Two important meetings for Family Physicians have come and gone. The first was the 4th IPCRG world conference which occurred in Seville from May 28-31, 2008. This conference brought more than 900 registrants from over 42 countries. Canada was well represented by five executive and other physicians attending the meeting. The IPCRG can be found at its website www.theipcrg.org. This website can be found through the link on our website www.fpagc.com.

The conference began with a symposium put on by the Primary Care Respiratory Journal. There were three presentations done by primary care practitioners from Australia (Dr. Nic Glasgow), Pakistan (Dr. Osman Yusuf) and Canada (me). What was clear from that symposium, is that there are health care issues that are similar and others that are quite different.

Australia has more than 2000 GPs, but it was suggested that there is a shortage of 800-1300 GPs there. Canada has approximately 5 million people without a primary care physician. In both of our countries, care in rural areas often suffer. Guidelines are available in both countries, but with hundreds of different guidelines out there, it is difficult to follow them all. Australia had recently incorporated a national 3+ plan which did improve asthma management and outcomes. Hopefully we will see similar results in Canadian initiatives, as a recent Canadian survey showed that 40% of Canadian physicians use Canadian asthma guidelines, but only 11% of asthma patients have written action plans.

Pakistan suffers very different pressures than the so-called first world countries. TB is the major respiratory disease that they face. However, asthma is a common problem, especially with 40% of their population being under 15 years of age. COPD is also very common, but due to women cooking over biomass fuel fires inside their huts, or people living in tents where the sole source of heat is a fire. Diagnostic facilities are often lacking. Interestingly, some medications can be purchased for cheaper there, as they are made in India. Inhalers, however, are frequently not accepted by patients due to cultural taboos.

The Canadian Thoracic Society held the Canadian Respiratory Conference in Montreal from June 19 to 22. Our AGM was held there, and thanks to those of you who came to see us there. We had a very good session on smoking cessation, with excellent tools that have been created on the IPCRG website. Respiratory care in Canada was highlighted at this conference with new insights, review of recent guidelines, and many learning opportunities in respiratory medicine.

Certainly, these two meetings highlight the excellent work being done in respiratory medicine from around the world to at here at home. I hope to see some of you at future conferences, and please feel free to contact me if I can be of any help to you with a respiratory issue.

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC
**Some Thoughts**

As we are constantly barraged with new treatment guidelines, new flow sheets for management and marketing of multiple treatments, I am reminded of the basic tenant to first make a diagnosis. This small detail seems to be ignored in respiratory medicine frequently as inhalers are prescribed readily for respiratory symptoms, without objective measurements of lung function.

But the powers that be are often themselves unsure of what the diagnostic criteria are. Should we use peak flow or spirometry for asthma? Does reversibility mean with β₂-agonist or after a trial of therapy? Or should we use inflammatory measurements instead.

In COPD, the diagnostic criteria in Canada have been changed to a ratio of FEV₁/FVC of less than 70% in the post-bronchodilator measurement to align us with criteria internationally. Our previous guideline said a post bronchodilator ratio of <70% and an FEV₁ of <80%. Now specialists wonder that the fixed ratio decision may overcall elderly patients with COPD and what should be used is the LLN or Lower Limit of Normal. Specialists who measure inflammation suggest that we should measure induced sputum to decide on whether to treat with inhaled steroids (eosinophilic inflammation) or bronchodilators (Neutrophilic sputum) instead of just relying on lung function.

**What is the poor GP to do?**

Personally, most of the patients I see that are not getting better as expected have basic things wrong with them. No firm diagnosis is attempted to be made. Education of the patient re inhaler technique is disappointing. Asthma is treated as an episodic disease, and not the chronic disease it is. COPD is treated like asthma mistakenly, and people do not get better as expected, because they actually have only minimally reversible disease. So, go back to the basics of what we do have and is readily available, use spirometry for asthma vs COPD. Use a Chest X Ray to rule out other issues and check for pneumonia. Remember pertussis and pulmonary emboli, as they are easily missed. We can make a difference!

Again, as an introduction, these kind of primary care issues and others will be highlighted at the Fifth World Primary Care Respiratory conference in Toronto from May 26-29, 2010. I look forward to personally greet you at this exciting conference.

**ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC**
Pulmonary Arterial Hypertension: Definition, Assessment, Treatment, and the Role of the Family Physician

Authors: Nancy R. Porhownik, MD FRCPC & Zoheir Bshouty, MD PhD FRCPC Section of Respiratory Medicine, Department of Internal Medicine, University of Manitoba, Winnipeg, Manitoba,

About the authors: Dr. Porhownik is a senior respiratory medicine fellow at the University of Manitoba. Dr. Bshouty is an associate professor and respirologist-intensivist at the Health Sciences Centre in Winnipeg, Manitoba, where he is the director of the Pulmonary Hypertension clinic.

Introduction
Pulmonary arterial hypertension (PAH) is a chronic, progressive disease of the pulmonary vascular system that presents with nonspecific symptoms. Characterized by elevated pulmonary arterial pressures, PAH usually leads to secondary right ventricular failure. Without treatment, median survival of patients with idiopathic PAH is 2.8 years. Over the past ten to fifteen years, significant advances in the assessment, understanding, and treatment of PAH have led to improvements in symptom management and survival of patients, however PAH remains a very serious disease with no cure. Early recognition and thorough investigation for possible underlying etiologies are essential.

Family physicians play a vital role in the management of patients with PAH. These complex patients often require frequent follow-up, titration of medications, regular bloodwork, and management of functional limitations. Pulmonary hypertension specialty clinics work in partnership with primary care physicians to accomplish these goals of care. This review provides an overview of pulmonary arterial hypertension with a focus on the role of the primary care physician.

Definition and Classification of PAH
Pulmonary hypertension is defined as a mean pulmonary artery pressure (mPAP) on right heart catheterization (RHC) greater than 25mmHg at rest or 30mmHg during exercise. Although symptoms, physical exam findings, and basic investigations can suggest pulmonary hypertension, diagnosis requires a right heart catheterization. The subtype of pulmonary arterial hypertension (PAH) also requires a pulmonary capillary wedge pressure (PCWP) less than or equal to 15mmHg and a calculated pulmonary vascular resistance (PVR) greater than 3 Wood units (mmHg/L/min). Pulmonary venous hypertension is diagnosed when the PCWP is above 15mmHg.

The specific definition and classification of pulmonary hypertension have changed over time, and in an attempt to organize subtypes into groups with similar pathophysiologies, the World Health Organization (WHO) released the revised clinical classification of pulmonary hypertension (Venice 2003). The WHO classification, shown in Figure 1, contains five groups:

1. pulmonary arterial hypertension (PAH),
2. pulmonary venous hypertension,
3. pulmonary hypertension associated with disorders of the respiratory system or hypoxemia,
4. pulmonary hypertension caused by chronic thrombotic or embolic disease, and
5. pulmonary hypertension caused by miscellaneous causes.

Group 1 (PAH) is further classified as idiopathic, familial, associated with pulmonary veno-occlusive disease or pulmonary capillary hemangiomatosis, persistent pulmonary hypertension of the newborn, and in association with other conditions (collagen vascular diseases, congenital heart disease, portal hypertension, HIV, drugs, toxins, etc.).
Epidemiology
Incidence and prevalence data for all types of pulmonary hypertension is not available. Idiopathic PAH (IPAH), the subtype with the most epidemiologic data, has an incidence of 2.4 cases per million people per year and a prevalence of 15 cases per million people. Women comprise sixty percent of patients with IPAH. The mean age at diagnosis is 50 years, however the range is wide, from second to ninth decade. Of patients with PAH, 40% are idiopathic, 4% familial, 16% associated with collagen vascular diseases, 12% associated with congenital heart disease, 10% secondary to anorexgens, and 18% associated with other causes.

Pathophysiology
The pathophysiology of PAH is incompletely understood, however, vasoconstriction, remodeling of the pulmonary vessel wall, and in-situ thrombosis are thought to be the major pathways in the development and progression of the disease. As these processes progress, pulmonary vascular resistance increases steadily until the point at which cardiac output begins to fall, initially with exercise, and eventually at rest.

Clinical presentation
Medical history should address the presence of diseases associated with pulmonary hypertension, such as cirrhosis, connective tissue diseases, and HIV, and established risk factors, such as previous use of fenfluramine-derived anorectic medications. Patients with pulmonary hypertension are initially asymptomatic. As the disease progresses and cardiac output fails to increase with exercise, patients develop nonspecific symptoms of exertional dyspnea and fatigue. With the onset of right ventricular failure, patients may develop exertional chest pain, presyncope, syncope, right upper quadrant abdominal pain due to hepatic congestion, and peripheral edema.

WHO Functional Classification is used to assess the clinical severity of PAH. Class I is no limitation to usual physical activities. Class II patients have mild limitations to usual activities, but no symptoms at rest. Class III is marked limitation of usual activity, but no symptoms at rest. Lastly, Class IV patients are incapable of performing any physical activity, have symptoms at rest, and may have right heart failure. This classification is used to guide treatment decisions and predict survival.

Early in the disease course, there are few physical findings. As the disease progresses, physical exam findings may include distended jugular veins, an increased P2 on cardiac auscultation with narrowed split of S2, right-sided regurgitant murmurs, and right-sided S3 and/or S4. Palpation of a left parasternal lift suggests right ventricular hypertrophy. Other associated findings of right ventricular failure may be present, including pedal edema, ascites, and hepatomegaly. If the pulmonary hypertension is associated with another disease process, related physical findings may also be present.

Screening and diagnosis
Pulmonary hypertension is usually diagnosed in one of two scenarios: following development of symptoms or as a result of screening in high risk patients. Diagnosis requires two steps: initial documentation of pulmonary hypertension with right heart catheterization and subsequent investigations for a possible underlying cause. Initial investigations for progressive exertional dyspnea, prior to referral to a pulmonary hypertension specialist, should include chest X-ray, electrocardiogram (EKG), pulmonary function tests (PFTs), and transthoracic Doppler echocardiogram. Enlarged pulmonary arteries and right ventricle on chest X-ray, signs of right chamber enlargement and right ventricular strain on EKG, and an isolated decreased diffusion capacity on PFTs are all supportive evidence of PAH. Doppler echocardiogram findings of PAH include an elevated right ventricular systolic pressure (an estimate of pulmonary artery systolic pressure) greater than 35 to 40 mmHg and qualitative findings of right chamber enlargement and flattening or paradoxical movement of the interventricular septum. These investigations may also identify causes of pulmonary hypertension, including chronic lung disease or
structural heart disease. While the above investigations are clearly warranted in symptomatic patients, it is less clear the degree of investigation and the indications for treatment of PAH in asymptomatic patients.

Following diagnosis of PAH, further investigations are warranted to identify a possible cause, estimate prognosis, and direct treatment. The approach to investigating each patient should be individualized and coordinated between a pulmonary hypertension specialty clinic and the primary care physician. Further work-up may include bloodwork (connective tissue disease bloodwork, hypercoaguability work-up, complete blood count, and HIV testing), imaging (ventilation-perfusion scanning, chest CT scan with contrast, pulmonary angiogram, high resolution chest CT scan), investigations for sleep disorders (overnight oximetry and/or polysomnography), and further cardiac investigations (transesophageal echocardiogram, shunt study). Determination of prognosis and need for treatment requires an assessment of exercise capacity, usually measured with a six-minute walk test and/or cardiopulmonary exercise test. Due to its simplicity and reproducibility, the six-minute walk test is commonly done for repeated assessments of exercise tolerance.

Screening high risk individuals with periodic Doppler echocardiograms is advised for patients with a known genetic-mutation-associated PAH, a first degree relative with idiopathic PAH, scleroderma, congenital heart disease and systemic-to-pulmonary shunts, or portal hypertension undergoing evaluation for orthotopic liver transplantation. Annual echocardiograms are reasonable, although the ideal interval has not been determined. If echocardiogram results suggest pulmonary hypertension, the patient then undergoes right heart catheterization to confirm the diagnosis.

Treatment

Before initiation of treatment, a vasodilator challenge is performed during the right heart catheterization. A positive vasodilator challenge is defined as a decrease in mPAP of at least 10 mmHg with the mPAP decreasing to 40 mmHg or less, with a normal or high cardiac output. Vasodilator response is present in only 10% of patients. These patients have a better prognosis and are given a trial of calcium channel blockers (CCB). Previous practice trialed all patients on CCB, but this practice has been abandoned as most do not respond and patients may actually decompensate with this treatment.

There are several other options available for treatment of PAH. Until the development of advanced therapies in recent years, treatment was primarily supportive, consisting of oxygen, anticoagulation, and diuretics. These remain important treatments. Oxygen should be titrated to oxygen saturations >90%. Anticoagulation is typically with warfarin (target INR 1.5 to 2.5) unless there are contraindications. Diuretics, such as furosemide and spironolactone, are added for symptomatic relief of right ventricular failure. All women of childbearing age require contraception since pregnancy and delivery are detrimental in pulmonary hypertension patients and maternal mortality is unacceptably high. Oral contraceptives are generally acceptable, unless the patient has chronic thromboembolic disease.

Currently, advanced therapies are indicated for patients with WHO class III or IV symptoms. Outcomes of earlier treatment are still under investigation. These medication classes include prostanoids, phosphodiesterase-5 (PDE-5) inhibitors, and endothelin receptor antagonists (ERAs). These medications differ in mechanism of action, indications, routes of delivery, and side effects. Currently in Canada, prescription of these medications for pulmonary hypertension is limited to specialists with experience treating pulmonary hypertension. Of note, these medications are not currently indicated for any form of pulmonary hypertension other than PAH and can be detrimental in other types of pulmonary hypertension.

Prostanoids, or prostacyclin analogues, induce vascular smooth muscle relaxation, inhibit smooth muscle proliferation, and inhibit platelet aggregation. Epoprostenol was the first FDA-approved medication for PAH, and it is the only medication to date that has a proven survival benefit in a randomized, controlled trial. However, it is very complex to deliver, requiring a continuous intravenous infusion and daily drug preparation. The medication is also unstable at room temperature and light-sensitive. It has a half life of two to three minutes, and
interruptions to the infusion can be fatal. Side effects of the drug include jaw pain, joint pain, nausea, diarrhea, and hypotension. In addition to drug side effects, there are also potential problems related to the drug delivery, notably central line infections, thrombosis, infusion pump malfunction, and interruption of the infusion. Epoprostenol is approved for patients will class III or IV symptoms. Treprostinil is another prostanooid that can be delivered via continuous intravenous infusion or via subcutaneous pump. This medication has a half life of approximately 4.5 hours, is stable at room temperature, and requires no daily drug preparation. However, in addition to drug side effects of headache, nausea, diarrhea, and rash, the subcutaneous route leads to local skin reactions that have limited the acceptability of this type of treatment. Oral and inhaled prostanoids have been developed, but are not approved in Canada.

Endothelin receptor antagonists block the activity of endothelin-1 produced by endothelial cells. Endothelin-1 contributes to vasoconstriction and proliferation of smooth muscle cells. Bosentan is an oral dual endothelin receptor antagonist which improves exercise tolerance, symptoms and pulmonary hemodynamics. It is approved for patients with class III and IV symptoms. Due to drug interactions, bosentan cannot be given concurrently with glyburide or cyclosporine. It is also contraindicated in pregnancy. Liver enzymes are checked prior to initiation of this treatment, and monitored closely throughout the duration of therapy due to a risk of drug-induced hepatitis. Selective endothelin receptor type A antagonists are emerging on the marketplace, but at this time, these medications are not reimbursed in Canada.

The third advanced therapy for PAH are phosphodiesterase-5 inhibitors, which work via the nitric oxide pathway to cause vasodilation. Sildenafil, dosed 20mg three times daily orally, improves exercise tolerance, symptoms, and pulmonary hemodynamics. This medication is generally well-tolerated, with side effects of headache, sinus congestion, epistaxis, dyspepsia, and back pain. Sildenafil should not be prescribed with nitrates. No specific laboratory monitoring is required.

In most situations, medications are not discontinued unless there are significant side effects or toxicities. Discontinuation or dosage adjustment of advanced therapies must be discussed with a pulmonary hypertension specialty clinic, as there may be risks with abrupt changes. Medications are often added in combination for patients who do not respond to single medications. This treatment strategy remains under investigation and should only be directed by pulmonary hypertension specialty clinics, although preliminary evidence suggests an improvement in outcomes.

In addition to medical therapies, lung transplantation is considered for patients with class III or IV symptoms. Atrial septostomy may also be performed as a palliative procedure.

Roles of Family Physician in Diagnosis and Management of PAH

Family physicians are vital team members in the diagnosis and complex care of patients with PAH. Patients with nonspecific complaints of fatigue and dyspnea on exertion commonly present to primary care clinics, and a thorough family practitioner will have pulmonary hypertension on their differential diagnosis for these complaints, amongst other more common diseases. Pulmonary hypertension cannot be diagnosed if it is not considered. Family doctors also arrange periodic screening for high risk patients as outlined above. Following history and physical, investigations including chest X-ray, EKG, PFTs, and Doppler echocardiogram can provide evidence suggestive of pulmonary hypertension. For assistance in determining appropriate further work-up and confirmation of diagnosis, consultation with a pulmonary hypertension specialist is appropriate. There are more than ten pulmonary hypertension referral centers across Canada, primarily in academic centers. For list of Canadian PAH Referral Centres see Figure 2. Also, many community respiratory physicians have experience managing pulmonary hypertension patients and can be a valuable resource.

For follow-up of patients with documented disease, open communication is required between the family physician and the pulmonary hypertension referral centre to ensure comprehensive care without redundant investigations. Routinely, patients require assessment of symptom class, exercise tolerance, and presence of side
effects of their treatments. Due to the poor prognosis and progressive nature of the disease, patients with PAH may also require screening for depression or referrals for emotional support. Key physical exam elements to follow include monitoring weight for adjustment of diuretics in patients with right heart failure, oxygen saturations, blood pressure, and signs of decompensating right heart failure. Laboratory investigations to follow routinely include electrolytes for diuretic therapy, INR for anticoagulation, and liver enzymes for patients on endothelin receptor antagonists. Annual chest X-rays and follow-up Doppler echocardiograms are also indicated.

Although a rare disease, PAH remains a serious, chronic, progressive disease that can affect patients at any stage of life. Active research for the past two decades has provided new understanding of the disease process and facilitated the development of therapies that have improved morbidity and mortality. However, much remains to be learned. In the meantime, careful and comprehensive care must be offered to this complex group of patients.

References
### FIGURE 2. Canadian PH Treatment Centres

**Pulmonary Arterial Hypertension: Definition, Assessment, Treatment, and the Role of the Family Physician**

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<th>PROVINCE</th>
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| British Columbia | BC PH CLINIC - THE LUNG CENTRE                  | Coordinator: 604.875.4323  
Vancouver, BC V5Z 1M9  
Fax: 604.875.4965 |
| Alberta        | PULMONARY HYPERTENSION PROGRAM                   | Tel: 780.407.8994  
Fax: 780.407.3374  
Email: pulmhtrnp@cha.ab.ca |
|                | PULMONARY HYPERTENSION CENTRE                   | Tel: 403.943.4723  
Fax: 403.943.4320 |
| Saskatchewan   | PH CENTRE OF SASKATCHEWAL                       |                     |
|                | Royal University Hospital                       |                     |
|                | 103 Hospital Drive, 5th floor Ellis Hall         |                     |
|                | Saskatoon, SK S7N 3T3                           |                     |
| Manitoba       | PULMONARY HYPERTENSION CENTRE                   | Tel: 204.787.2598  
Fax: 204.787.2420 |
| Ontario        | UNIVERSITY HEALTH NETWORK PH PROGRAM            | Tel: 416.340.4485  
Fax: 416.340.3359 |
|                | PEDIATRIC PH, CARDIAC PROGRAM                   | Tel: 416.813.7408  
Fax: 416.813.7299 |
|                | HAMilton PULMONARY HYPERTENSION CENTER          | Tel: 903.335.1363 |
|                | KINGSTON PULMONARY HYPERTENSION PROGRAM         | Tel: 613.548.2371  
Fax: 613.549.1459 |
|                | OTTAWA PULMONARY HYPERTENSION CLINIC-OUTPATIENT | Tel: 613.761.5396  
Fax: 613.761.4877 |
| Quebec         | CENTRE DES MALADIES VASCULAIRES PULMONAIRES     | Tel: 514.340.8222 ext. 5377  
Fax: 514.340.7534 |
|                | CENTRE DE L'HYPERTENSION PULMONAIRE             | Tel: 418.656.8711 ext. 1325  
Fax: 418.656.4892 |
| Atlantic       | PH CENTRE OF NB                                 | Tel: 506.870.2697  
Fax: 506.857.5484 |
|                | PH CENTRE OF NS                                 | Tel: 902.473.3841  
Fax: 902.473.7019  
Tel: 902.473.3698  
Fax: 902.473.6202 |
The Westin Harbour Castle Hotel
1 Harbour Square, Toronto, Canada

The International Primary Care Respiratory Group is pleased to announce that the 5th World Conference will be held in Toronto, Canada.

FOR INFORMATION
Conference Secretariat: The Office of Continuing Education and Professional Development, Faculty of Medicine, University of Toronto
Phone: 416.978.2719
Toll free: 1.888.512.8173
E-mail: ce.med@utoronto.ca

www.theipcrg.org

The International Primary Care Respiratory Group (IPCRG) is a charity registered in Scotland working internationally (SC No: 035056) and a company limited by guarantee (Company number 256268).

Situated on the North shore of the Great Lakes, Toronto offers the sophistication of a large, modern city mixed with the world cultures of our citizens and the beauty of our natural surroundings. Toronto awaits and welcomes you!
This meeting was chaired by Louis Phillipe Boulet to attempt to improve guideline development, rating, dissemination and implementation. My take is: after we build them, will they come... and did we build the right thing in the first place!

Dr. Harrison from McMaster reviewed the overall issues in evidence based guidelines and some of the barriers. Research questions can provide clear answers, but do not by themselves decide guidelines. Of course, issues other than just RCTs must be included to create a guideline that can be relevant to practitioners. Clinical expertise, patient preference, and resource issues can all impact on how the guidelines actually get used. Clearly the end results of the guidelines need to be identified and measured prior to the guideline being created, so outcomes can be tailored and reviewed.

Dr. Pald discussed in more details the value of developing the questions that the guidelines are attempting to answer prior to the guideline being searched and developed. Different issues can be tackled on an ongoing basis to answer specific questions that need to be reassessed. The average guideline cycle is three years, and an update on specific elements to bring in new literature and issues in a shorter time interval. The ‘care gap’ is the discrepancy between evidence based knowledge and day to day clinical practice. Controversial areas in the field may be the next reason for asking specific questions. The current literature state, wherein areas require guidance, but the research studies are not sufficient, conflicting or inconclusive will then guide some questions. The ‘PICOH’ model of Patient population, Intervention, Comparison, Outcomes and Health care settings are measured and reviewed to review these issues. This may occur when surrogate outcomes are used to decide improvements in other (non-mentioned) outcomes. There may not be answers in the literature for your questions, and thus only surrogate outcomes are used from the literature to attempt to answer these questions. This may change the literature search, and doing it upfront is clearly more efficacious.

Strength of evidence vs strength of review:
A review is any paper that reviews the literature on a given topic. Every step is subject to bias in how the information is gathered, studies are appraised and how information is put together. Bias is attempted to be limited by systemic literature search strategy with a standardized critical appraisal of the studies.

A good librarian can help with the search, but a proper clinical input to define the search and use with multiple databases are also important. Non-published literature may be important also, especially for very new issues, but quality indicators are of even more importance in their review. Consideration of inclusion and exclusion criteria must be done. Identification of study design, patient population, year, outcomes, and length of outcome. These must fit the clinical question and consideration of the population studied, e.g. inpatient vs outpatient studies. Preselected abstract review process can allow a rapid review of these abstracts. Keep the list of your review, it may be of value later. Specific tools, such as GRADE, to help assess quality can be specified to a particular clinical issue. Ratings can occur as good, fair or poor. The evidence must be summarized and reviewed as per the ratings. Evidence review is resource intensive and takes time and a lot of effort. Credibility can be improved by tools such as AGREE.

GRADE brings together the overall evidence of the recommendations, after we have reviewed the individual studies for inclusion in the decision process for the recommendation. Quality of RCTs start out as high quality, but can be downgraded; cohort studies are the opposite. This tool will thus rate all guidelines without large and frequent RCTs as lower quality evidence.

There is a difference between strength of evidence and strength of recommendation. Evidence is part, but not all of the factors that go into a recommendation. Recommendations are the certainty of advice given based on benefits vs risks overall.

Consensus statement is another description of ‘guidelines’. They can use evidence based review (Field and Lohr 1990), clear consensus only or a hybrid.
Consensus opinions can be affected by personalities in the group (can be modified by external review and remote reviews vs face to face) and conflict of interests. The keys will be consistency and transparency.

The ADAPTE collaboration defines guideline adaptation as the systematic approach to consider the use or modification of guidelines for use in particular contexts. There is a manual and a full instrument which includes three phases of preparation, adaptation, and finalization.

The preparation module begins with setting up an organizing committee, selecting topics, identification if adaptation is feasible (i.e., is this really a guideline that will help assist with care recommendations) set up skills and resources, setting up task plans and create an adaptation plan. Managerial, administrative, clinical and methodological expertises are all necessary. Tools include:

1) Guideline and development and implementation resources
2) Search sources and strategies
3) Sample declaration of conflict of interest
4) Consensus process resources
5) Work plan examples

The adaptation module includes (and uses multiple tools such as AGREE)

2.1 scope and purpose module
2.2 search and screen module
2.3 assessment module
2.4 decision and selection module
2.5 customization module

The AGREE tool (Appraisal of Guidelines Research and Evaluation instrument) is used to provide a framework for assessing the quality of clinical practice guidelines. It should be perceived as reflecting the current state of knowledge in the field. It takes into account the benefits, harms, and costs of the recommendations as well as the practical issues attached to them. The assessment includes judgments about methods used for developing the guidelines, the content of the final recommendations and the factors linked to their uptake. There are 6 domains and 23 items.

The GLIA tool (GuideLine Implementability Appraisal) measures the implementability of the guidelines. Factors include decidability, executability, effect on process of care, and presentation and formatting. Are there measurable outcomes, apparent validity, innovation, flexibility and computability. The focus can be on individual recommendations or the entire guideline.

We reviewed issues such as being specific as to who should perform a recommendation, the standard of care expected, benchmarks that should be reaches, and what the quality indicators should be.

The Tools were reviewed and need to be decided on how they will be implemented by the CTS for our numerous Canadian Respiratory guidelines. They appear to be a component of what is expected from peer reviewed journals and government, to couple appropriate scientific rigor to clinical scientific decisions. From the primary care point of view, it is important to know that these processes are being done to ensure that the recommendations we are given are sound and usable.
I was invited as the primary care representative to this group. This group began as a group of academic pediatric hospitals looking at children's health. Asthma is one of the five conditions being looked at. It was recognized that community health was important and community hospitals, pediatricians and primary care were subsequently invited.

The 2007 Provincial Council for Children’s Health (PCCH) Benchmarking Report included this recommendation:

Asthma is a driver of significant activity in paediatric units across Ontario. Accordingly, we recommend that an Asthma Clinical Work Group be convened in order to better understand the profiles of those admitted with Asthma as well as to analyze the impact of Asthma on the health system. This group will recommend opportunities for application of disease management strategies across the system with the goal of improving the health status of children with Asthma with a resulting decrease in Emergency Room visits and hospital admission.

**Goals**

1. To clarify the definition of asthma in comparison to related diseases in order to ensure accurate data inclusion for analysis and benchmarking purposes.
2. To identify, analyze and understand the profiles of those presenting in hospitals with Asthma.
3. To analyze the impact of Asthma on the health system.
4. To recommend opportunities for application of disease management strategies across the health system.

**Membership**

Membership will be representative of those organizations that participated in the 2007 PCCH Benchmarking Report. Efforts will be made to ensure representation from Paediatric Academic Health Sciences Centres, non-paediatric Academic Health Sciences Centres and community hospitals along with a balanced representation of administrators, physicians, nurses, and health records and quality representatives. A representative from Public Health is also a member.

Ex officio members include the Asthma Program Coordinator from the Ministry of Health and Long-Term Care and the ED Asthma Project Manager from the Ontario Lung Association.

The PCCH Secretariat will support the Asthma Work Group. The website is www.pcch.on.ca

The drivers of this process are all hospital based; admissions and ER visits. This group will create a report to try to improve management both in the hospital and hopefully in the community. This report is due this fall and will be based on data gathered over the last two years.
A survey was done of the hospitals across Ontario including community (71%) and teaching hospitals (29%). Hospitals with a significant pediatric presence were invited to participate in PCCH based on the academic hospital referral base and local LHINs. There are 150 hospitals in Ontario, and 38 have currently agreed to have their data shared with PCCH. Since then, many other community hospitals have expressed interest. The survey went to 38 hospitals and 71% responded. I will highlight what I think are important data from this survey. Only 63% of the hospitals have an asthma clinic. Forty-six percent have an observation unit. Forty-two percent utilize an asthma care map for ER management. Medication is administered in the waiting room by 9 of the hospitals by nebulizer in 56% and by puffer/spacer in 78%. Only 42% of patients are being discharged home with a written action plan. Follow up was specifically given in only 67% (FP 75%, Ped 38%, Asthma clinic 50%).

Multiple asthma indicators have been reviewed and utilized. Measurements currently include hospitalization, ER visits and prevalence. Clearly this is not sufficient and should also include indicators of medication use, risk factors and control criteria. Dr. Theresa To is creating a framework for evidence based indicators with a meeting due this fall.

Recent studies have shown that the ‘norm’ is that 51% of asthmatics need to seek acute care for their asthma (hospitalization, ER visits or urgent care) in a 12 month period. Hospitalization rates are highest in young male children under four years, with a gender flip to increased in women after the teenage years, though at much lower rates. There is significant variation in admission rates across the province which are affected by multiple factors related to the population, the institution, and the community supports including health care access. (Lougheed MD et al. Chest 2006;129:909-917) Admission rates can vary by up to 32 fold and ER visit rates can vary by up to 10 fold.

Much of the information we reviewed will be utilized in a report to the Ministry, LHINs and OHA to attempt to instruct what the needs and deficiencies are existing across the province. I highlighted the primary care issues which include access, educational initiatives, medication and device coverage, working in teams, and other mechanisms to improve asthma control and decrease acute asthma care utilization. Other recommendations include recommendation for standardization of pediatric care in the acute setting.

Alan Kaplan, MD CCFP(EM), Chair, FPAGC
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| SPECIAL INTEREST: (E.G., LECTURING, RESEARCH, WRITING, OTHERS) |
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*Family Physician Airways Group of Canada*
*November 2008*
MISSION STATEMENT

The Family Physician Airways Group of Canada is committed to helping those with airway diseases lead a full life. The group is dedicated to helping all family physicians maintain and increase their skill in assisting those with asthma and COPD. The strategy of the Group is to maintain a speaker bank, a data base, and practical tools to help physicians attain in these skills.

The opinions expressed in this newsletter are those of the authors, and not necessarily those of the Family Physician Airways Group of Canada.

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