a final template for consensus before implementation. Using the template as an intervention for data quality, the goal of improvement would be to double the data capture in these fields, i.e., increase the documentation of discussions around CPR to greater than 80%. Consistent data will vastly aid research initiatives by achieving appropriate coding to represent the outcomes and exposures of interest (Porcheret, Hughes, & Evans, 2004).

Through an iterative process, EMR users will receive feedback on the accuracy and completeness of their patient encounters and, in turn, EMR users will influence the format of the data collection template, thus meeting the needs of a busy clinical practice and research. Data standardization will make the EMR valuable in systematically generating hypotheses for research based on electronic data (Powell & Buchan, 2005).

We anticipate accruing data on approximately 2,000 to 2,500 patients per year. A robust clinical database of this size will enable the centre to pursue projects that link our clinical database with administrative databases, hence advancing the centre's ability to monitor the outcomes of home palliative care services. Future projects at the centre involve the development of a set of standardized variables or minimal dataset (MDS) for home palliative care research and program development. This dataset will serve as a framework for promoting standardization of databases across home palliative care programs (Kuziemyky & Lau, 2008).

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Opioid dose equivalency: Part 4—Dose conversion for transdermal fentanyl and methadone

By Carlo DeAngelis, PharmD, Clinical Pharmacy Coordinator—Oncology, Department of Pharmacy, Odette Cancer Centre, Sunnybrook Health Sciences Centre

In recent years, there has been an increase in the use of transdermal fentanyl. While there may be several reasons for switching to transdermal fentanyl, a common reason is to facilitate opioid administration in a patient unable to take medication orally. Due to the risk of serious or life-threatening respiratory depression, Health Canada has recently added several contraindications to the fentanyl product monograph including a contraindication on its use in patients who are opioid naïve. This applies even to the 12-microgram patch. In addition, fentanyl administered by the transdermal route poses several challenges with respect to opioid dose equivalency because of the dose used (fentanyl is dosed in micrograms and morphine and other opioids in milligrams), dosage strengths available, how the available transdermal fentanyl is labelled (the patches are labelled based on the micrograms of drug delivered per hour) and disagreement as to the appropriate equianalgesic conversion ratio. A practical approach to this latter issue is offered by Donner, Zenz, Tryba, et al. (1996) who studied the direct conversion of oral morphine to transdermal fentanyl (the most common clinical scenario) in cancer patients. They recommend that the conversion ratio for oral morphine to transdermal fentanyl be 100:1 (100 mg of morphine = 1 mg of fentanyl). Thus, for a patch that delivers 100 micrograms per hour of fentanyl, a patient would receive a dose of 2400 micrograms (or 2.4 mg) of fentanyl in 24 hours. Using the above conversion, an equivalent 24-hour morphine dose would be 240 mg (100 x 2.4 mg). Since, with the exception of the newly available 12-microgram/hour patch, the remaining patch strengths (25, 50 and 75 micrograms/hour) are all multiples of 25, one only needs to remember that the 25 microgram per hour patch delivers the equivalent of 60 mg of morphine administered orally over 24 hours. The 50, 75 and 100 microgram per hour fentanyl patches would, thus, deliver the equivalent of approximately 120 mg, 180 mg and 240 mg (2 x 60 mg, 3 x 60 mg or 4 x 60 mg) respectively of morphine taken in divided doses over 24 hours. While not mathematically precise, the 12 microgram per hour patch of fentanyl could be

considered to deliver approximately 30 mg of orally administered morphine taken in divided doses over 24 hours.

A physician wishing to use methadone for pain management must be licensed to do so by Health Canada. A licence to prescribe methadone for opioid addiction (a provincial responsibility) is not valid for this purpose. The conversion of a patient to methadone poses significant challenges (Souter & Fitzgibbon, 2004; Berdine & Nesbit, 2006). There is significant interpatient variability in response to and metabolism of methadone in addition to the fact that the elimination half-life is longer than the duration of analgesic effect requiring careful dosing and follow-up to prevent drug accumulation and side effects. Finally, the conversion ratio for methadone is dose dependent, so that the relative potency of methadone is greater when the patient is on higher doses than when they are on lower doses. In one study, the conversion ratio of oral morphine to oral methadone was 4:1, 8:1 and 12:1 in patients receiving morphine doses of 30 to 90 mg/day, 90 to 300 mg/day and > 300 mg/day respectively (Ripamonti, Groff, Brunelli, et al., 1998). Thus, the conversion of a patient to methadone requires close follow-up for signs of toxicity and should be done by a physician who is experienced in using methadone.

Key points to remember from this series of four pieces on opioid conversion are:

- Dose equivalency ratios are a starting point, interpret the calculated dose with caution always keeping in mind the patient's clinical situation and goals for changing the opioid in mind.
- Ongoing and close follow-up of the patient for response (or lack thereof) and/or side effects is essential.
- Anticipate the need for further dose adjustments (either up or down).
- There may be incomplete cross-tolerance between different opioids and the calculated equianalgesic dose of the new opioid may require adjustment downwards (usually 25%), particularly if the change in opioid is being made to reduce side effects, facilitate the taking of the medication, or if pain control is inadequate, but it is expected that the patient is near the required dose.
- Once the dose of the new opioid

analgesic is calculated the final dose to be taken by the patient must take into account the dose strengths available and the ease with which the patient can take the new prescribed regimen.

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- Souter, K.J., & Fitzgibbon, D. (2004). Equianalgesic guidelines for long-term opioid use: Theoretical and practical considerations. *Seminars in Anesthesia Perioperative Medicine and Pain*, **23**, 271–280.
- Clarification:** In the third installment of this series in the example, the breakthrough dose calculated for the patient was very conservative. The more commonly used approach would be as follows:
- Once again using the rule of thumb for calculating the breakthrough as 10% to 20% of the total daily dose administered in divided doses (usually every four hours). For our patient this would be: $54 \text{ mg}/24 \text{ hours} \times 0.1 = 5.4 \text{ mg}$ in divided doses
- Thus, the breakthrough dose would be 5.4 mg (10% of the total daily dose) every four hours. However, hydromorphone regular release formulation is available in 1 mg, 2 mg, 4 mg and 8 mg tablet strengths. Thus, the patient could be given hydromorphone 4 mg and told to take one or two (20% of the total daily dose) tablet(s) every four hours, as needed for breakthrough pain. An alternative strategy, particularly if the pain is poorly controlled and with the aim of encouraging the patient to use breakthrough doses more often, would be to prescribe the 2 mg strength and recommend that she take one or two tablets every two hours, as needed for breakthrough pain.

Continuing Medical Education 2009–2010

By Ewa Szumacher, MD, MEd, FRCP(C)

Continuing Medical Education (CME) can update health care professionals on the latest advances for modifications to their clinical practice. At the request of the CME organizers, Hot Spot lists the national and international CME activities in palliative medicine that are of interest to our readers. Please forward details of the CME activities to: Ewa.Szumacher@sunnybrook.ca

- November 1–5, 2009
51st Annual ASTRO Meeting, McCormick Place; Chicago, Illinois.
<http://www.astro.org/meetings/annualmeetings/>
- November 9–13, 2009
Multi-professional week in palliative care, Education Administrator, St. Christopher's Hospice, London, UK.
Tel: +44 (0)20 8768 4656, Fax: +44 (0)20 8776 5838, E-mail: education@stchristophers.org.uk
www.stchristophers.org.uk/education
- November 24–26, 2009
Help the Hospices Conference 2009; Third multi-disciplinary conference, Harrogate International Conference Centre; London, UK.
<http://www.helpthehospices.org.uk/our-services/running-your-hospice/education-training/2009conference/>
- February 11–14, 2010
IXVII International Conference of Palliative Care of IAPC, Trichirappalli, Tamilnadu; India:
Contact: Dr. T. Mohanasundaram,
E-mail: drmohs.trichy@hotmail.com
- March 7–11, 2010
16th International Conference on Cancer Nursing (ICCN), Atlanta, Georgia, USA. www.isncc.org
- April 29, 2010
Terminal Illness & Dying in Multicultural Canada: An Interdisciplinary Approach, Toronto, Ontario, Canada
<http://www.careconferences.com>
- June 10–12, 2010
6th Research Forum of the EAPC, Glasgow, UK: Mike Bennett
m.i.bennett@lancaster.ac.uk
- August 29–September 2, 2010
13th World Congress on Pain, Montréal, Quebec, Canada
www.iasp-pain.org/Montreal
- October 5–October 8, 2010
18th International Congress on Palliative Care, Montréal, Quebec, Canada. E-mail: info@pal2010.com,
Phone: (450) 292-3456 ext. 227,
Fax: (450) 292-3453
- October 28–October 31, 2010
14th World Society of Pain Clinicians Congress (WSPC 2010), Beijing, China
<http://www.kenes.com/WSPC>
- November 13–14, 2010
13th Annual Interdisciplinary Approach to Symptom Control, Palliative and Hospice Care, Houston, Texas; USA
<http://www.conferencealerts.com/seeconf.mv?q=ca1m3maa>

Correction

In the Chronic lymphocytic leukemia (CLL) insert by Dr. Rena Buckstein included in the last issue of Hot Spot, the first bullet point in the conclusion section should have read: Improves PFS by 10 months (*not* Improves PFS by 13 and 10 months respectively). We apologize for the error.

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