

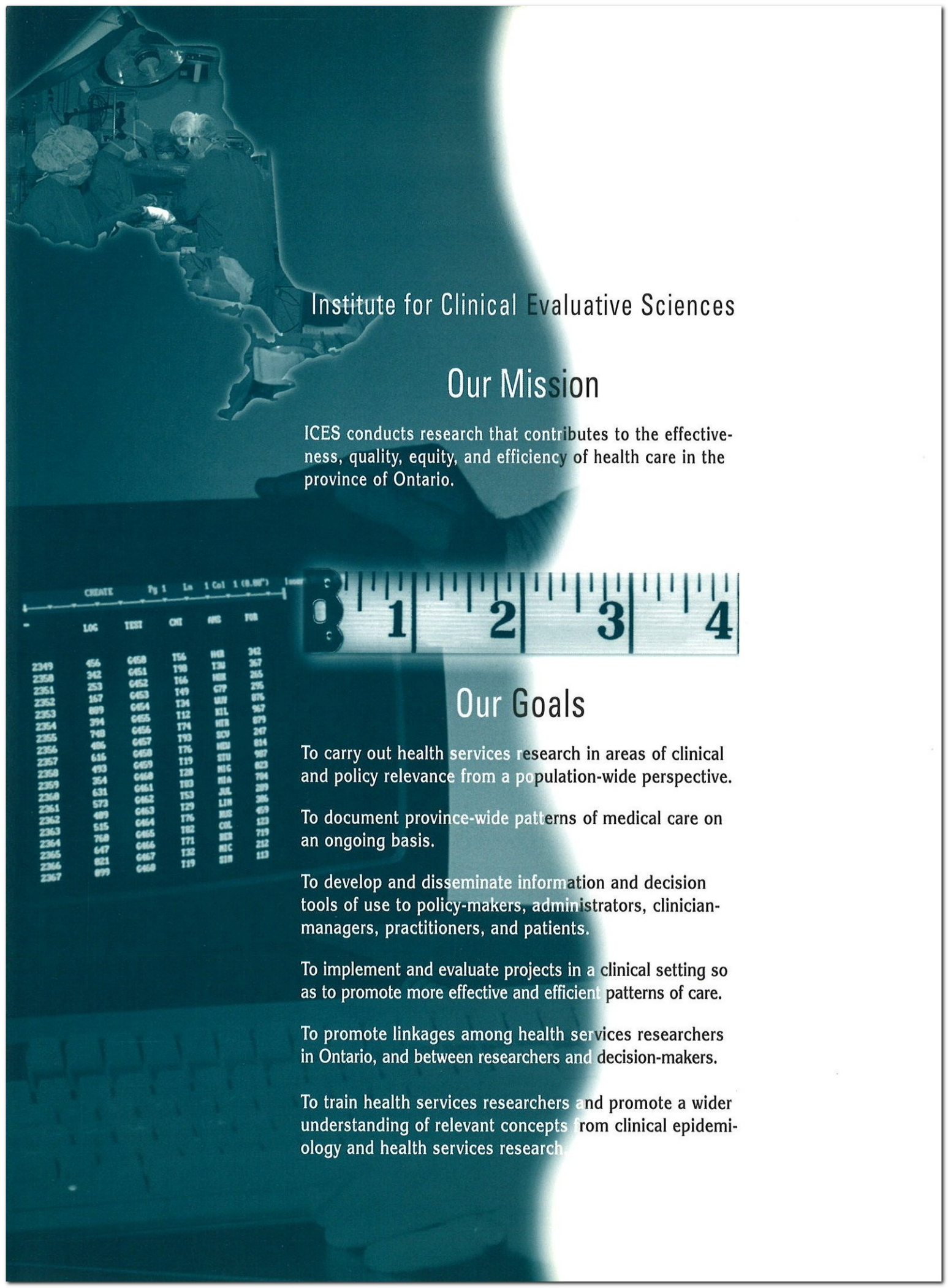
A Measure of Success

Annual Report 1996-97

General Hospital	2,456	2,894	2,835	1.64	1.55	1.71	1.34	0.06	0.00	1.34	1.21	1.16	70
Memorial Hospital	3,459	3,196	5,392	1.80	1.45	1.11	1.32	1.11	1.19	1.29	1.02	1.02	65
Health Centre, Scarborough	4,654	4,958		1.56		1.39	1.32		0.87		1.00		621
Hospital, Mississauga	2,743	2,775		1.45	1.32	1.05	1.22	1.54	1.40	0.98	1.02	1.00	383
Hospital, Toronto	3,213	3,189	3,362	1.66	1.58	1.40	1.69	1.30	1.41	1.15	1.11	1.15	534
General Hospital	3,604	3,129	3,399	1.66	1.44	1.59	1.34	1.30	1.18	1.07	1.12	1.15	660
Hospital of Port Arthur, Thunder Bay	1,514	1,515	1,346	1.55	1.44	1.36	1.57	1.30	1.18	1.12	1.22	1.15	1,712
Hospital Corporation, Kitchener	3,658	3,570	3,796	1.69	1.45	1.20	1.36	1.18	1.04	1.43	1.49	1.37	622
Gara General Hospital	2,687			1.78	1.44	1.46	1.46	1.20	1.07	1.43	1.49	1.37	2,058
Regional Health Centre, Owen Sound				2.21	1.78	2.10	1.94	1.93	1.80	1.19	1.15	1.17	801
General Hospital				1.30	1.63	1.30	1.63	1.39	1.13	1.48	1.36	1.33	2,451
ntfort, Ottawa				1.61	1.47	1.22	1.17	1.21	1.17	1.45	1.47	1.36	1,220
Hospital, Ottawa				1.59	1.43	1.22	1.17	1.21	1.17	1.45	1.47	1.36	718
Hospital, Ottawa				1.34	1.56	1.44	1.15	1.15	1.14	1.13	1.13	1.17	368
of St.				1.26	1.31	1.16	1.04	1.15	1.15	1.21	1.21	1.03	1,731
emory				1.22	1.60	1.41	1.18	1.18	0.89	0.94	1.03	1.34	373
ant				2.02	2.00	1.80	1.13	1.11	1.08	1.06	1.32	1.30	1,529
Ho				1.21	1.56	1.37	1.13	1.11	1.08	1.06	1.32	1.30	1,320
Sto				1.62	1.66	1.50	1.23	1.32	1.31	1.27	1.30	1.14	1,901
Gen				1.71	1.84	1.37	1.32	1.21	1.23	1.31	1.14	1.017	1,017
tan				1.38	1.50	1.02	0.90	1.26	1.23	1.19	1.18	1,054	1,054
uga				1.25	1.10	1.03	1.19	1.19	1.19	1.19	1.19	1,373	1,373
k Br				1.22	1.46	1.33	1.19	1.19	1.19	1.19	1.19	741	741
k Ge				1.43	1.11	1.11	1.08	1.08	1.08	1.08	1.08	940	940
stern				1.12	1.29	1.14	1.16	1.16	1.16	1.16	1.16	2,024	2,024
Trafalgar				1.30	1.25	1.22	1.22	1.22	1.22	1.22	1.22	1,209	1,209
oldiers' Ho				1.23	1.14	1.07	1.09	1.09	1.09	1.09	1.09	666	666
General Ho				1.44	1.14	1.15	1.04	1.04	1.04	1.04	1.04	1,081	1,081
Memorial Ho				1.37	1.40	1.46	1.40	1.40	1.40	1.40	1.40	568	568
rough Civic Ho				0.96	1.17	1.23	1.21	1.21	1.21	1.21	1.21	576	576
General Ho				1.59	1.31	1.30	1.13	1.13	1.13	1.13	1.13	637	637
er Memorial Public Ho				1.25	1.12	1.21	1.17	1.17	1.17	1.17	1.17	1,134	1,134
e. Marie				1.78	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1,609	1,609
General Hospital, Chatham				1.27	1.31	1.39	1.29	1.29	1.29	1.29	1.29	1,094	1,094
Way General Hospital, Etobicoke				1.48	1.15	1.06	1.08	1.08	1.08	1.08	1.08	1,094	1,094
Way-Carleton Hospital, Nepean				1.16	1.40	1.09	1.04	0.99					
de Hospital, Ottawa				0.61									
Victoria Hospital, Barrie													
on Army Grace General, Scarborough													
on Army Grace Hospital, Ottawa													
on Army Grace Hospital, Windsor													

ICES

INSTITUTE FOR CLINICAL EVALUATIVE SCIENCES



Institute for Clinical Evaluative Sciences

Our Mission

ICES conducts research that contributes to the effectiveness, quality, equity, and efficiency of health care in the province of Ontario.

Our Goals

To carry out health services research in areas of clinical and policy relevance from a population-wide perspective.

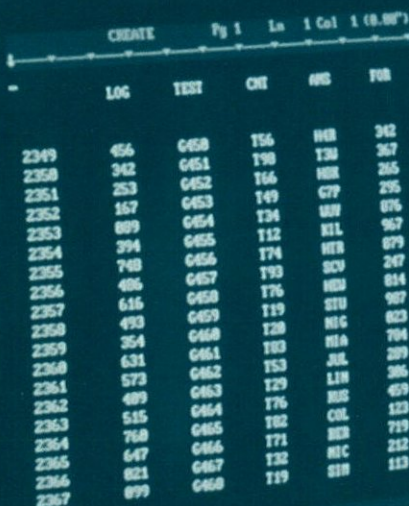
To document province-wide patterns of medical care on an ongoing basis.

To develop and disseminate information and decision tools of use to policy-makers, administrators, clinician-managers, practitioners, and patients.

To implement and evaluate projects in a clinical setting so as to promote more effective and efficient patterns of care.

To promote linkages among health services researchers in Ontario, and between researchers and decision-makers.

To train health services researchers and promote a wider understanding of relevant concepts from clinical epidemiology and health services research.



	LOG	TEST	CH	AGE	FOS
2349	456	0458	156	H88	342
2350	342	0451	190	T28	357
2351	253	0452	166	H88	265
2352	167	0453	149	G79	296
2353	889	0454	134	W88	076
2354	394	0455	112	K1L	967
2355	740	0456	174	H78	879
2356	486	0457	193	SCV	247
2357	616	0458	176	H88	814
2358	493	0459	119	STU	987
2359	354	0460	128	H1C	823
2360	631	0461	183	H1A	704
2361	573	0462	153	JUL	289
2362	489	0463	129	L1H	386
2363	515	0464	176	H88	459
2364	768	0465	182	CHL	123
2365	647	0466	171	H88	719
2366	821	0467	132	H1C	212
2367	899	0468	119	S1H	113

ICES is beginning a new phase in its life as one of Canada's leading health services research organizations. It has completed its first five-year mandate and achieved numerous successes. Now, a new agreement with the Ontario Ministry of Health will enable the Institute to continue its fine work for another five years.

As part of this agreement, governance of this organization will change. I will be turning over the reins of the chair, and the current board membership will be replaced with a new group of individuals, equally committed as my fellow board members, to contribute to the improvement of Ontario's health care system. This new board will have wider representation from across the province. The new governance structure will also include the formation of new committees, such as a stakeholder liaison committee, and open the door to new accountabilities.

I wish the new board members well in their new roles. The many issues in health care and the changes and transitions already under way in the system will make the next five years an exciting and challenging time to be part of this research organization.

Albert Einstein once said that, "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." The leading-edge research being conducted by organizations like the Institute for Clinical Evaluative Sciences is helping us reach those new levels of thinking. I believe ICES is having an impact on how people perceive our health care system and how our health care is delivered. This is the result of the hard work of the faculty and staff.

I would like to congratulate all the researchers and staff at ICES on a successful first five years. I would also like to thank my fellow board members for their dedication and hard work.

On behalf of the outgoing board, I wish ICES continued success for the next five years as it continues to work toward a stronger, more efficient and high quality health care system for the people of Ontario.

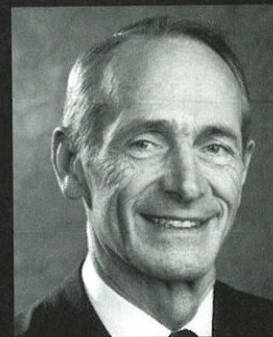


John Evans
Chair of the Board of Directors

A GLIMPSE OF THE FUTURE



Message from the Chair



MEMBERS OF THE BOARD OF DIRECTORS

Dr. John Evans
Chair, TORSTAR Corporation

Mr. Tom Closson
CEO, Sunnybrook Health Science Centre

Mr. Tom Magyarody
Director of Administration, Ontario Medical Association

Dr. Ian Warrack
Past President, Ontario Medical Association

The Institute for Clinical Evaluative Sciences

was established as a five-year experiment in 1992. I am not sure any of us realized how much health care would change over the ensuing few years, or the extent to which the Institute would become an information broker in the Ontario health system.

Since 1992, ICES has worked to forge strong links and partnerships with a wide range of stakeholders in the Ontario health care system and beyond. Some of our research projects, such as the *ICES Practice Atlas* series, have helped to "shift the goal posts" and set new standards for quality and efficiency of care. Our mission, however, remains unchanged. ICES provides evidence and information for clinicians, managers, policy-makers, and the public with a view to protecting and improving the quality, accessibility and affordability of health care. This over-arching aim will continue throughout our next five years under the direction of a new board and through the development of additional stakeholder partnerships.

In the last five years, our researchers have often been asked to provide input about directions for reform and restructuring of health care. We have done so with an awareness that while reform is a vital necessity, ICES must also evaluate the impact

A View from the Chief Executive Officer



EFFICIENCY

&

QUALITY OF CARE

of reform on the system. In our next five-year term, we anticipate simultaneously supporting and monitoring the change process. To that end, ICES will work with others who share our concern for positive change—the government of the day, the public as represented in bodies such as the proposed Quality Council, the hospital association, and both the self-governing and representative organizations of the caring professions.



A major advancement at ICES is the development of our in-house data capacity for a population-based health information system. While strictly ensuring confidentiality and privacy of patients, we are linking anonymous records to follow patients' increasingly complex pathways through the changing health care system—from the first ambulatory visits to the family physician and specialists, on to a hospital stay, and then to home care. Our new windows on the continuum of care will provide a clearer, larger picture of the effects of reform, issues with the quality of patient care, and opportunities for more economical provision of services.

At the same time, ICES will continue to train researchers who are dedicated to understanding and improving our health services system. Many trainees and students have spent time with us at ICES; some are profiled in this report. We thank them for their energy and commitment, and take pride in their continuing success.

I would also like to thank staff and faculty, as well as the many individuals and organizations that have worked for and with ICES in our first term. I am both sorry and heartened that they are too numerous to list here. Our governance arrangements are changing, but we remain grateful

to our founding co-sponsors, the Ontario Ministry of Health and the Ontario Medical Association. Last, on behalf of all those who work at and with ICES, I would like to thank the taxpayers of Ontario for their continued financial support, and assure them of our continued commitment to a sustainable and high-quality health care system.

Yours sincerely,

C. David Naylor
CHIEF EXECUTIVE OFFICER

A Measure of

The Institute for Clinical Evaluative Sciences was established in April of 1992 as a joint venture of the Ontario Ministry of Health and the Ontario Medical Association. Its mandate is to conduct research that contributes to the effectiveness, quality and efficiency of health care in the province of Ontario.

Here are highlights of the last five years' successes at ICES. Some of these are further profiled in this annual report.



1992/93

ICES hires faculty and staff, develops capability and protocols for analyzing little-explored provincial data sources, and commences steady release of research results on quality, access and efficiency of health care.

ICES responds to requests for information and analysis from the Joint Management Committee on Medical Services, a body with equal representation from the OMA and MOH.

ICES' Academic Program Committee is established to promote the field of clinical evaluation research and to assist in career development of students.

ICES partners with the Cardiac Care Network (CCN) to provide analytical support, and develops a formula for calculating outcomes for surgical report cards.

The Ontario Health Care Evaluation Network (OHCEN) is created. In ensuing years, it fosters evidence-based decision-making and sponsors symposia promoting partnerships between researchers and decision-makers.



1993/94

Patterns of Health Care in Ontario: The ICES Practice Atlas, 1st Edition is released. The report resulted in:

- unprecedented public awareness of variations in processes and outcomes of care across Ontario's hospitals and regions.
- internal audits being conducted at many hospitals for procedures such as cesarean sections and appendectomies.
- systemic responses such as a project on tonsillectomy involving the College of Physicians and Surgeons, and a multistakeholder task force on the use of hysterectomy.

University of Toronto Centre for Bioethics publishes the *Dialysis Living Will*—funded in part by ICES—to help patients express their wishes about life-sustaining care.

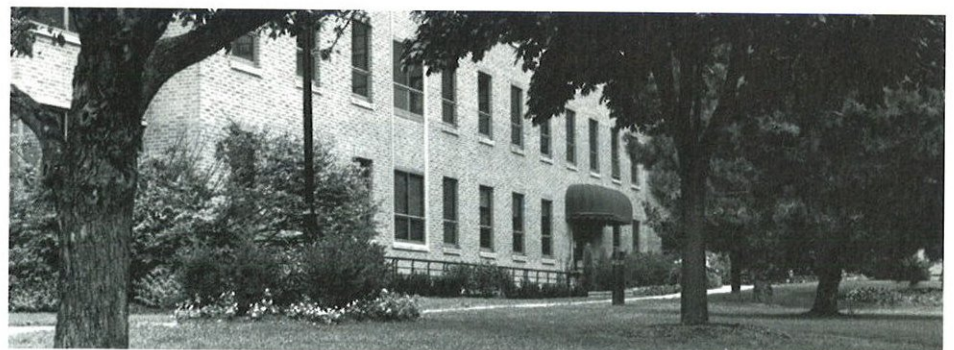
ICES produces first outcomes report cards for CCN member institutions.

ICES convenes expert panel to develop queuing criteria for hip and knee replacement surgery.



1992-1997

FIVE YEARS AT A GLANCE



Success



1994/95

informed, a newsletter that provides practical, research-based information for physicians, is launched.

The ICES Fax-on-Demand service, which provides supplementary information to *informed*, as well as other information, is launched.

The Adam Linton Fellowship, which supports the training of a health services researcher for one or two years, is established.

A student-led journal club is formed to foster critical appraisal skills of published work.

University of Toronto Centre for Bioethics publishes the *HIV Living Will*—funded in part by ICES—to enable people to express their wishes for future care.

ICES generates analyses that help channel investments which lead to improved dialysis capacity for Ontario.

ICES supports a major study in eight hospitals that successfully demonstrates the implementation of the Ottawa Ankle Rules, a clinical guideline to reduce use of ankle X-rays.



1995/96

In partnership with the Canadian Cancer Society—Ontario Division, ICES develops a patient information brochure on PSA screening for prostate cancer.

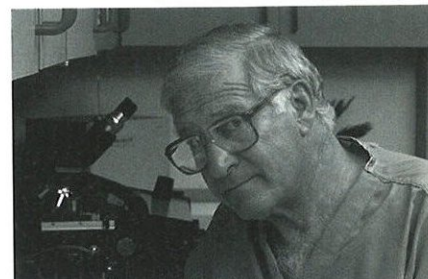
The Sore Throat Score, a tool to help physicians determine the presence of strep throat and improve antibiotic prescribing, is produced and disseminated with the support of 3M.

ICES supports the active dissemination of the Ottawa Ankle Rules to emergency room physicians in the province.

Guidelines for the Treatment of Uncomplicated Hypertension are published providing information for practising physicians.

ICES hosts widely-attended Consultation Day to discuss resource allocation and rational queuing for hip and knee replacement surgery.

ICES supports University of Ottawa investigators in the development and dissemination of a decision aid to help menopausal women make choices about hormone replacement therapy.



1996/97

Patterns of Health Care in Ontario: ICES Practice Atlas, 2nd Edition is published. It updates previous regional analyses and hospital report cards, and provides new coverage of community health indicators, mental health services, pediatrics, and prescribing trends.

ICES launches its World Wide Web site.

ICES co-hosts the first "National Workshop on Research Transfer."

Guidelines for the Management of Heart Failure are distributed to all primary care physicians and pharmacies.

ICES launches a successful short course entitled "Managing Health Care: Building on Evidence," to provide administrators and clinician leaders with the tools necessary to identify, interpret and apply information and research results.

The Ontario Round Table on Appropriate Prescribing (ORTAP) is officially launched.

Over the years...

- ✓ ICES has published nearly 50 working papers and technical reports
- ✓ ICES faculty have authored or co-authored approximately 500 articles in peer-reviewed journals
- ✓ ICES has supported a number of off-site research projects totalling two million dollars
- ✓ ICES has been involved in many partnership activities, such as joint research projects, and has had advisory and participatory roles on committees
- ✓ ICES and the Sunnybrook Clinical Epidemiology Unit (CEU) have co-sponsored Conjoint Evaluative Sciences Rounds



Measuring up

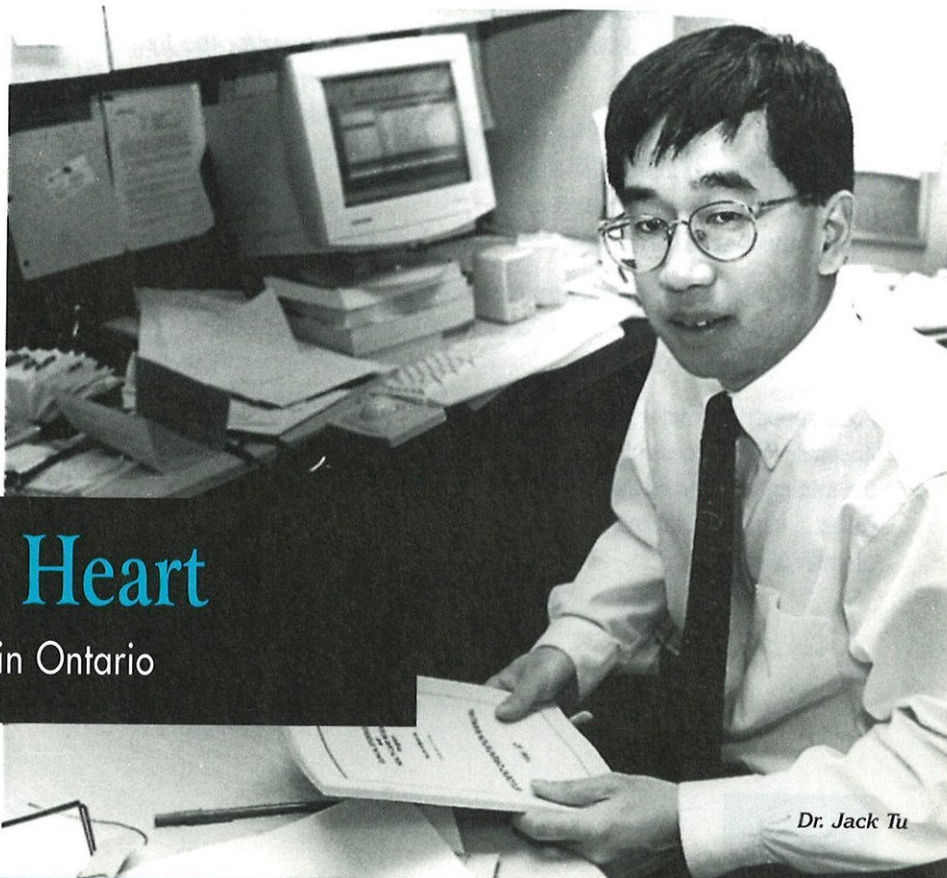
... to carry
out health
services research
in areas of
clinical and
policy relevance
from a
population-wide
perspective.

“Heart attacks are the leading cause of death in Canada and the United States,” says Dr. Jack Tu, a scientist at ICES and a general internist at Sunnybrook Health Science Centre. Cardiac care is a major research interest for Tu and he has spent most of his first year at the Institute leading various cardiac research initiatives. Many of those projects have involved comparisons with the United States.

“I think the quality of cardiac care in Canada is very good and probably better than we appreciate,” says Tu. “At the same time, there is a worry that Canadians have

inferior access to necessary procedures compared to Americans.” It was that perception Tu took to task in a recent study published in the *New England Journal of Medicine*. The project compared the use of invasive cardiac procedures and outcomes in elderly patients from Ontario and the U.S. who had experienced heart attacks.

The research analyses showed that although elderly Americans receive strikingly more cardiac procedures than their Canadian counterparts in Ontario, the long-term death rates appear to be the same. During the study period, American seniors received nearly



A Goal of the Heart

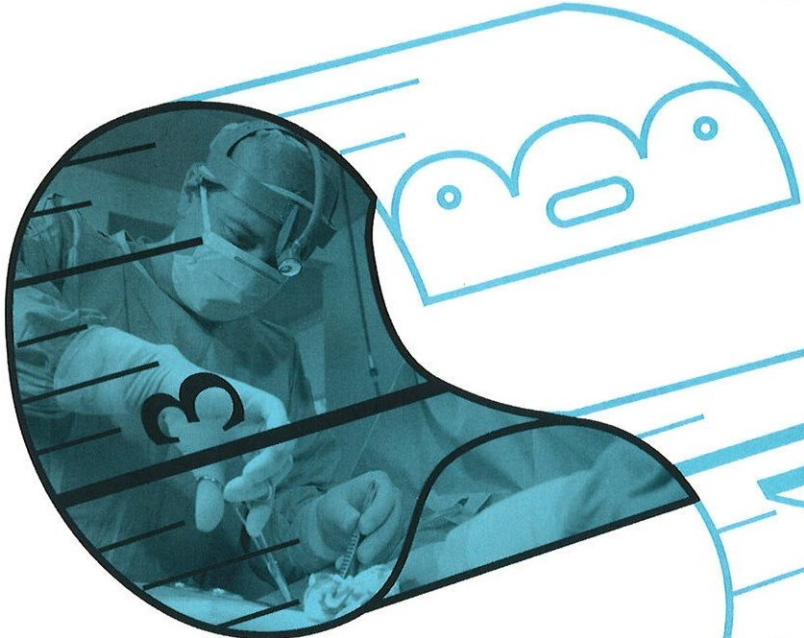
Examining Cardiac Care in Ontario

Dr. Jack Tu

to our goal...

Ongoing Projects

- ICES has partnered with the Heart & Stroke Foundation of Ontario to produce a practice atlas on cardiovascular care. The report is expected to be released in late 1998.



eight times more cardiac procedures, such as angioplasty or bypass, in the first month following a heart attack than their Canadian counterparts. One year later, however, about 34 per cent of those American seniors had died, the same proportion as in Ontario.

The study was a collaborative initiative with the Department of Health Care Policy at Harvard Medical School. Tu began work on the project while he was a doctoral student at the university. It's a collaboration Tu hopes to continue.

"The next logical step in our research is to look at quality of life issues," says Tu. It's an area of interest to his American colleagues at Harvard who believe that higher rates of procedure use may equate with a better quality of life. Quality of life studies would examine issues such as angina (chest pain) and determine how it impacts on a person's ability to perform daily routine activities.

Tu has also taken the lead on collaborative research work with Ontario's Cardiac Care Network (CCN). The work has included research on bypass surgery and mortality rates. Once again, Tu says, the research indicated that Canadian cardiac care is very good. "Our study with the CCN showed that Canadian bypass mortality rates are as good as those in the United States and we have less variation in our rates from one centre to another," he says.

As a physician and researcher, Tu says there is a lesson to be learned from his comparative research. Canadians often point to the United States as high-tech medicine at its best. "It's reassuring to know that Canadian patients are doing just as well in our system."



Measuring up

... to document
province-wide
patterns of
medical care on
an ongoing
basis.

How can we better deliver cancer care to patients in Ontario? That was the driving question behind ICES' first topic-specific practice atlas, *Cancer Surgery in Ontario*. The report is an introductory look at cancer surgery practices in the province and is considered a first step toward improved cancer care.

"Patients told a review committee about the difficulties of manoeuvring through the cancer care system, the gaps in service and the

difficult transitions from one service to another," says Dr. Neill Iscoe, an ICES adjunct scientist and a medical oncologist at the Toronto-Sunnybrook Regional Cancer Centre. "We set out to determine what was occurring in cancer surgery in order to identify where we might need to build bridges, fill in gaps and make changes to provide better patient care."

Iscoe calls the report timely because the province is embarking on a total reorganization of cancer care. "It provides important baseline information for planning and reorganization including regional variations in specific cancer surgeries and patient referral patterns.

Co-investigator, Dr. Teresa To, a senior scientist at ICES, says the fragmentation of services and the need for a more coordinated system with good referral networks were among the important issues raised in the report. "We also found that a large number of hospitals, both community and teaching, performed very low volumes—fewer than five per year—of high risk procedures." This relationship needs to be explored in more depth, she adds.

Dr. To points to the findings for pancreatic cancer surgery as an example of low-volume, high-risk

Dr. Neill Iscoe



Dr. Teresa To

A Goal for Cancer Care

Looking for Answers in the Data

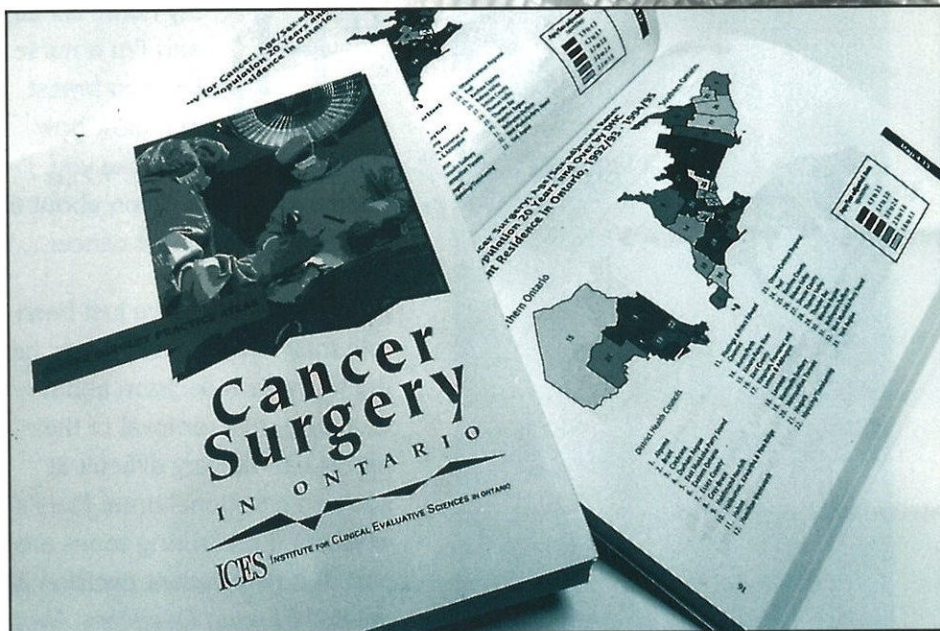
to our goal....

surgeries. The report shows that 19 hospitals each performed only one surgery for pancreatic cancer in 1994/95. Other research suggests that patients undergoing these types of high-risk procedures fare better in high-volume institutions.

The volumes and outcomes issue raises the question of whether patients have a right to know about the experience of their surgeon or hospital for a given surgery. Doctors Iscoe and To both feel strongly that it is the patient's right. "People are entitled to the best possible care the system can provide," says Iscoe. "They need this information in order to make informed decisions about their care."

Cancer Surgery in Ontario has led to some follow-up research. Iscoe and To are collaborating again on a number of projects including a further examination of practice patterns and outcomes for patients with rectal cancer. Although there is no standard guideline of care for people with this cancer, the literature suggests that the location of the tumour and the stage of the cancer should guide a surgeon's decision on the appropriateness of surgery.

Dr. To says rectal cancer surgery is a very common procedure but, as was seen in the cancer surgery atlas, there appears to be a lot of regional variation. "We want to find out what causes these variations and whether it leads to variations in patient outcomes as well. I think there is room for improvement in this area of cancer care, but we have to identify where or what it is we need to improve first."



Ongoing Projects

- **ICES is currently working on its next thematic practice atlas with the Arthritis Society (Ontario Division).**

The musculoskeletal atlas will examine arthritis and other related conditions. It will be released in early summer, 1998.



Measuring up

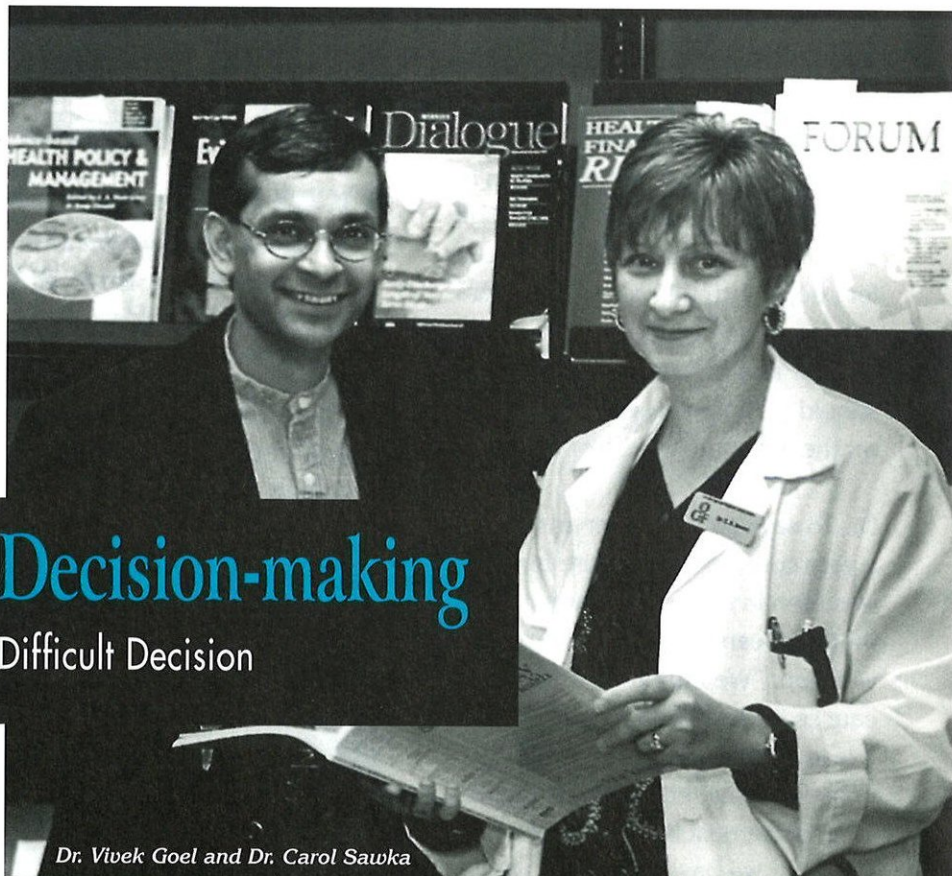
... to develop
and disseminate
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policy-makers,
administrators,
clinician-
managers,
practitioners,
and patients.

“Hi. My name is Mary and I’m a nurse. I’ve had breast cancer myself, so I know how upsetting it can be. Like you, I’ve had to make a decision about the removal of my breast cancer...”

For women who have just been told they have breast cancer, having to make a decision about total or partial removal of their breast can be very difficult at such an emotional time. Mary’s words and reassuring tones are part of a new patient decision aid entitled *Making Decisions About the Removal of My Breast Cancer: What do I Prefer?* Consisting of

an audio tape and booklet, it is designed to help women make the choice between lumpectomy, followed by radiation therapy, and mastectomy.

Dr. Carol Sawka, a medical oncologist at the Toronto Sunnybrook Regional Cancer Centre and adjunct scientist at ICES, headed up the research team that developed and is now evaluating the tool. According to Sawka, a decision aid can improve some aspects of decision-making simply by providing information and helping the user clarify her personal values. “Our decision tool is designed to augment the information a woman



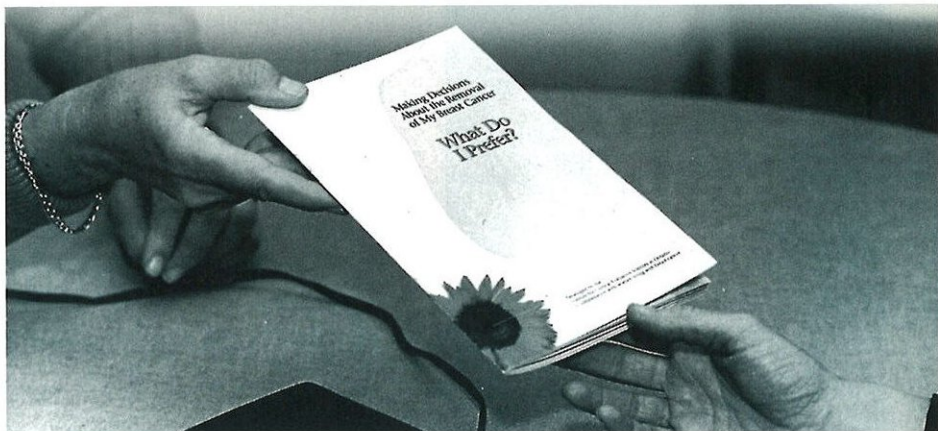
Dr. Vivek Goel and Dr. Carol Sawka

A Goal for Improved Decision-making
Helping Women Make a Difficult Decision

to our goal...

receives from her surgeon," says Sawka. "The patient can use this in the privacy of her own home following her consultation and keep the material to refer to when needed."

The decision aid provides information about both procedures, including radiation, short- and long-term side effects, cosmetic results and breast reconstruction. Explicit photographs show the physical changes a woman can expect. At the end of the booklet, the user performs a values clarification exercise to help her weigh the advantages and disadvantages of each procedure and determine which procedure might be best for her. Dr. Vivek Goel, a senior scientist at ICES and associate professor at the University of Toronto, says the choice is really the patient's. "We know that mastectomy and lumpectomy with breast radiation have equivalent health outcomes for patients and



the choice between the two procedures comes down to the personal desires of the patient," he says.

The co-investigator for this project, Goel says earlier ICES research had shown variations across the province in the use of breast-conserving surgery. While many factors are related to this variation, a lack of information about choices in treatment was identified by women with breast cancer. "Our next step was to work with the surgical community to see what we could do to help the surgeons provide information to women to help them make an informed decision."

The development of the decision aid was possible with the support of surgeons, other health professionals and organizations, as well as women living with the disease, who provided

crucial input through a steering committee, focus groups, pilot studies and participant recruitment.

The women in the pilot study who used the booklet say it is a very valuable, helpful tool. One woman thanked the research team for the information. "I definitely know that if I didn't have this in my hands, I would have been much more afraid and nervous about this whole issue."

A randomized trial comparing the decision aid to a basic informational brochure is nearing completion. Once that is finished, Sawka and Goel hope to make the decision aid widely available in the mid-1998 with the help of concerned organizations.

Ongoing Projects

- **ICES has helped produce several decision aids including one with the University of Ottawa for women considering hormone replacement therapy.**
- **Research information is available through the ICES Research Transfer Unit in various formats including a working paper/technical report series, the newsletters *informed* and *ICES Ink*, a Fax-on-demand Service, and the Internet (www.ices.on.ca).**



Measuring up

... to
implement
and evaluate
projects
in a clinical
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to promote
more effective
and efficient
patterns of
care.



Dr. Jan Hux



“I became interested in the impact of knowledge of drug costs on physicians’ choices of prescription drugs early in my medical career,” says Dr. Jan Hux. The ICES scientist and staff physician at Sunnybrook Health Science Centre recalls a former medical resident prescribing a \$90 per week prescription for a patient when an equally effective medication which cost just \$12 per week was also an option. His reason—the patient was on a drug plan.

Previous research by Hux has suggested that when physicians are informed of the various costs

of equally effective prescription drugs, they will often choose the cheaper one. However, most physicians don’t have that information at their fingertips and often, it is the newer, strongly promoted, higher-priced drugs which linger in physicians’ memories. Older drugs don’t get the same publicity push. They are usually cheaper but many are still highly effective according to Hux. This is especially true of antibiotics, the focus of Hux’s most recent study.

Concerns about drug resistance are very good reasons not to be using the newer, more expensive antibiotics when the older, first line drugs are still very effective. The newer drugs are those we want to keep in our hip pocket if the first line drugs fail, says Hux. “It’s not just a cost issue.

A Goal for Improvement

Changing Prescribing Practices

to our goal...

It's a quality of care and health benefit concern as well," she adds.

To address the issue, Hux developed a research program to determine whether providing physicians with confidential information about their prescribing practices for antibiotics, as well as educational materials, would increase their use of first line antibiotics. Two hundred fifty-one physicians agreed to participate in the six-month study. On three occasions during the study period, just over half of the group received individual prescribing profiles, the aggregate profile of their peers, and a bulletin of pertinent information. The remaining physicians received their profiles at the end of the study period and did not get any educational material.

"The project was a success on two fronts," says Hux. "The physicians

who participated liked the program with 80 per cent indicating they would readily get involved again." It also affected prescribing patterns. Among those physicians who received feedback and educational materials, there was an increased use in first line antibiotics. Among physicians in the comparison group, the use of first line drugs decreased over time.

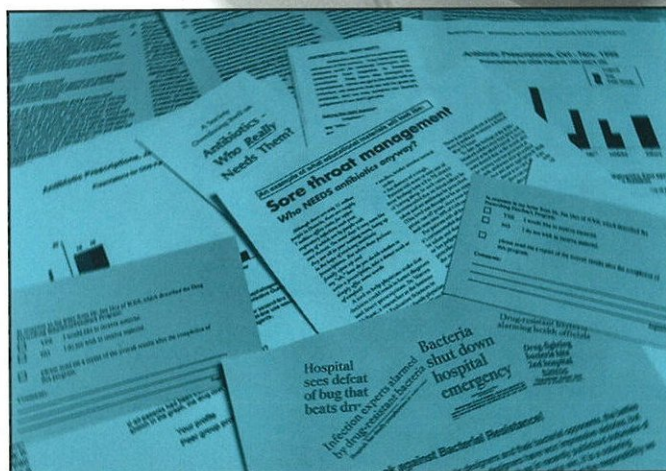
Hux hopes that at some point, they can take an intervention of this type province-wide, but first, some further research is required. "As physicians volunteered for this study, the next step is to determine if the program would still be useful to physicians who might be reluctant to volunteer," she says. "We also need to look at other drug groups, such as those for chronic conditions, in which prescribing practices may be more difficult to change because of patient preferences and dependencies."

In the meantime, the comments from the physicians on the prescribing feedback study have been immensely positive. According to one physician, "The only way to control health care costs in Ontario is through adequate information provided to physicians in a timely and user-friendly fashion. I believe a project of this nature is long overdue and of vital importance to the profession."

Ongoing Projects

■ **The Ontario Round Table on Appropriate Prescribing (ORTAP) is a collaborative initiative which aims to promote appropriate drug utilization. Members include representatives of the research community, pharmaceutical industry, insurance companies, government, and provider and consumer organizations.**

The project includes a community demonstration project in Peterborough with participation of local physicians, pharmacists, hospitals and patients.



Measuring up

... to promote linkages among health services researchers in Ontario, and between researchers and decision-makers.

“When we set out to get a better understanding of the use of acute care beds in Ontario hospitals, we made a valuable discovery,” says Virginia Flintoft, a research coordinator at ICES. “Our study found that health care providers are doing a good job, but acute care beds could be used more efficiently if we put the right systems in place.” The study was the Non-acute Hospitalization Project, a collaborative effort with the Joint Policy and Planning Committee (JPPC). Flintoft played a key management role in the project.

“When we started our research, we were aware that there are some patients in acute care hospitals who don’t necessarily need to be there because they don’t require that level of service; however, they have nowhere else to go,” says Flintoft. “I think the most exciting discovery was the identification of these sub-acute patients and the realization that they represent an enormous component of current acute care.”

According to the report, there are two types of sub-acute patients. There is the chronic care patient whose condition has stabilized but



Dr. Virginia Flintoft

A Goal Among Partners

Improving the Use of Acute Care in Ontario

to our goal...

who still requires long-term medical care. These patients are not acutely ill, however, and should likely go to a chronic care or rehabilitation facility. The second type of patient is the one who is not yet well enough to go home but will be in a few more days.

In order to examine the use of acute care beds and subsequently identify the sub-acute patients, ICES first worked closely with InterQual, a company that develops tools to measure appropriateness of care. The resulting software package provides clear, concise criteria to determine the severity of a patient's illness upon admission for various diseases and procedures. The tool helps judge whether a patient should continue to stay in acute care. If not, it helps determine to which other area of care the patient should be transferred, such as rehabilitation, sub-acute care or home care.

Ongoing Projects

■ **ICES has partnered with numerous individuals, organizations and agencies over the past five years. One of the longest ongoing partnerships has been with the Cardiac Care Network (CCN), established in 1990 to regionalize cardiac services and manage waiting lists for cardiac surgery. ICES provides overview analyses of CCN data for academic purposes and acts as an external monitor of data for cardiovascular services. The mutual goal of the partnership is improved quality of data and patient care.**



The research team used the software in two research phases. The first part of the study involved a retrospective look at 13,242 patient charts. The second involved the concurrent abstraction of charts at 135 institutions. During that phase, the hospitals chose the clinical category on which they wanted to focus. Flintoft says changes were occurring as the tool was being implemented. "For example, one hospital incorporated the criteria into their daily rounds and they became a yardstick for evaluating the need for continued care."

In its final report, the study showed that patients who have a high severity level of illness upon admission, such as heart attack victims, are in acute care beds, as was expected. Other patients in acute care, such as many of those suffering from pneumonia or respiratory ailments, were not acutely ill on admission. These

patients tended to be elderly and, by the project criteria, would be considered sub-acute.

"This suggests that patients should be monitored as they come into the emergency department," says Flintoft. "If they are sub-acute, they could then be sent to a special service or short-stay unit where the mandate is to deliver care rapidly and intensely so that they are stabilized and ready for home care."

Flintoft says it's important to note that what they found showed that caregivers are doing a good job of managing patients in the current system. "What we've found is an obvious hole in the provision of services. Now we've got to determine if we're going to fix that hole by developing sub-acute care."

Measuring up

...to train health services researchers and promote a wider understanding of relevant concepts from clinical epidemiology and health services research.



“In all my training, there were few environments that were as intellectually stimulating and as personally satisfying in terms of personal relationships, camaraderie and so forth, as that which existed at ICES during the two years that I was there,” says Dr. Jafna Cox. He was among the first students and fellows to participate in ICES’ academic component.

Cox was a general internist who had just completed specialty training in cardiology at Dalhousie University when he came to the Institute in 1993. “It was the chance to learn and do something new and the academic reputation of the Institute that attracted me,” he says.

He spent two years at ICES focusing on projects in the cardiovascular area which resulted in numerous publications. His research included studies on patient satisfaction and use of thrombolytic therapy, and variations in and utilization of invasive and non-invasive procedures.

The experience was a significant stepping stone for his subsequent career. “It facilitated my return to Nova Scotia with a grant to create a ‘mini-ICES’ specifically in the area of cardiovascular disease,” Cox says.

Today, Cox is Assistant Professor in the Department of Medicine (Division of Cardiology) and Community Health and Epidemiology at Queen Elizabeth II Hospital and is heading up a five-year study, Improving Cardiovascular Outcomes in Nova Scotia (ICONS). Its goal is to determine if a disease management approach to three cardiovascular diseases—ischemic syndrome, heart

A Goal for the Future

Achieving Academic and Research Excellence

to our goal...

failure, and atrial fibrillation—can improve the quality of health care and patient outcomes for Nova Scotians.

“Basically it’s an experiment in evidence-based health care reform,” says Cox. “Can we get past the barriers and go forward and reform the way we manage the three cardiovascular diseases in an all-inclusive evidence-based fashion.”

ICES’ academic program is a unique opportunity for graduate students to work under the guidance of faculty at ICES and the Clinical Epidemiology Unit of Sunnybrook Health Science Centre. More than two dozen students and fellows are currently on-site at ICES completing graduate degrees and receiving training in health services research, including the Adam Linton Fellow.

Administered by the Ontario Medical Association, this one-year fellowship financially supports the work of a promising health services researcher. ICES also supports the development and academic upgrading of staff; several employees are pursuing part-time graduate studies.

ICES’ Commitment to Excellence

Many have come to ICES in the past five years to receive training in health services research. The following is a partial list of past students and fellows who have completed fellowships or graduate degrees under the guidance of the ICES/CEU faculty (and where they are today).

- ★ **Susan Bronskill** (PhD candidate, Harvard University)
- ★ **Peter Bunting** (Staff Biochemist, Sunnybrook Health Science Centre)
- ★ **Lisa Cicutto** (Assistant Professor, Graduate School of Nursing, University of Toronto)
- ★ **Philippa Clarke** (PhD candidate, University of Toronto)
- ★ **Sharon Dolman** (Clinical Nurse Specialist, Sunnybrook Health Science Centre)
- ★ **Lynn Elinson** (Senior Survey Analyst, Westat)
- ★ **Denice Feig** (Staff Endocrinologist, Mount Sinai Hospital, Toronto)
- ★ **Shaun Goodman** (Staff Cardiologist, St. Michael’s Hospital)
- ★ **Diane Kerbel** (Nurse Epidemiologist, Ontario Ministry of Health)
- ★ **Doug Manuel** (Resident, Community Medicine, University of Toronto)
- ★ **Paul Oh** (Staff Internist, Sunnybrook Health Science Centre)
- ★ **Valerie Palda** (Staff Internist, St. Michael’s Hospital)
- ★ **Annemarie Ugnat** (Staff Scientist, Centre for Disease Control and Prevention)
- ★ **Ross Upshur** (Research Fellow, McMaster University)
- ★ **Nancy Young** (Clinical Epidemiologist, Hospital for Sick Children)

Measuring Success Requires ...

T · E · A · M W · O · R · K



ICES Faculty



Finance Department

Research Transfer Unit

Information Systems Department

ICES Staff & Associates

Faculty

Dr. C. David Naylor, *Chief Executive Officer*
Dr. J. Ivan Williams, *Deputy Director-Research*

Dr. Geoff M. Anderson, *Senior Scientist*
Dr. Peter Austin, *Associate Scientist*
Dr. Antoni Basinski, *Senior Scientist*
Dr. Benjamin Chan, *Associate Scientist*
Dr. Peter Coyte, *Adjunct Senior Scientist*
Dr. Lorraine Ferris, *Senior Scientist*
Dr. Vivek Goel, *Senior Scientist*
Dr. Jan Hux, *Scientist*
Dr. Neill Iscoe, *Adjunct Scientist*
Dr. Susan Jaglal, *Adjunct Scientist*
Dr. Albert Kirshen, *Adjunct Scientist*
Dr. Hans Kreder, *Adjunct Scientist*
Dr. Hilary Llewellyn-Thomas, *Senior Scientist*
Dr. Warren McIsaac, *Adjunct Scientist*

Dr. George Pink, *Adjunct Senior Scientist*
Dr. Don Redelmeier, *Director, CEU HSR Program*
Dr. Carol Sawka, *Adjunct Scientist*
Dr. John Paul Szalai, *Senior Scientist*
Dr. Teresa To, *Senior Scientist*
Dr. Jack Tu, *Scientist*

Research Coordinators

Patti Pinfold, *Manager, Research Coordinators*

Mohammed Agha, *Research Coordinator*
Tami Axcell, *Research Coordinator*
Paula Blackstien-Hirsch, *Research Coordinator*
Ruth Croxford, *Research Coordinator*
Virginia Flintoft, *Research Coordinator*
Davida Glazer, *Resource Centre Coordinator*
Elaine Gort, *Research Coordinator*
Karey Iron, *Research Coordinator*

Michele Melady, *Research Coordinator*
Asliff Nurani, *Research Coordinator*
Michael Paterson, *Research Coordinator*
Joan Porter, *Research Coordinator*
Jane Sandercock, *Research Coordinator*
Pam Slaughter, *Research Coordinator*
Elaine Thiel, *Research Coordinator*
Sohail Waien, *Research Coordinator*
Wendy Young, *Research Coordinator*

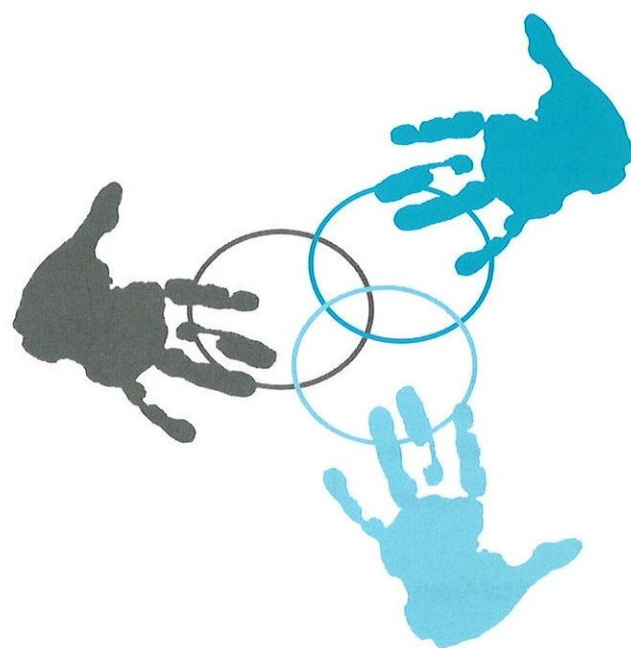
Research Transfer Unit

Cathy Fooks, *Director, RTU*
Kathy Knowles Chapeskie, *Acting Director, RTU*

Laura Benben, *Graphic Designer*
Cathy Cameron, *Evaluation Coordinator*
Donna Hoppenheim, *Administrative Secretary*
Lawrence Stevenson, *Communications Officer*



Research Coordinators



Administrative Support Team



Technical Team



Graduate Students & Fellows

Administrative Support Team

Madeline Rogers, *Administrative Director*

Margaret Brady, *Secretary to Director*
 Susan Campbell, *Secretary to Director, CEU*
 Wendy Cooke, *Administrative Secretary*
 Gale Delaney, *Administrative Assistant*
 Francine Duquette, *Administrative Secretary*
 Pauline Grant, *Receptionist*
 Rebecca MacBride, *Administrative Secretary*
 Lina Paolucci, *Administrative Secretary*
 Eileen Patchett, *Administrative Secretary*
 Mona Shaw, *Administrative Assistant*

Technical Team

Claus Wall, *Manager, Technical Team*

Adina Bica, *Programmer/Analyst*
 Don DeBoer, *Senior Biostatistician*
 David Fielding, *Programmer/Analyst*
 Marko Katic, *Biostatistician*
 Paula Lau, *Programmer Analyst*
 Kathy Sykora, *Biostatistician*
 Siew Tan, *Programmer/Analyst*
 Marc-Erick Thériault, *Programmer/Analyst*
 Florence Io, *Programmer/Analyst*
 Keyi Wu, *Biostatistician*

Graduate Students and Fellows

David Alter
 Chaim Bell
 Gillian Booth
 Sharon Dolman
 Carole Estabrooks²
 Denise Guerriere
 Ruth Hall
 Liisa Jaakkimainen¹
 Cynthia Jackevicius
 Moira Kapral

Stephen Lloyd
 Doug Manuel
 Phil McFarlane
 Shawna Mercer
 Valerie Palda
 Anne Shin
 Andrew Steele
 Carl Van Walraven

Individuals awarded the:
 Linton Fellowship¹
 MRC Post-doctoral Fellowship²

Information Systems Department

J-R Kidston, *Manager of Information Systems*

Donna Polyak, *Information Systems Analyst*
 Jackson Wong, *Systems Administrator*

Finance Department

Peggy McGill, *Controller*

Patricia McNamara, *Bookkeeper*

Financial Statements

Balance Sheet

as at March 31, 1997

	1997			1996		
	Capital and Operating Fund	Restricted Fund	Total	Capital and Operating Fund	Restricted Fund	Total
Current Assets						
Cash	853,935	254,388	1,108,323	24,851	27,629	52,480
Short-term investments	--	397,960	397,960	1,019,212	284,299	1,303,511
Other receivables	45,527	12,010	57,537	31,018	--	31,018
Prepaid expenses	9,166	--	9,166	16,124	--	16,124
	908,628	664,358	1,572,986	1,091,205	311,928	1,403,133
Capital Assets	850,390	--	850,390	966,535	--	966,535
	\$1,759,018	\$664,358	\$2,423,376	\$2,057,740	\$311,928	\$2,369,668
Current Liabilities						
Accounts payable and accruals	197,340	32,969	230,309	256,336	239	256,575
Due to Sunnybrook Health Science Centre	711,288	--	711,288	834,869	--	834,869
	908,628	32,969	941,597	1,091,205	239	1,091,444
Deferred capital appropriation	468,113	---	468,113	438,340	---	438,340
Deferred start-up grant	382,277	---	382,277	528,195	---	528,195
Deferred grants	---	631,389	631,389	---	311,689	311,689
	\$1,759,018	\$664,358	\$2,423,376	\$2,057,740	\$311,928	\$2,369,668

Capital & Operating Fund Statements

For the year ended March 31, 1997

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Revenue & Expenditure

Revenue	1997	1996
Grants		
• Operating	4,330,560	4,173,547
• Start-up	145,918	151,265
Interest income	17,680	175,464
Other income	194,584	71,460
	\$4,688,742	\$4,571,736

Expenditure		
Salaries and benefits	3,155,381	3,122,271
Consultative services	319,250	312,639
Computer supplies and software	183,351	202,755
Office and general expenses	284,497	255,485
Travel	66,819	79,118
Amortization of capital assets	325,773	264,946
Professional	54,599	43,949
Administrative	206,366	211,366
Catering	43,274	16,799
Other	49,432	62,408
	\$4,688,742	\$4,571,736
Excess of revenue over expenditure for the year	\$---	\$---

Capital & Operating Fund Statements

For the year ended March 31, 1997

Changes in Financial Position

	1997	1996
<i>Cash provided from (used in):</i>		
Operating activities		
Excess of revenue over expenditure for the year	\$---	\$---
<i>Items not affecting cash:</i>		
• Start-up grant	(145,918)	(151,265)
• Transfer from operating grant to deferred capital appropriation	209,628	268,291
• Amortization of deferred capital appropriation	(179,855)	(119,474)
• Amortization of capital assets	325,773	264,946
• Net book value of disposed capital assets transfer to operating grant	---	(1,007)
• Loss on disposal of capital assets	---	2,030
Change in non-cash working capital	(190,128)	(224,305)
	\$19,500	\$39,216
Investing activities		
Purchase of capital assets	(209,628)	(268,291)
Proceeds from disposal of capital assets	---	4,770
	\$(209,628)	\$(263,521)
<i>Decrease in cash and short-term investments for the year</i>	(190,128)	(224,305)
<i>Cash and short-term investments – Beginning of year</i>	1,044,063	1,268,368
<i>Cash and short-term investments – End of year</i>	\$853,935	\$1,044,063
<i>Cash and short-term investments comprises:</i>		
• Cash	853,935	24,851
• Short-term investments	---	1,019,212
	\$853,935	\$1,044,063

Restricted Fund Statement

For the year ended March 31, 1997

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Revenue, Expenditure and Deferred Grants

	Deferred grants at March 31, 1996	Grant Receipts	Interest and Other Income	Expenditure	Deferred grants at March 31, 1997
Ontario Health Care Evaluation Network	227,582	---	7,369	171,803	63,148
Breast Cancer Screening Mapping Project	26,745	---	866	27,611	---
T.A. Studies #1-4	8,062	---	207	8,269	---
D.T.I. Study	31,274	---	1,059	11,225	21,108
Task Force on Funding & Delivery of Medical Care	9,026	13,774	---	22,800	---
HealNet Grant	9,000	22,000	---	31,000	---
Medical Legal Protocol Kit	---	24,958	558	25,516	---
Early Discharge for Hip Fracture Patients	---	23,000	574	12,514	11,060
Ontario Round Table on Appropriate Prescribing	---	485,000	4,548	61,522	428,026
Coronary Stent Analysis	---	25,000	---	16,511	8,489
Health Services Evaluation and Utilization Studies	---	122,550	342	23,334	99,558
Total	\$311,689	\$716,282	\$15,523	\$412,105	\$631,389

Auditors' Report

The accompanying summarized financial statements have been prepared from the financial statements of the Institute for Clinical Evaluative Sciences for the year ended March 31, 1997, by the Institute's management. We have audited these financial statements and reported thereon without reservation on May 9, 1997. In our opinion, the accompanying summarized financial statements are fairly stated, in all material respects, in relation to those financial statements from which they have been derived.

Coopers & Lybrand

Coopers & Lybrand
CHARTERED ACCOUNTANTS—North York, Ontario
May 9, 1997

Ontario Public Sector Salary Disclosure Act, 1996

The following full-time employees of the Institute for Clinical Evaluative Sciences (ICES) received salaries of \$100,000 or more in 1996:

Dr. Geoff Anderson, Senior Scientist

Salary – \$112,307.64 Benefits – \$895.36

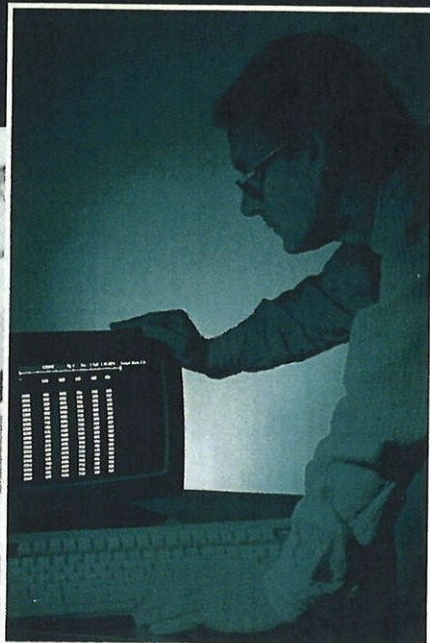
Dr. J. Ivan Williams, Deputy Director Research

Salary – \$115,333.91 Benefits – \$1,003.64

This information is not part of the financial statements and therefore is not audited.



INSTITUTE FOR CLINICAL EVALUATIVE SCIENCES



The Institute for Clinical
Evaluative Sciences (ICES)
is a non-profit research corporation
established by the Ontario Ministry of Health.

The ICES mandate is to conduct
research that contributes to the effectiveness, quality,
equity, and efficiency of health care in the
province of Ontario.

ICES

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The Institute for Clinical Evaluative Sciences produces a variety of publications, reports and other materials. For more information about ICES and the products available, please contact us at:

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This report is available on the Internet:

<http://www.ices.on.ca>

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