

Annual Review of IM/IT in Healthcare

Breakfast with the Chiefs
March 6, 2007

Agenda

- Notable successes and disappointments
- Principals for eHealth investments
- Rising health expenditures
- Colorectal cancer in Ontario
- Update on Health Human Resources
- International perspective: Primary care
- Diabetes care in Canada
- Concluding thoughts

Notable successes and disappointments

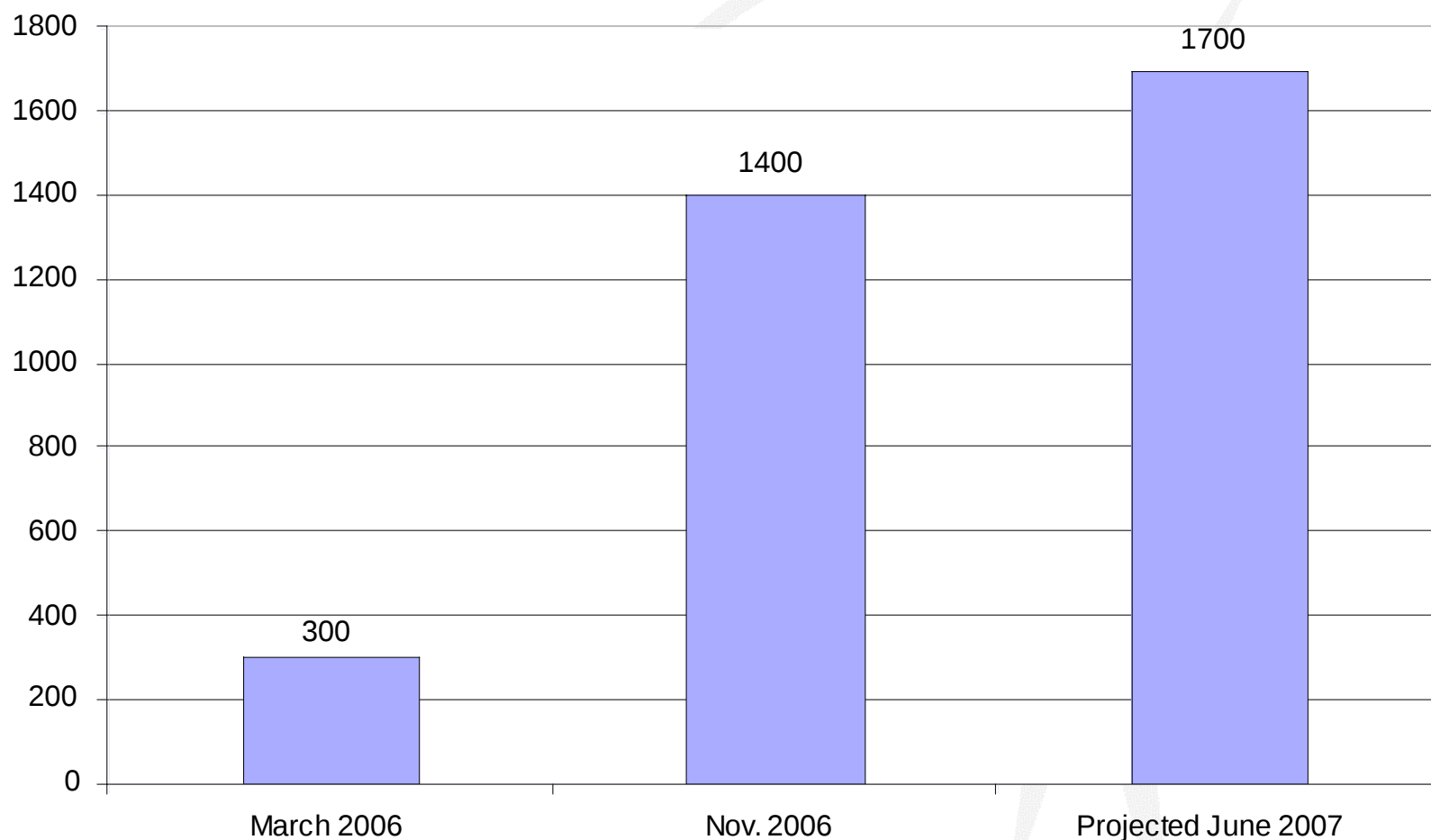
Successes:

- Ontario Wait time information system (and eMPI)
- Capital Health netCare

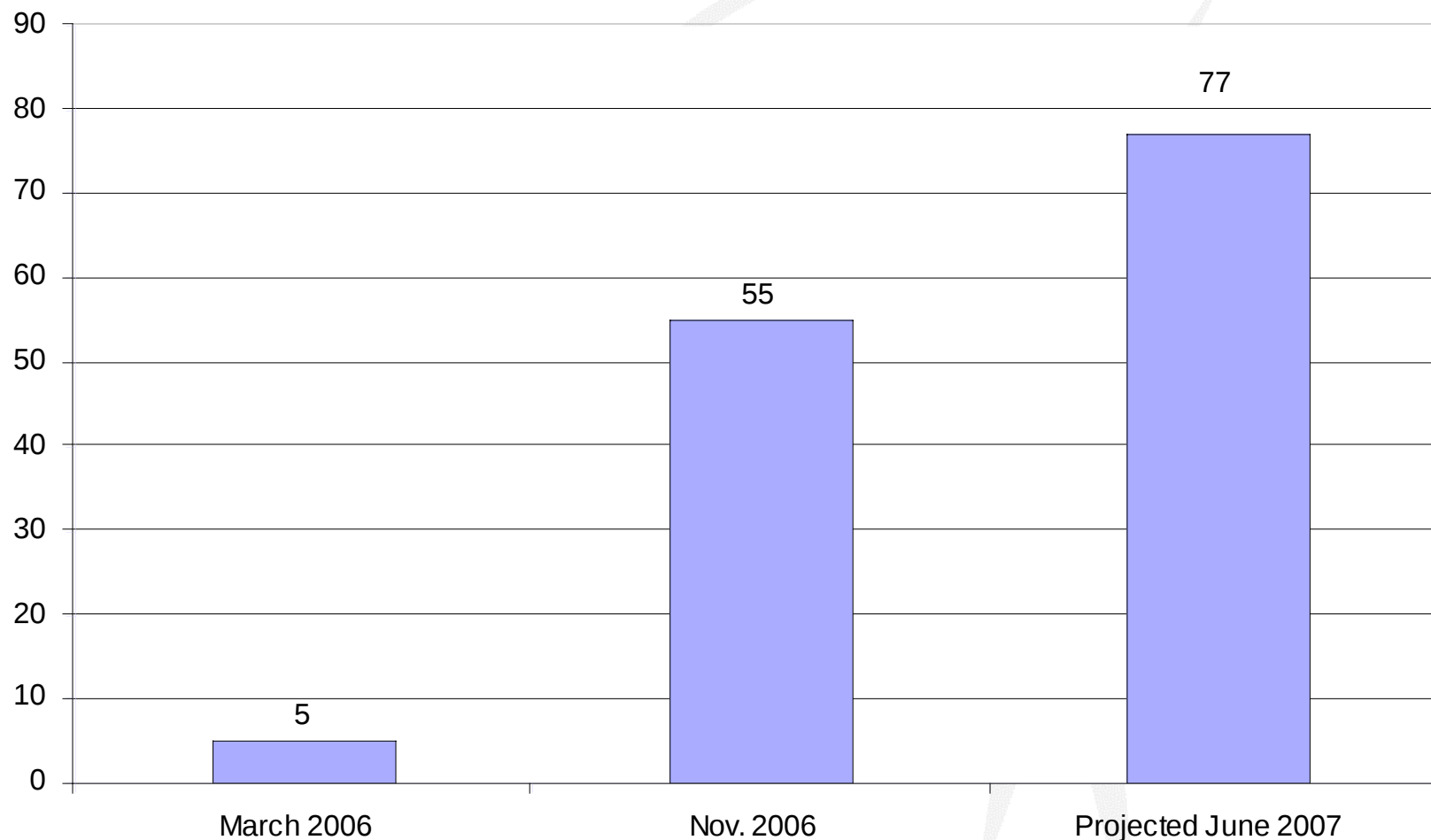
Disappointments:

- Smart Systems for Health Agency
- Ontario Lab Information System
- Alberta Pharmacy Information Network

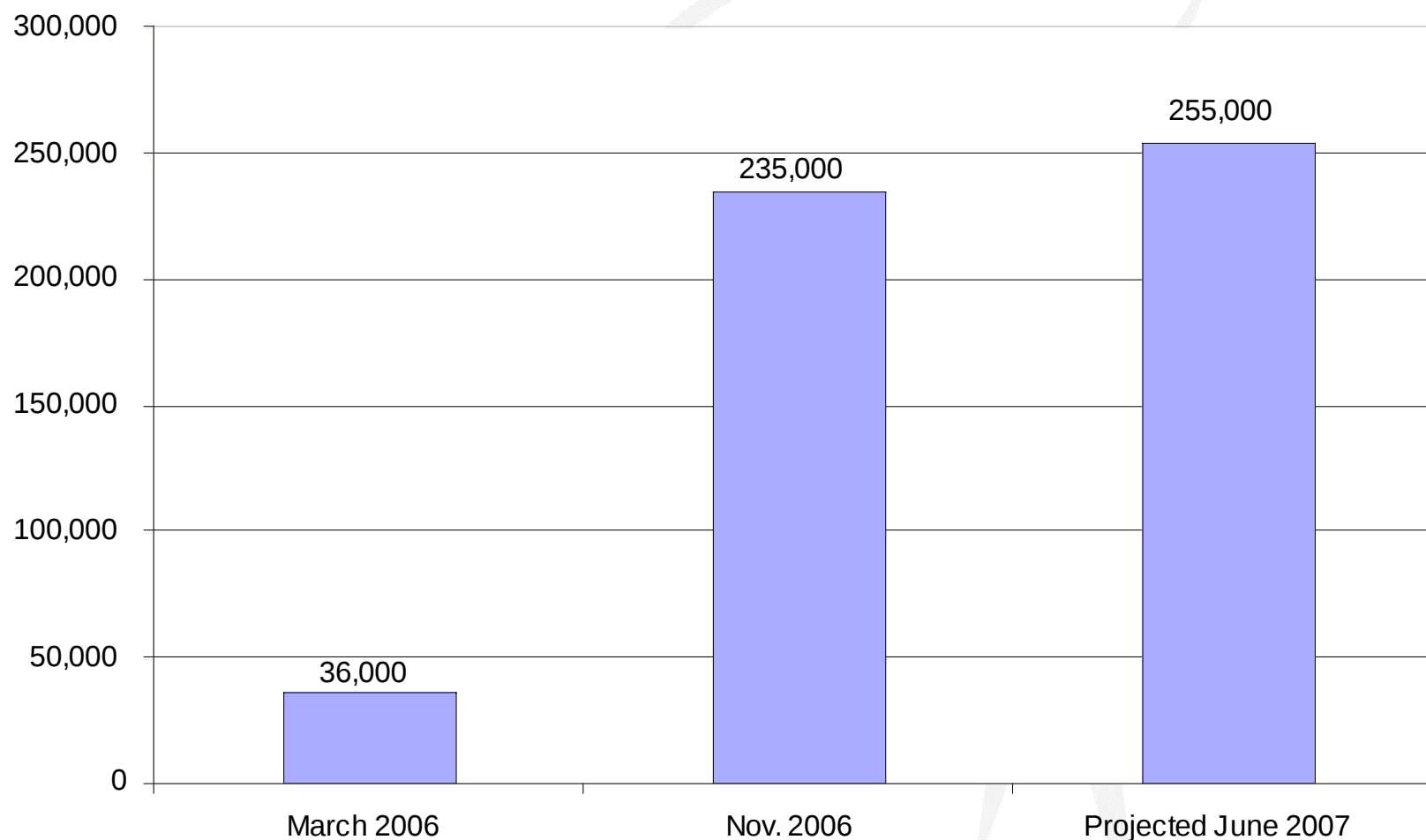
WTIS-EMPI implementation status – adoption statistics, by surgeon offices



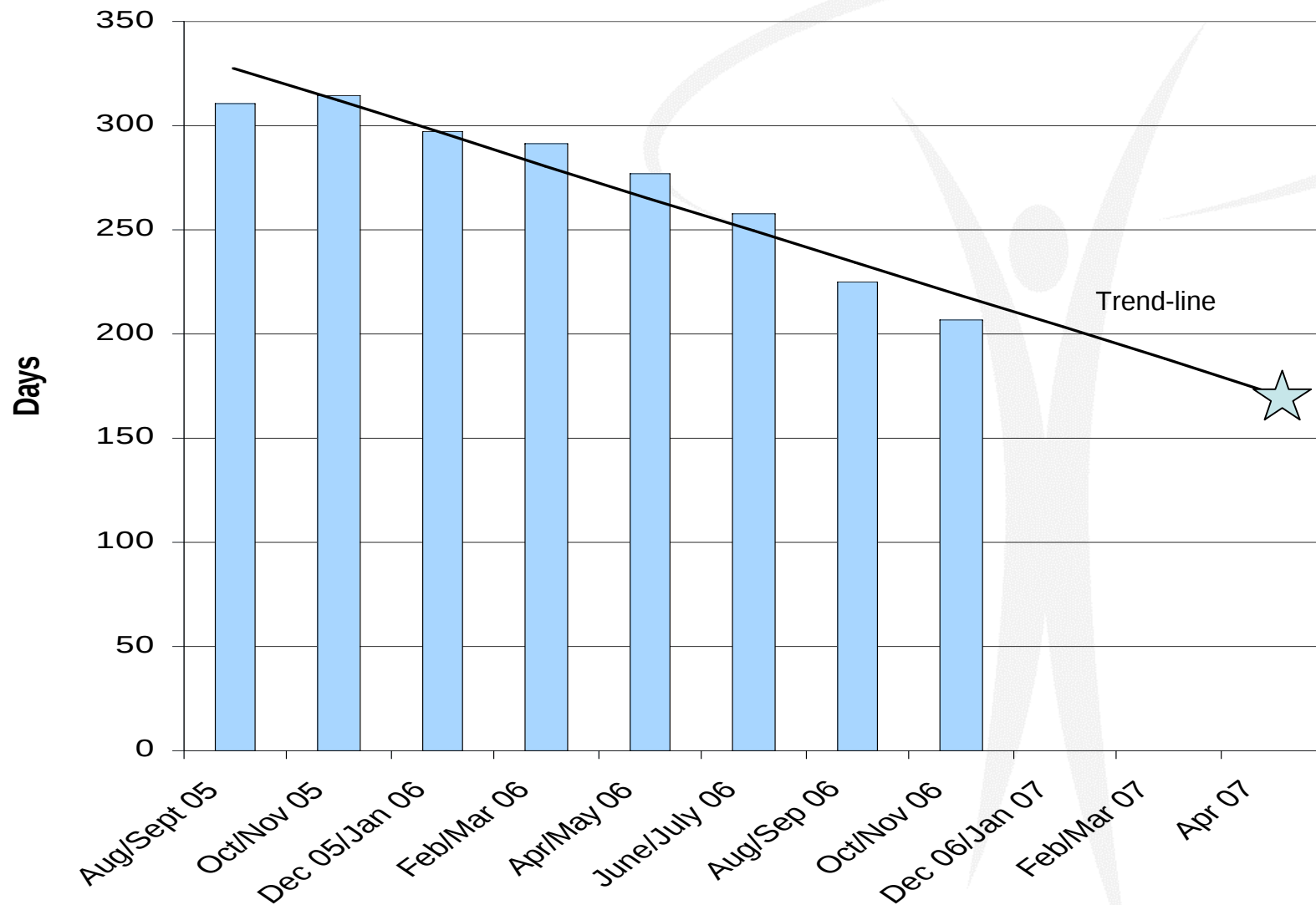
WTIS-EMPI implementation status – adoption statistics, by hospitals connected



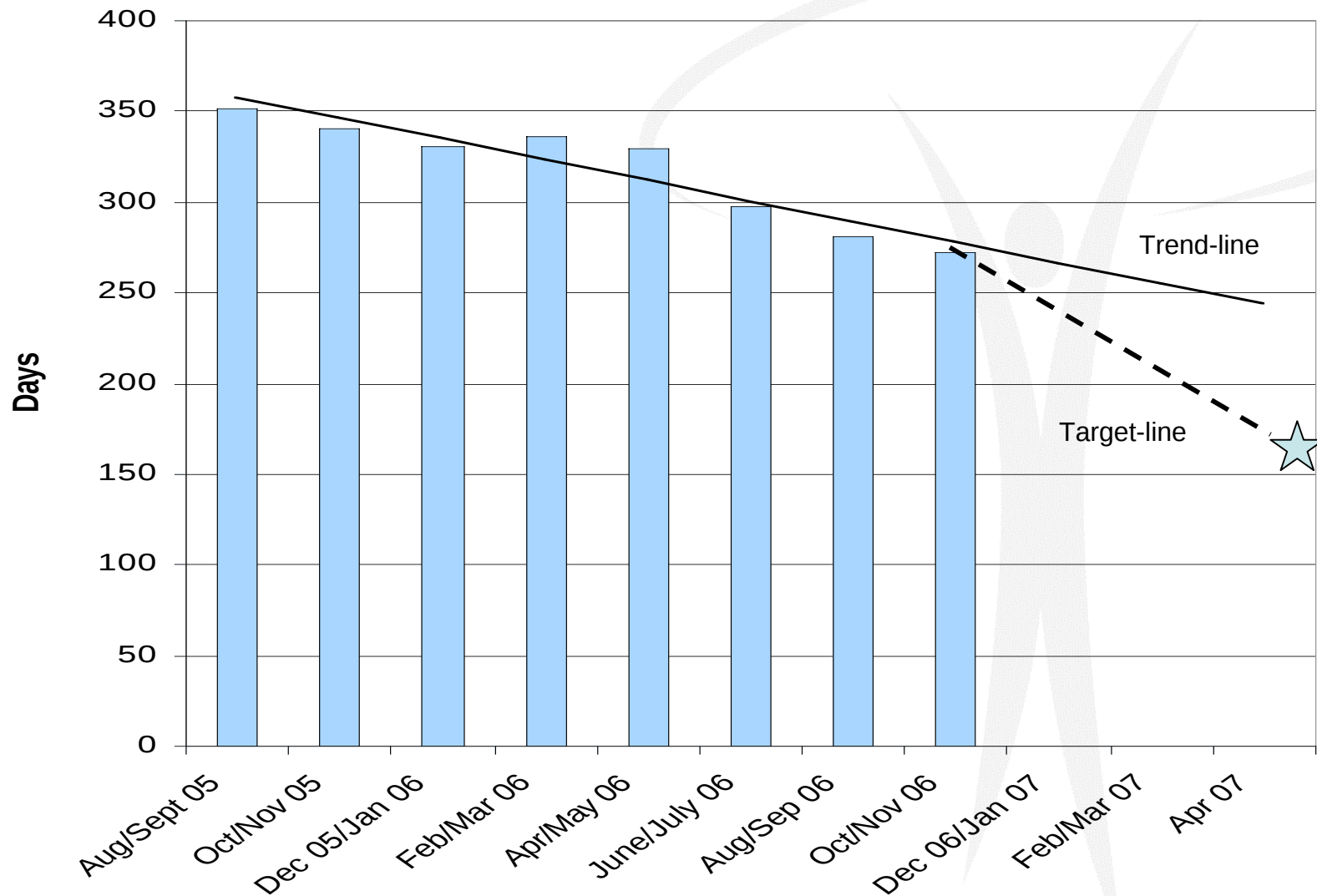
WTIS-EMPI implementation status – adoption statistics, by volume of surgical cases



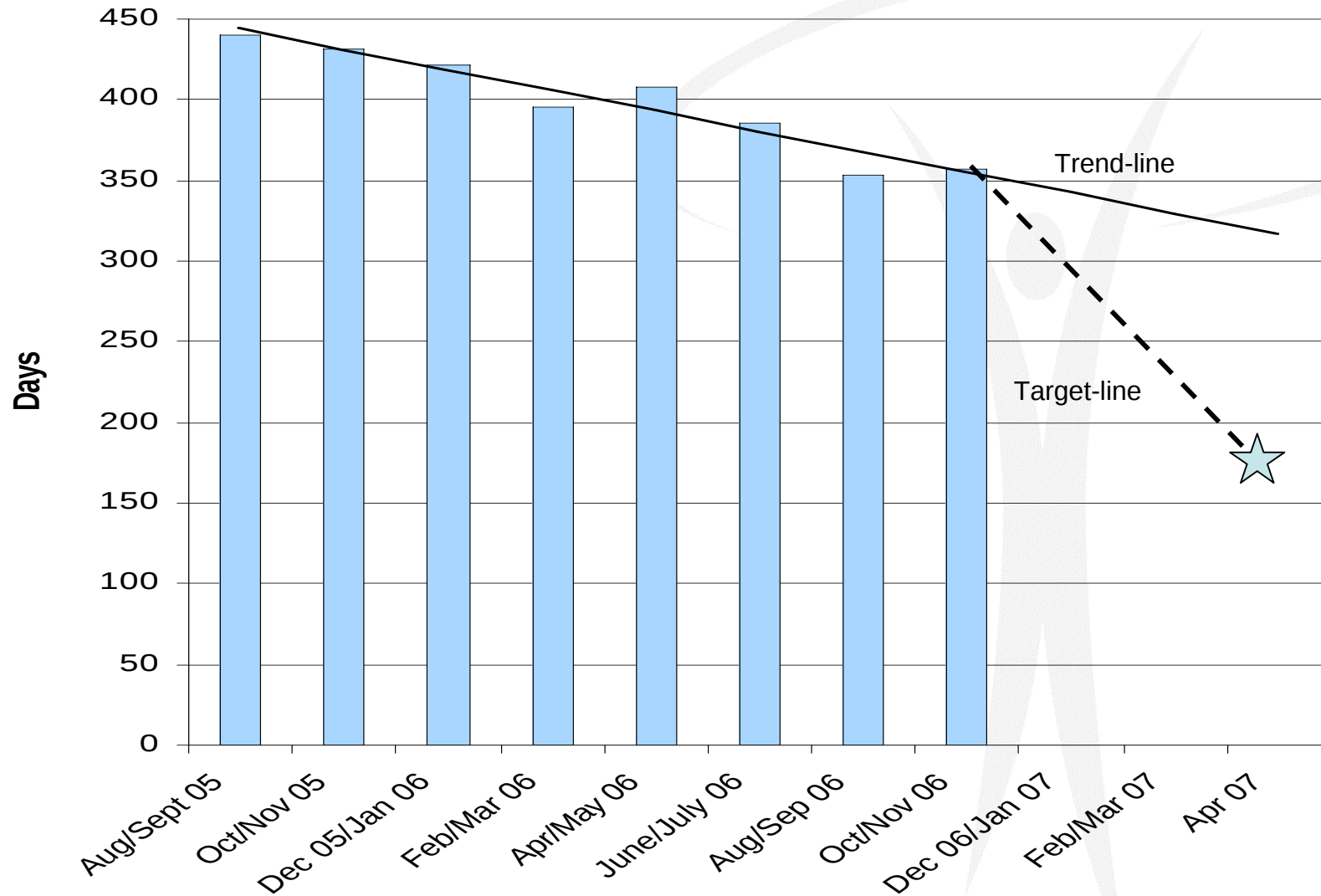
90% of cataract surgeries completed within



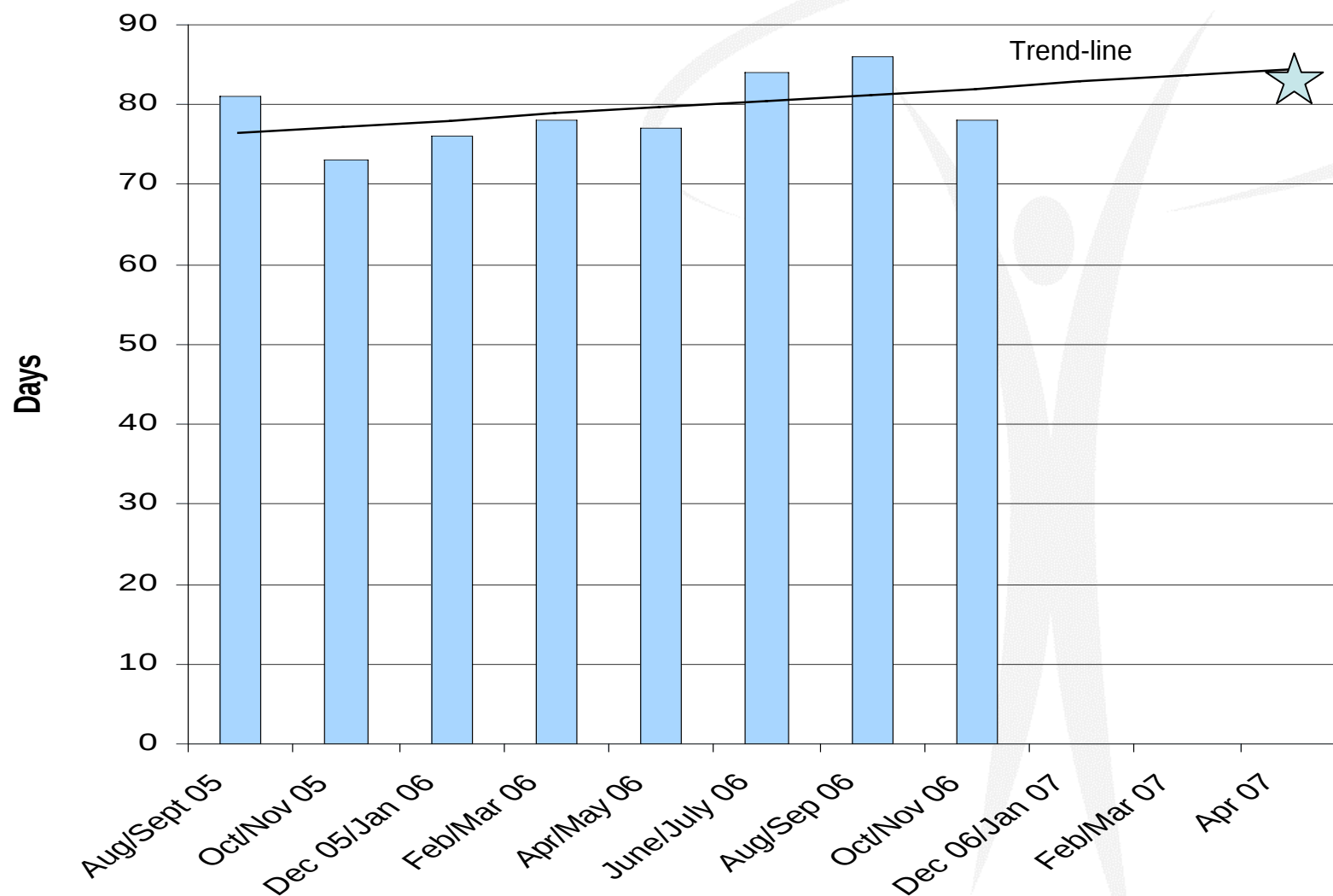
90% Hip replacement surgeries completed within



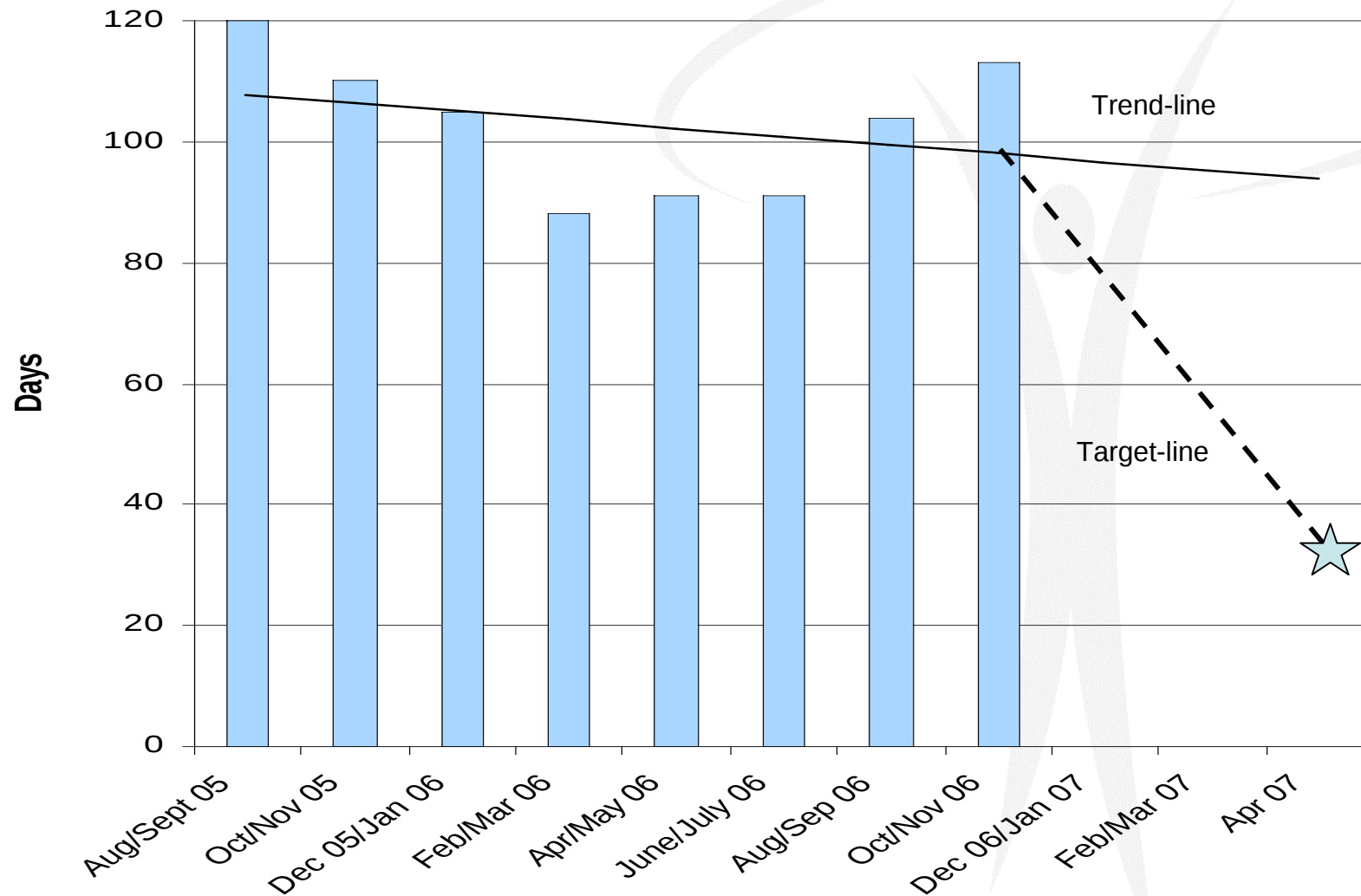
90% Knee replacement surgeries completed within



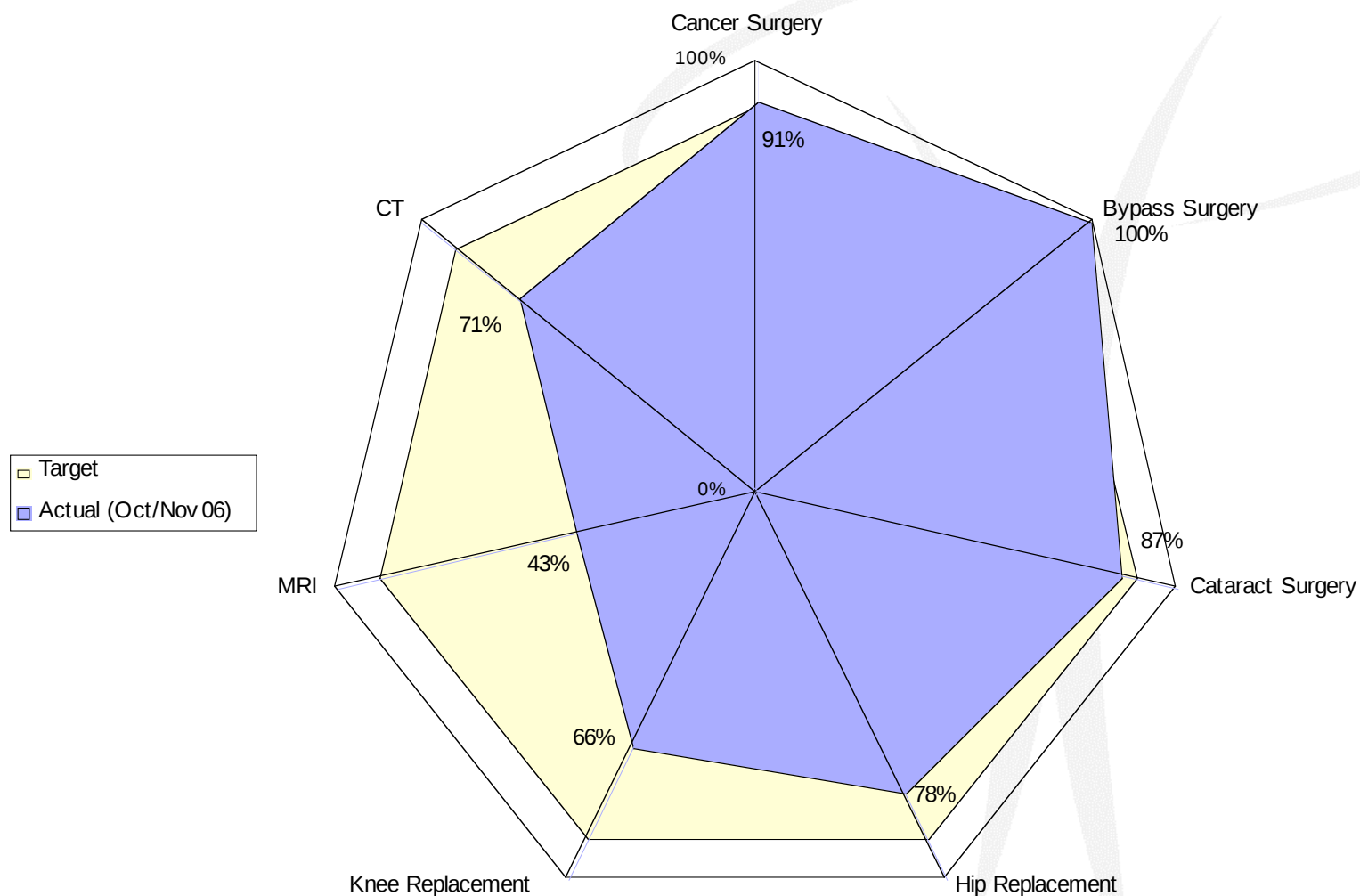
90% Cancer surgeries completed within



90% MRI scans completed within



Current overall gap - % cases completed within target



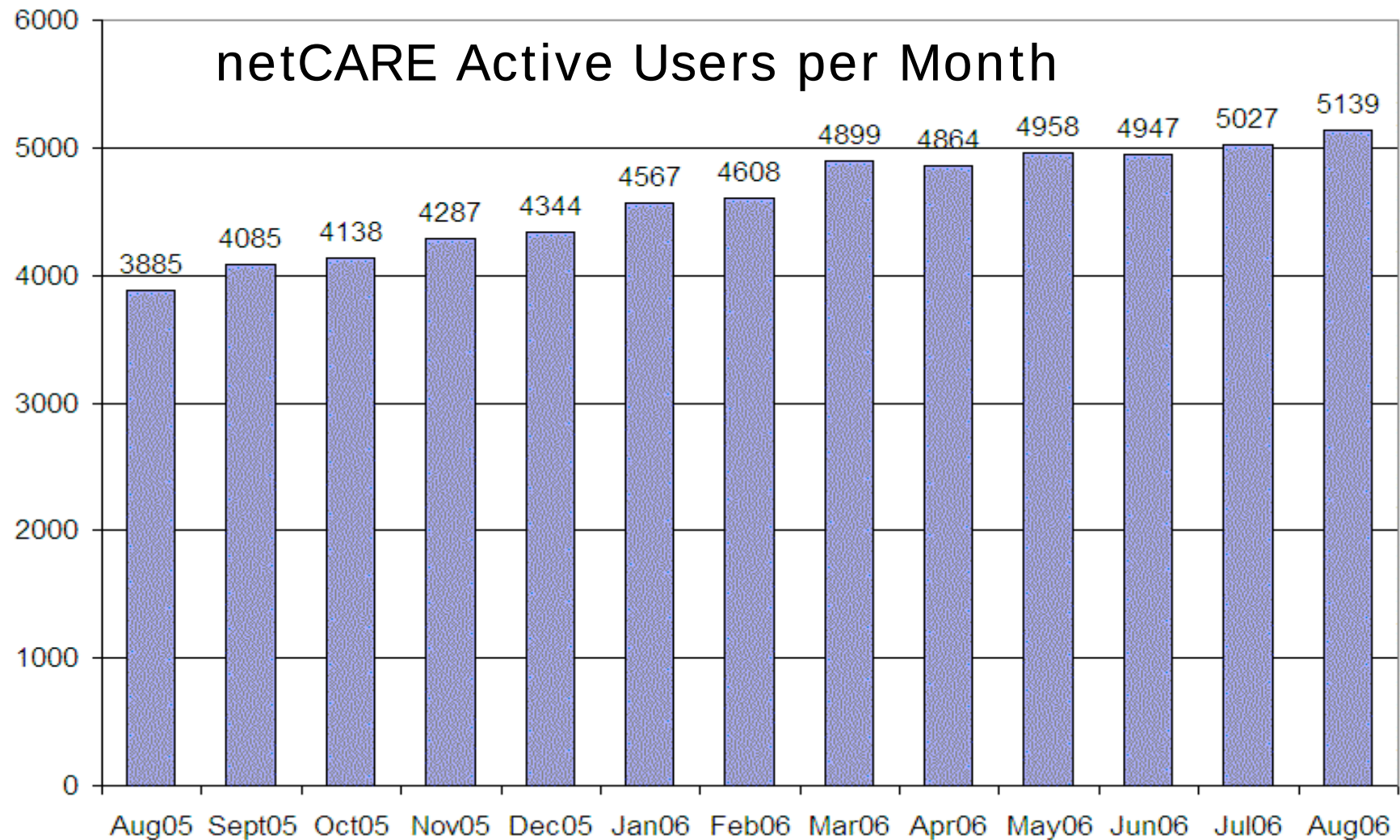
WTIS-eMPI Success

- Motivated by a clear operational objective everyone can understand (reduce wait times)
- The system was a means to an end, not an end in itself
- Incentives for adoption understood by all (access to funds for expanded procedure volume)
- Implementation occurred in rapidly expanding waves (a few pilot sites, followed by successive waves of adoption)
- Data publicly available to all (close scrutiny on accuracy)
- Excellent, proven project leadership
- Focus on immediate operational needs that could be accomplished in <18 months

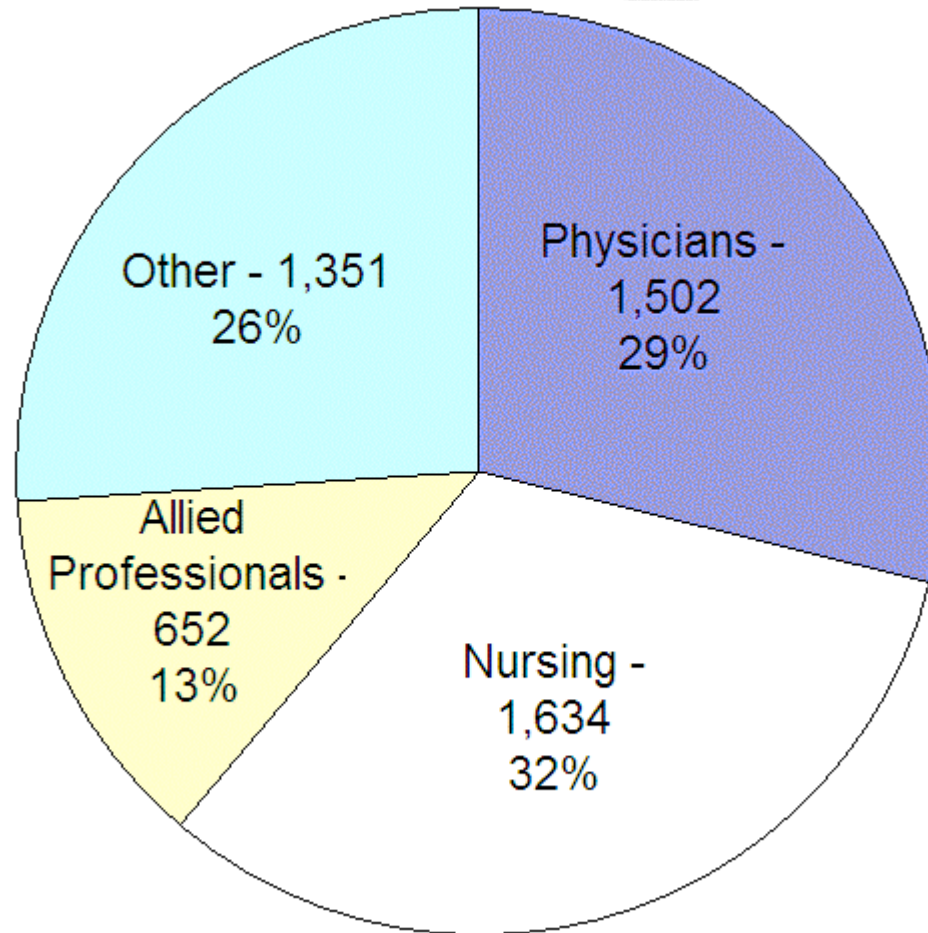
Capital Health Edmonton - NetCARE

- Canada's first major regional electronic health record
- Edmonton and surrounding area
- Available 24 hours a day, seven days a week
- netCARE is accessed by physicians, nurses, allied professionals, unit clerks, and management
- Implementation started in April 2004
- System provides detailed month by month usage statistics

netCARE utilization continues to increase

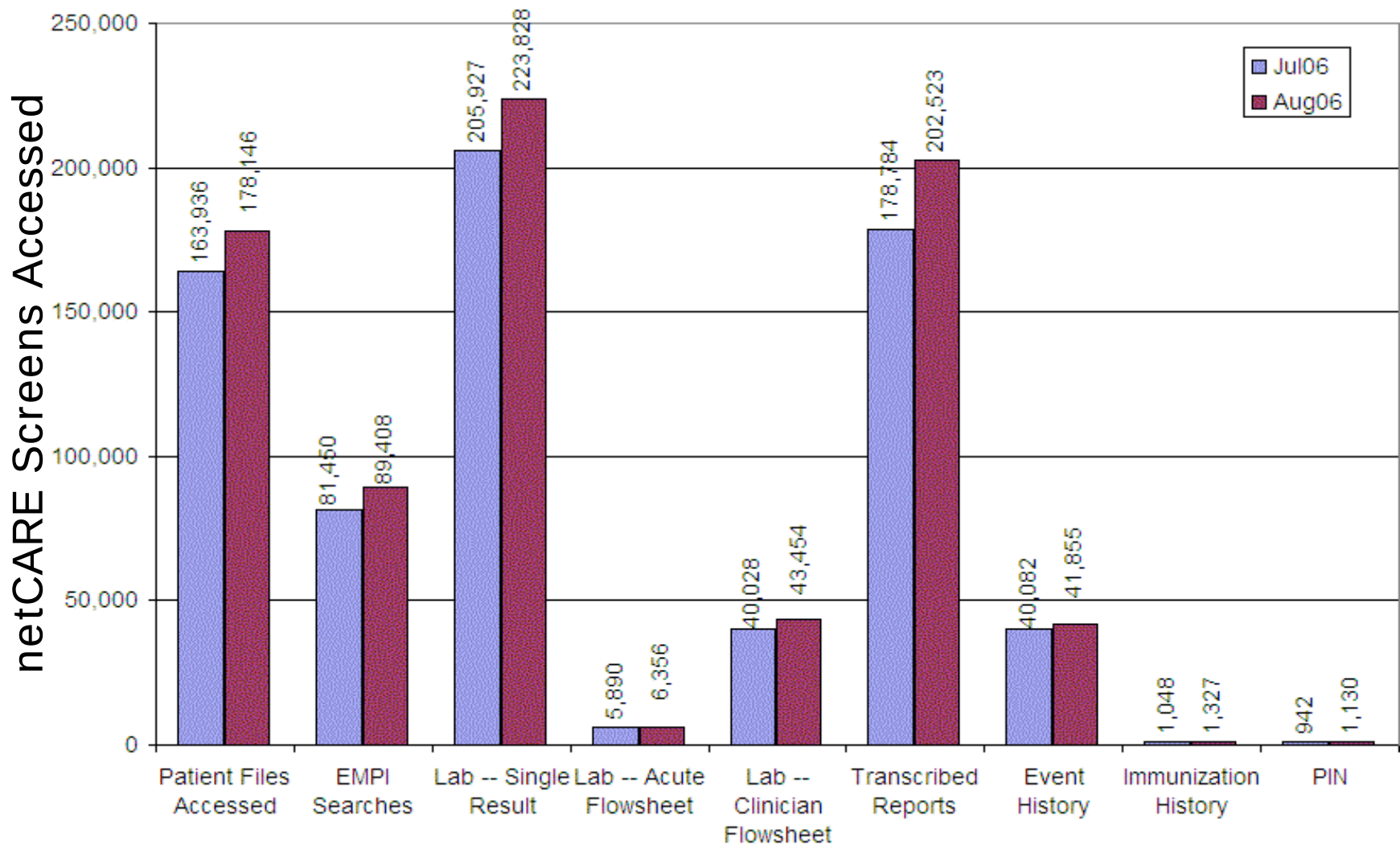


Active user professions – August, 2006



Total = 5,139

User activity is tracked to focus improvements on priority areas



netCare Success

- Clear value proposition from first day (complete clinical content)
- Short development window before release to clinicians
- Successive waves of implementation after a short initial pilot
- Rapid releases of new versions that added new clinical content (ECGs, PACs, reports, etc.)
- Careful tracking of user activity to focus improvement efforts
- Excellent, proven leadership

Operational Review of Smart Systems

- Ministry of Health and Long-Term Care and the SSHA Board Chair commissioned Deloitte to conduct an operational review
- The final report was dated November 6, 2006 and released January 2007
- The review involved:
 - over 800 SSHA internal documents
 - 56 interviews with SSHA executives and staff
 - 16 interviews with MOHLTC executives and staff
 - 13 external stakeholder interviews; and
 - research and interviews for 8 jurisdictions

Findings of the Operational Review

1. Lack of strategic direction from the Ministry
2. SSHA brand is not well regarded as it tried to be “all things to all people”
3. Failed to demonstrate its value proposition to clients
4. Operates more as a Ministry division than an independent operating entity
5. Questions about value obtained from significant investments - failed to measure performance therefore cost/benefit could not be assessed
6. Financial management inadequate to ensure cost-effective deployment of \$145M in FY 06/07
7. Lack of rigorous operational and financial planning, weak project management, unnecessarily complex structure

Value for money?

“without clearly defined targets in each area, it is difficult to assess SSHA’s progress and value for money against the cumulative investment of **\$458 million** since its inception”

- Seven priority areas:
 - Manage private network
 - Secure messaging service
 - Security infrastructure
 - Data centres
 - Voluntary emergency health record
 - Data and technology standards
 - Portals

Recommendations

- 32 recommendations under the headings:
 - Strategy, governance and accountability
 - Client service
 - Operational processes
 - Financial management
 - Organization and HR
- Recommendation #1 is to finalize and approve the eHealth Strategy for Ontario
- The Ministry needs to own the eHealth program and be engaged at the level of making strategy, policy, and program decisions, and work with the Agency to implement appropriate solutions

SSHA model has not worked

- Infrastructure free of clinical content
- Remote governance and management disconnected from front line clinical needs
- Design phase tries to anticipate all future needs and issues – makes for large, complex projects that take a long time to implement. No rapid prototyping that engages stakeholders in the design process.
- No focus on customer needs – the funding is provided without accountability for achieving results – manifests itself as repeated preaching about what health users should want
- Business or clinical objectives are vague and secondary to the systems architecture
- Legacy systems have largely been ignored

Ontario Lab Information System

- A single information system allowing all laboratory test information to be electronically exchanged amongst authorized practitioners and lab service providers in Ontario.
- A source of system and program management information for the ongoing enhancement of lab services
- A key component of Ontario's electronic health record strategy
- OLIS Clinical Repository ready to receive information March 31st, 2006

Yet OLIS has had no impact

- Long build time prior to engaging end users – large spend (>\$40 million) before any feedback from a live clinical environment
- No well defined clinical or business objective
- No clinical content at inception
- User engagement has not occurred
- Major challenges integrating lab data from many legacy systems
- It is not possible to design the end state workflow up front – changes in operations must evolve with successive versions of the software

The Alberta Pharmacy Information Network had similar problems

- Spending >\$50 million
- Expensive, long term build before use in a clinical setting
- No clinical content at inception
- Suffered from the “fax machine adoption problem”
- No well defined business objective
- Lack of incentives for clinical users
- Major integration problems with legacy systems

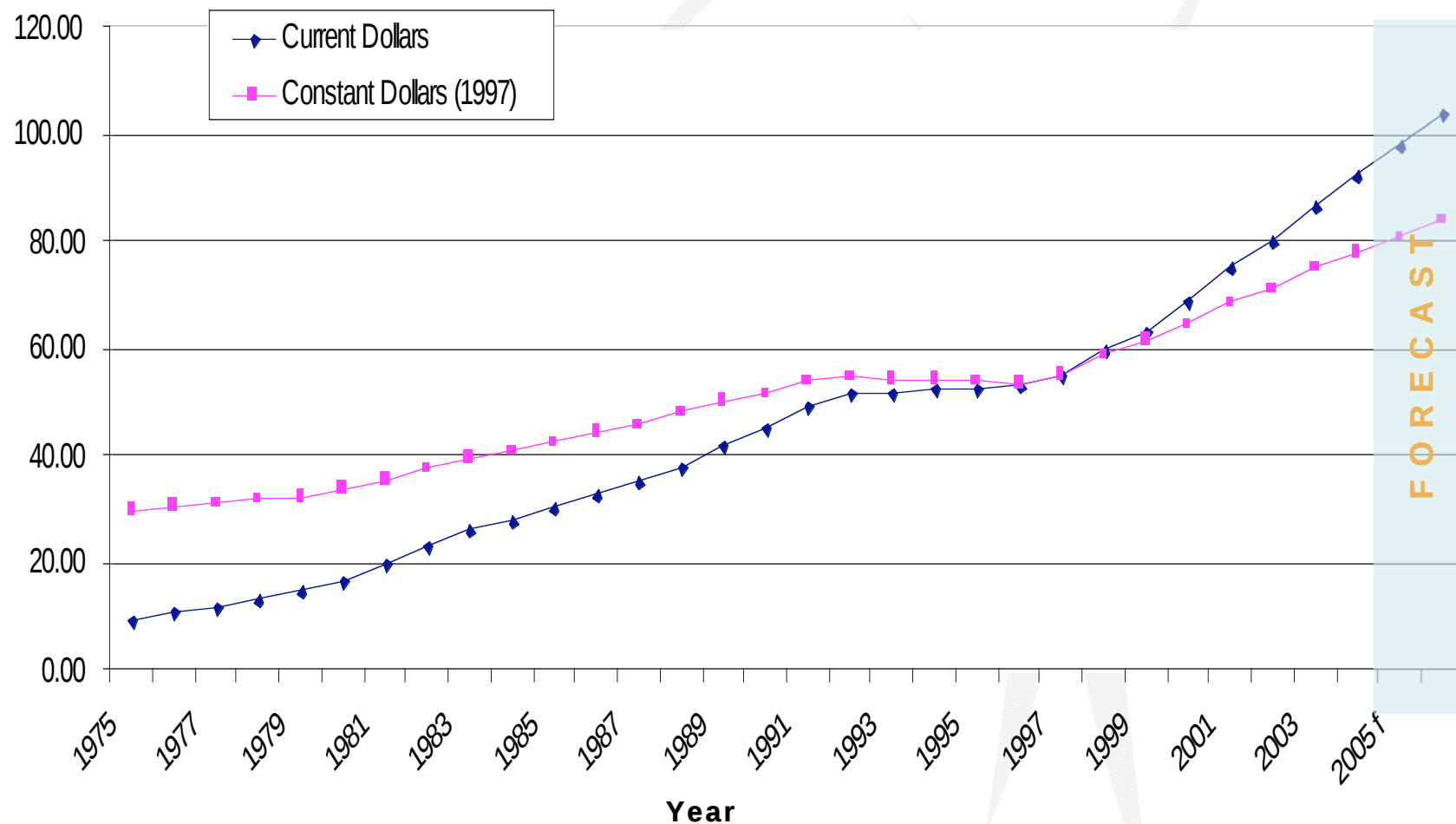
Principles for eHealth investments

- Use experienced teams lead by leaders with a track record of success
- Build time should be short – get the application into a live clinical environment rapidly (<18 months)
- Implement using a short pilot phase followed rapidly by 2-3 waves of additional users
- Learn from the successes and failures of others
- Put users in the driver's seat (monitor utilization carefully)
- Make sure the users have a strong value proposition (incentives or benefits)
- Build on legacy investments (don't ignore them!)
- Establish clear business or clinical objectives (the IT system is the means to an end)

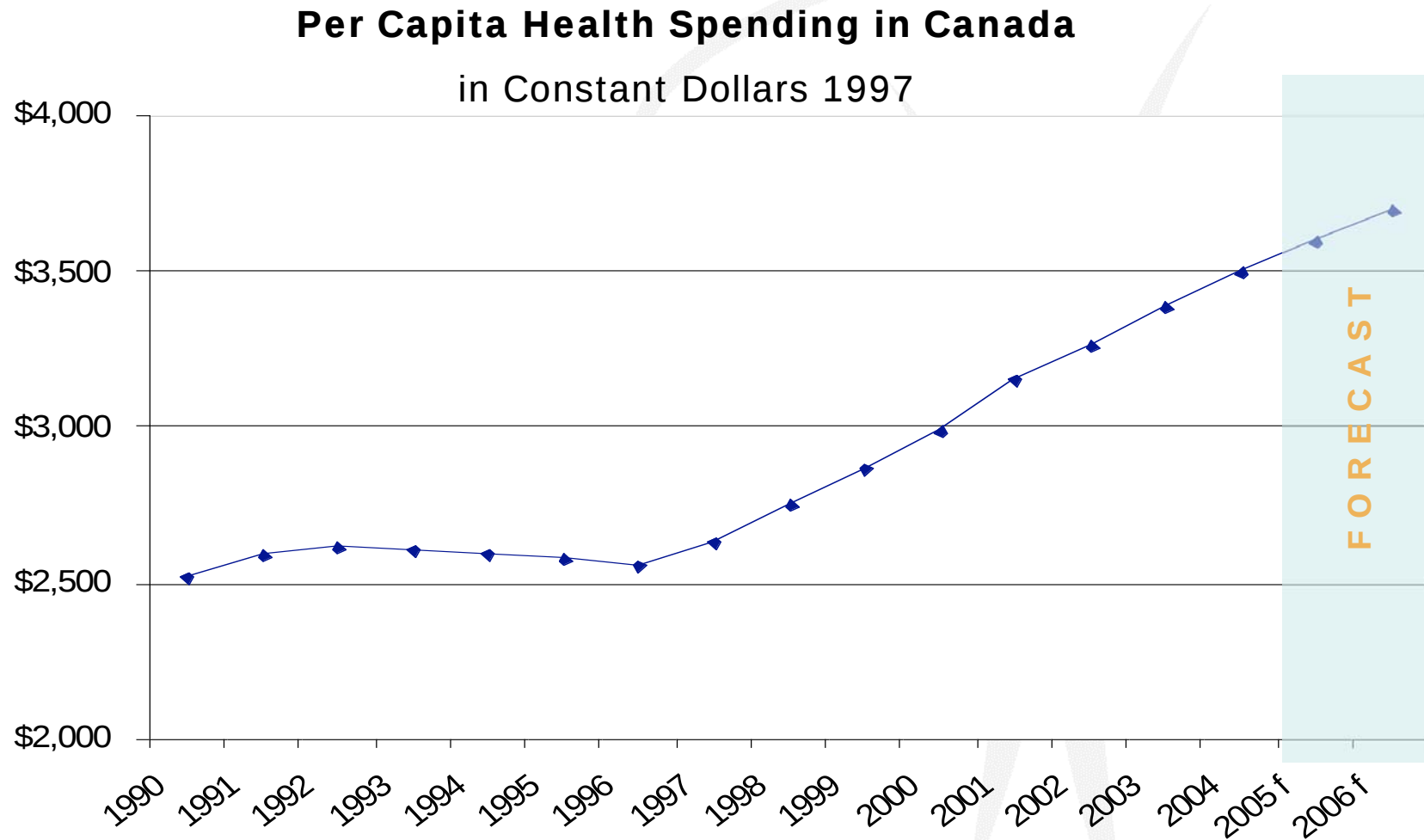
Government health expenditures in Canada (1975 to 2006)

(\$ billions)

*Note: 2005 and 2006 total expenditures have been forecasted.



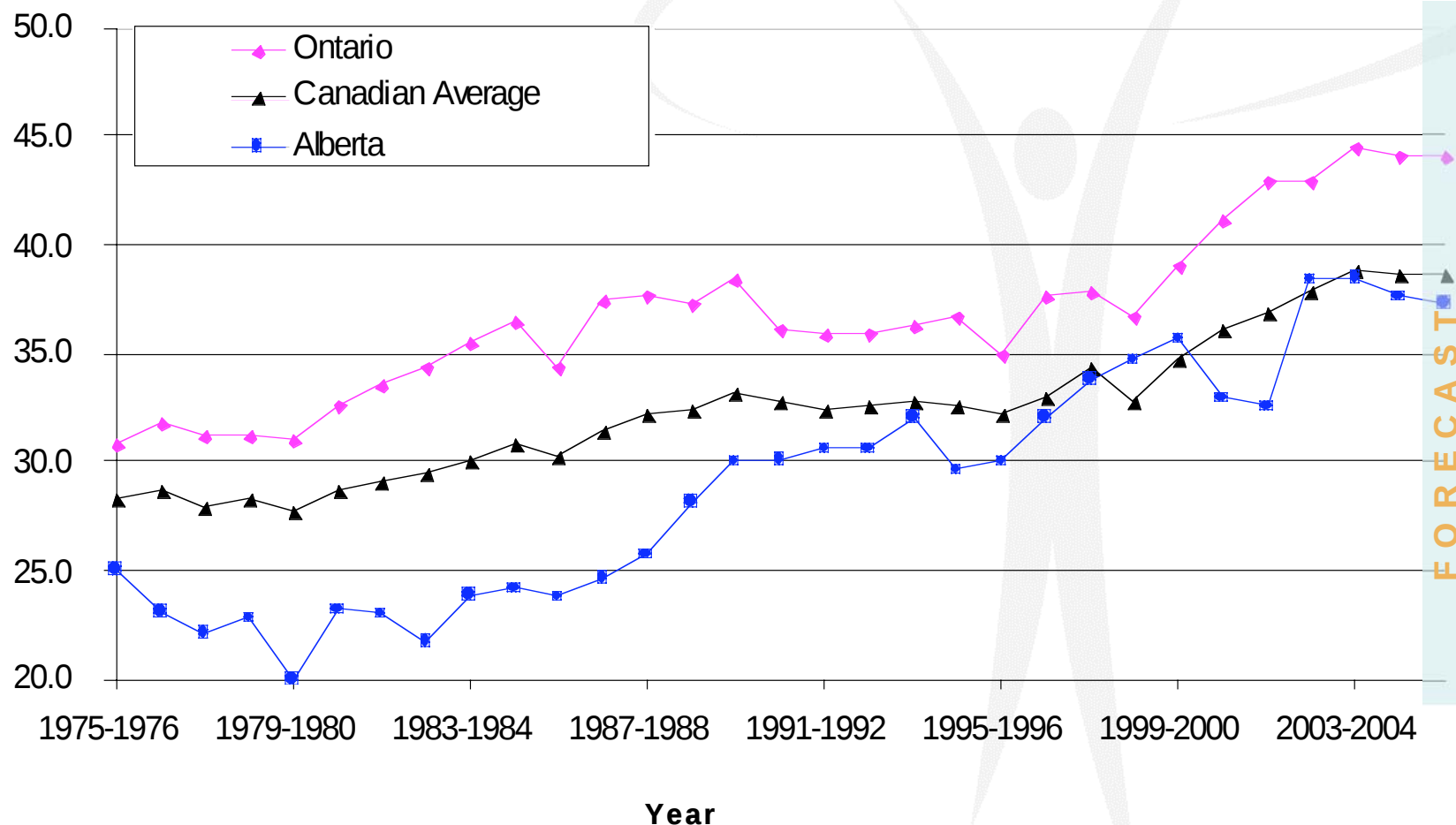
Healthcare spending in Canada has increased by 5% from 1996 to 2006 annually after inflation.



Real growth is expected to have been 3.7% in 2005 and 2006.

Provincial health expenditures, as a percent of total provincial program spending (1975-1976 to 2005-2006)

(percent)



Health care opinion leaders: views on controlling rising health care costs

“How effective do you think each of these approaches would be
to control rising costs and improve the quality of care?”

Percent saying “extremely/very effective”



Note: Based on a list of 19
options

Source: The Commonwealth Fund Health Care Opinion Leaders Survey,
Jan. 2007.

Cancer cases in Ontario: 2006

	New cases	Deaths
Lung	7,600	6,600
Breast	8,400	2,000
Prostate	8,400	1,550
Colorectal	7,500	3,100 *

* Colorectal cancer has a 90% chance to be treated and cured, if detected in its early stages

Screening for colorectal cancer

Average risk individuals:

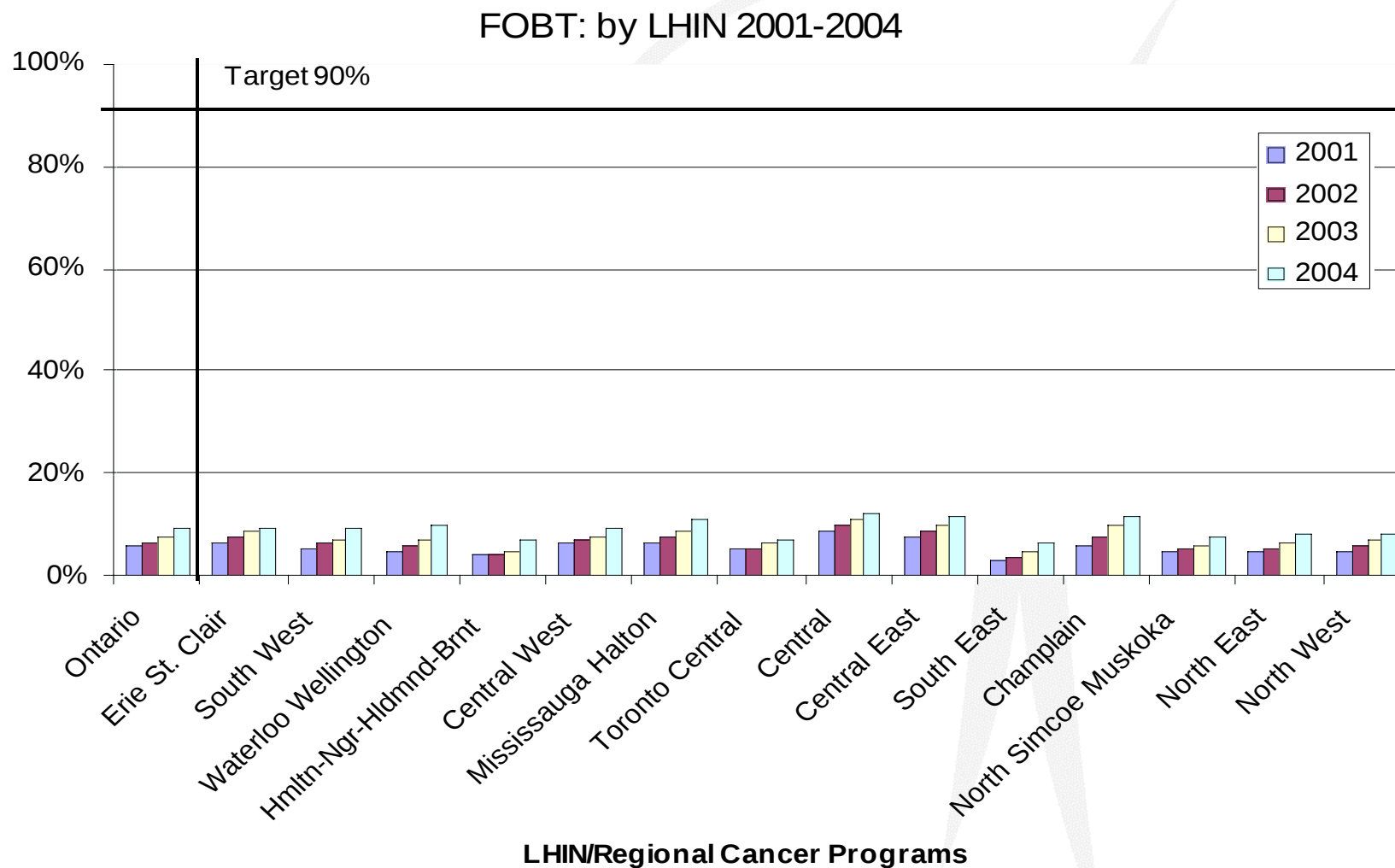
- Canadian Cancer Society recommends that men and women age 50+ have a fecal occult blood test (FOBT) at least every 2 years.

At risk individuals:

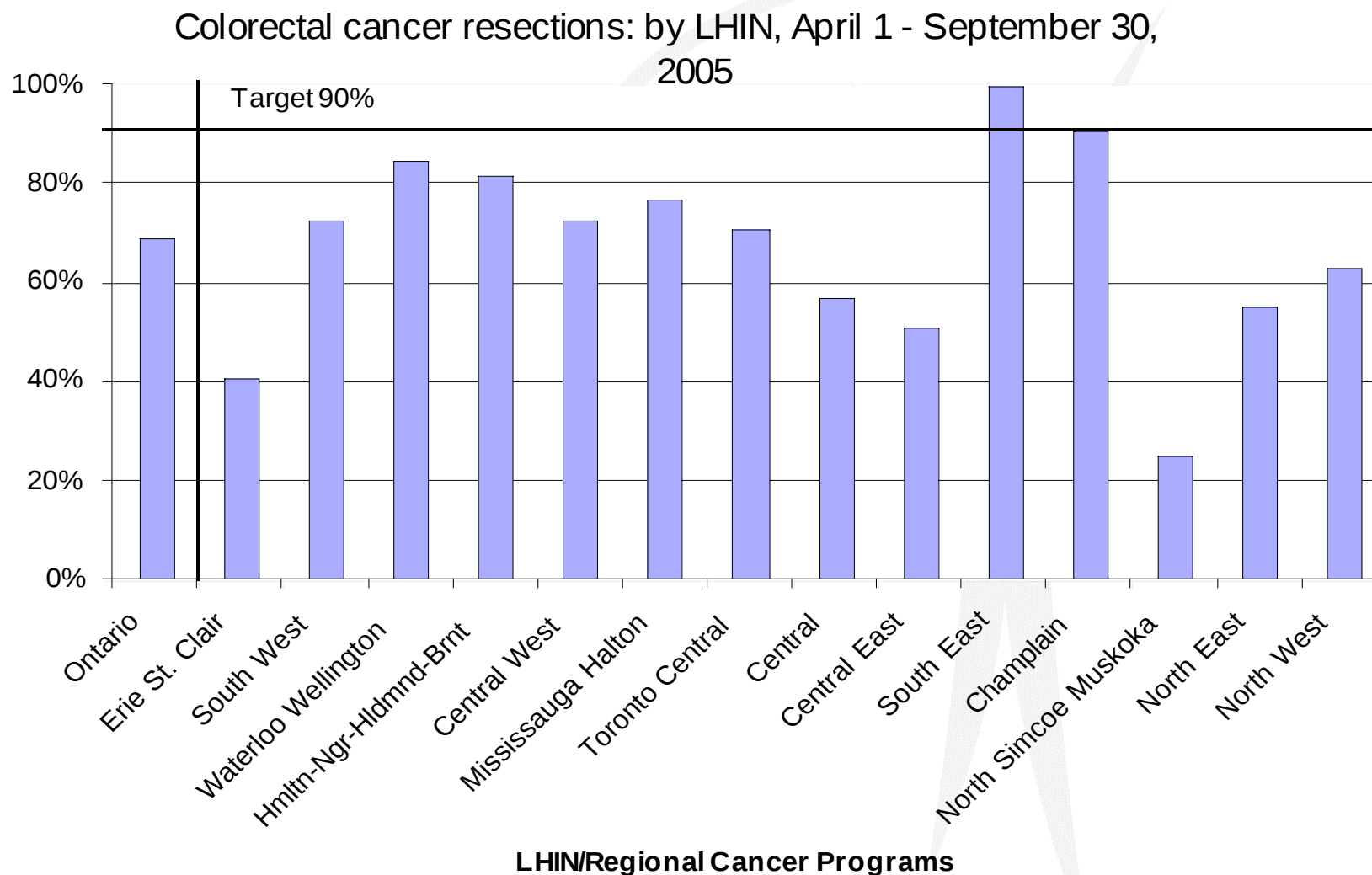
- Canadian Cancer Society recommends a colonoscopy, every 5 years

More precise recommendation is presently being developed by MOHLTC. The announcement of funding support was made January 23rd, 2007

Percent of screen-eligible men & women (ages 50-74) who received fecal occult blood test (FOBT)

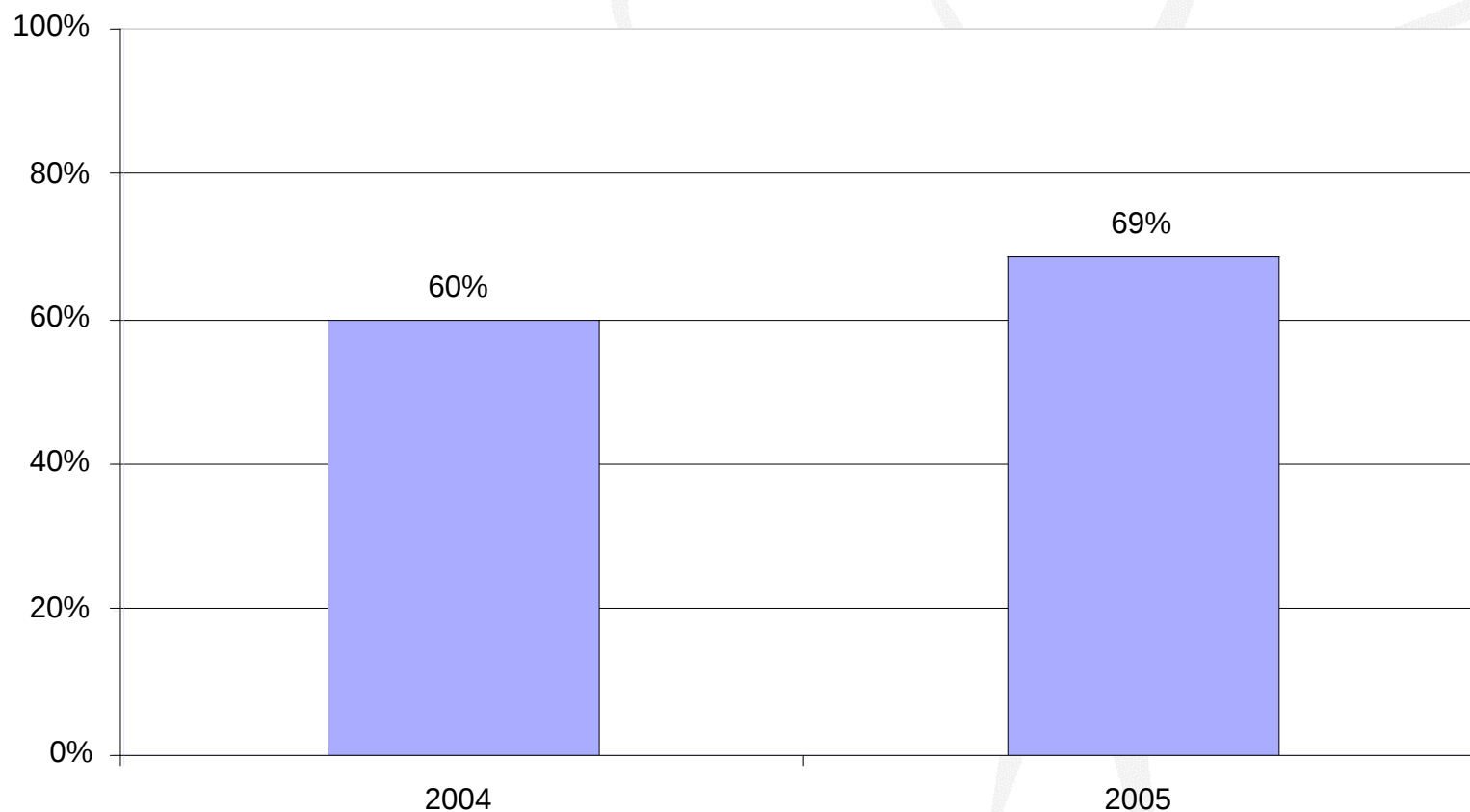


Percent of pathology lab reports meeting provincial standard

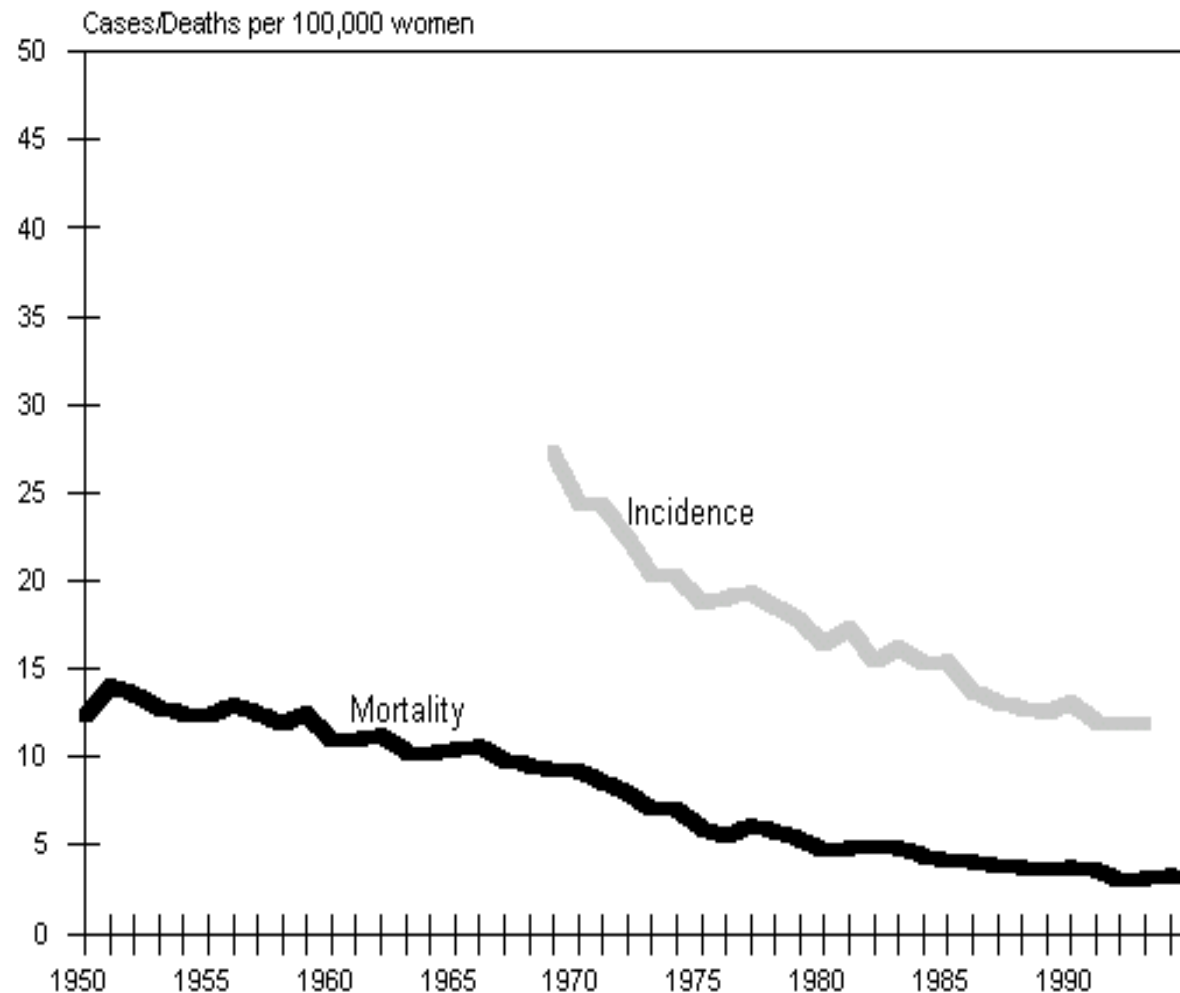


Many surgical procedures do not meet practice standards

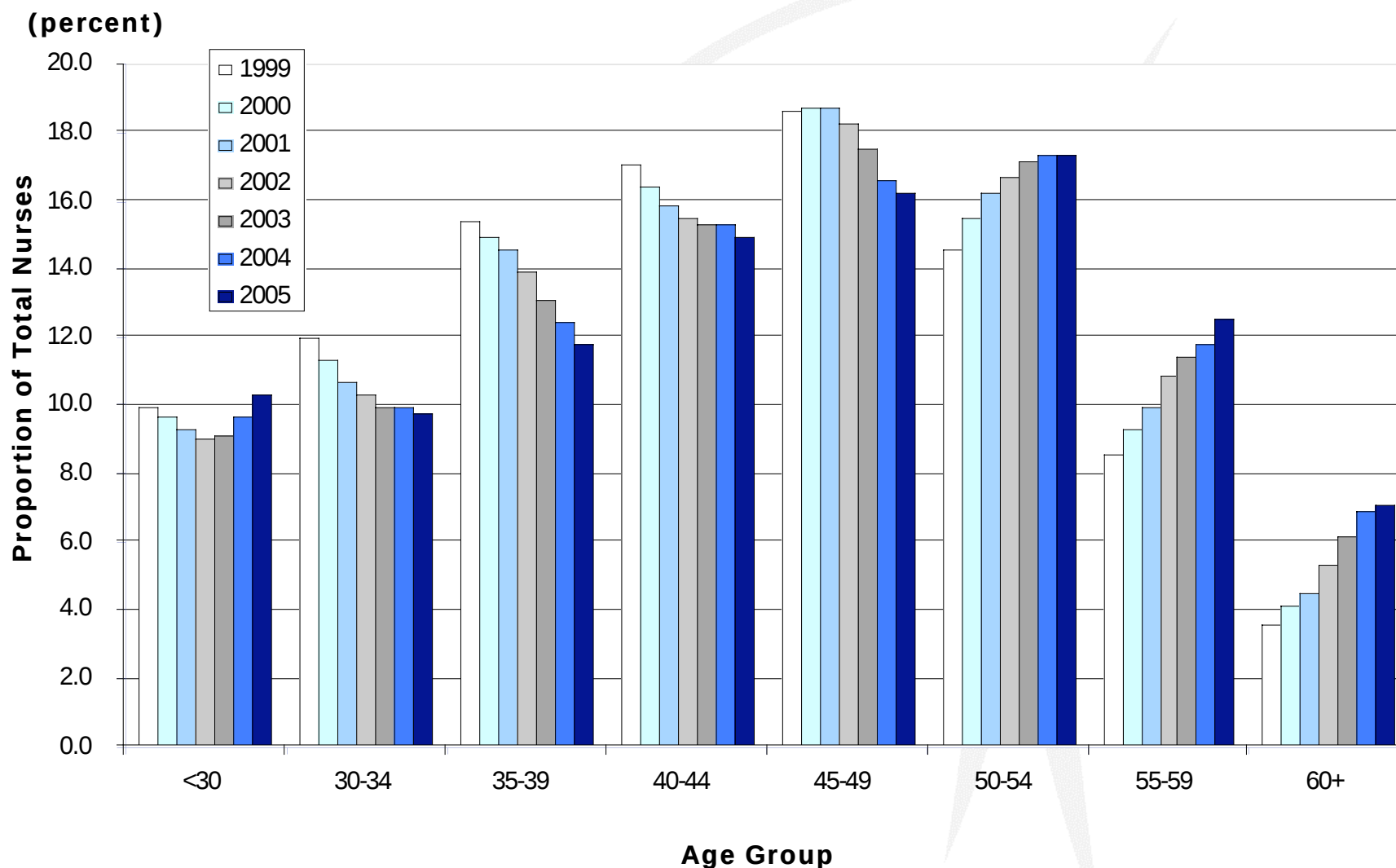
Percent of Colorectal cancer resections with 12 or more lymph nodes collected and examined



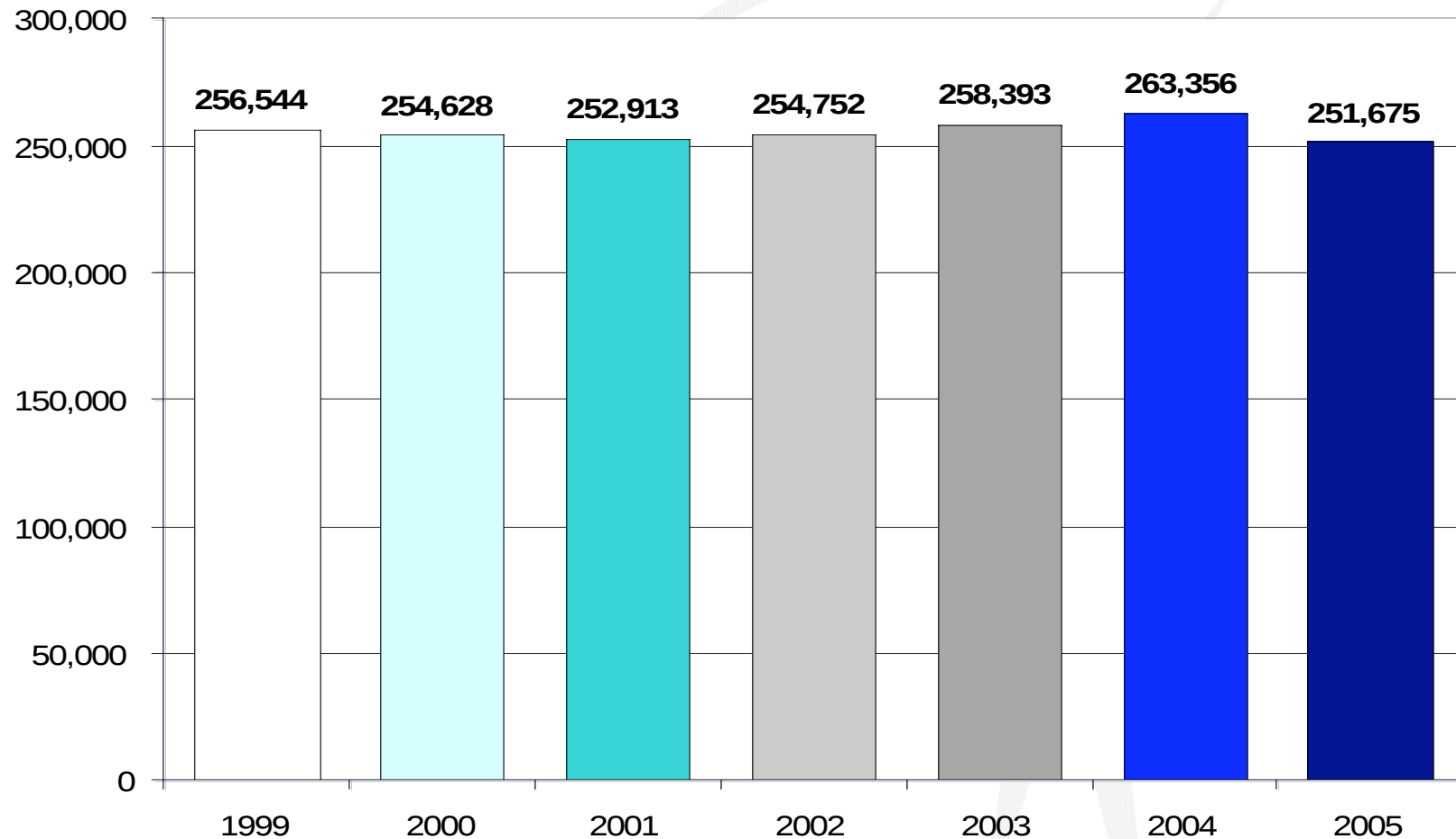
Trends in cervical cancer incidence and mortality in Canada, 1950-2000



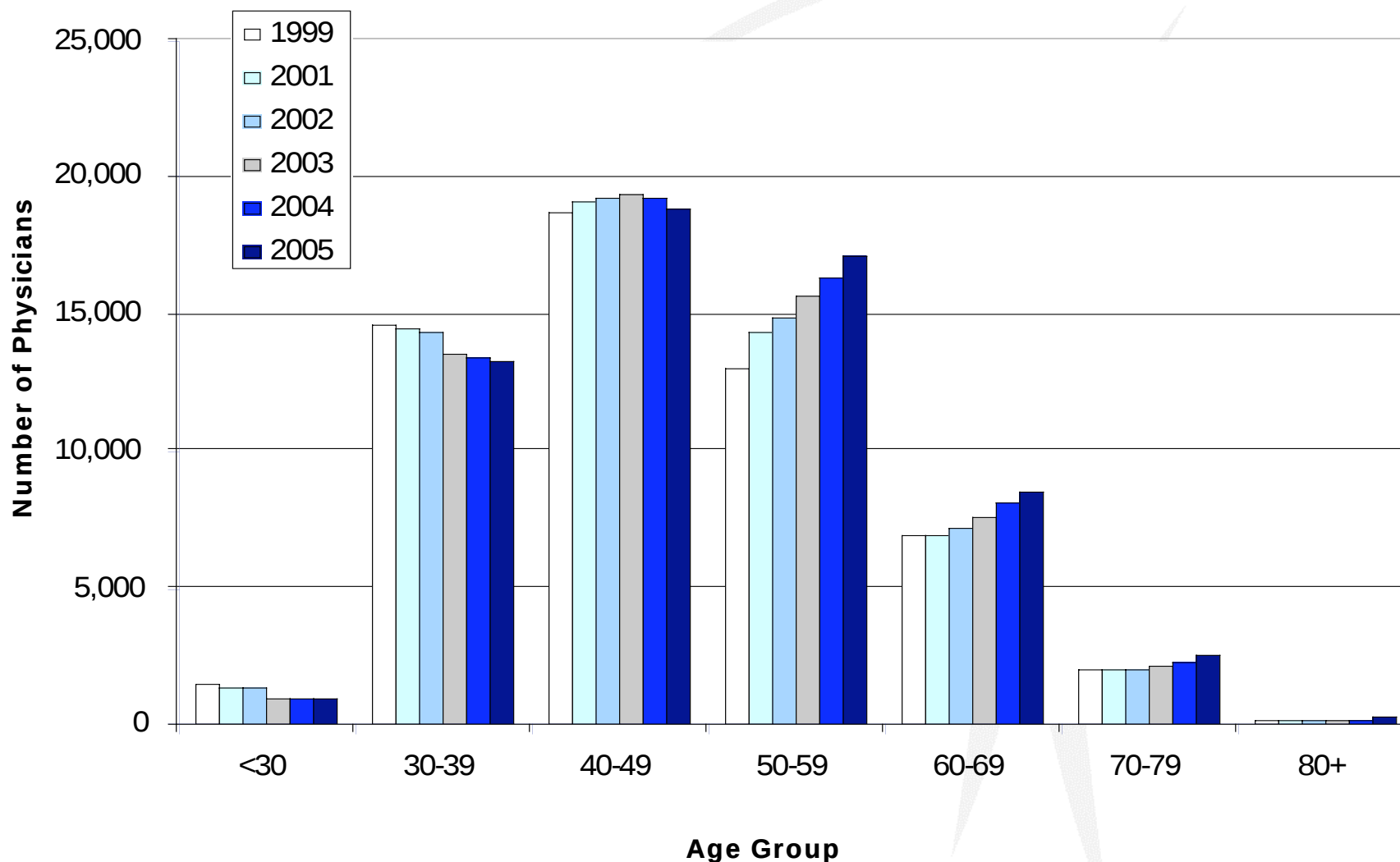
The productivity imperative: Aging health human resources, RNs



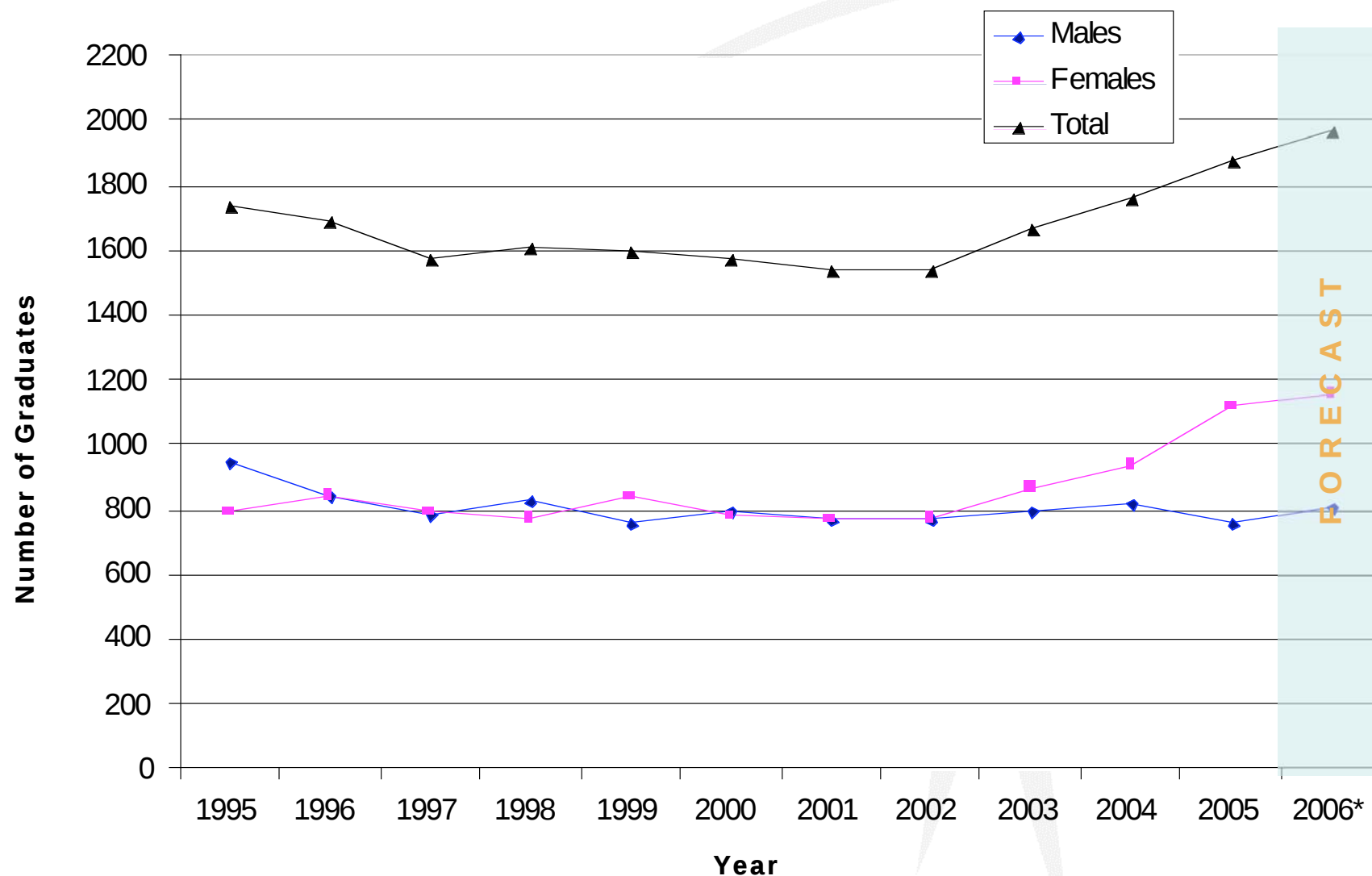
Total number of RNs in the workforce 1999-2005



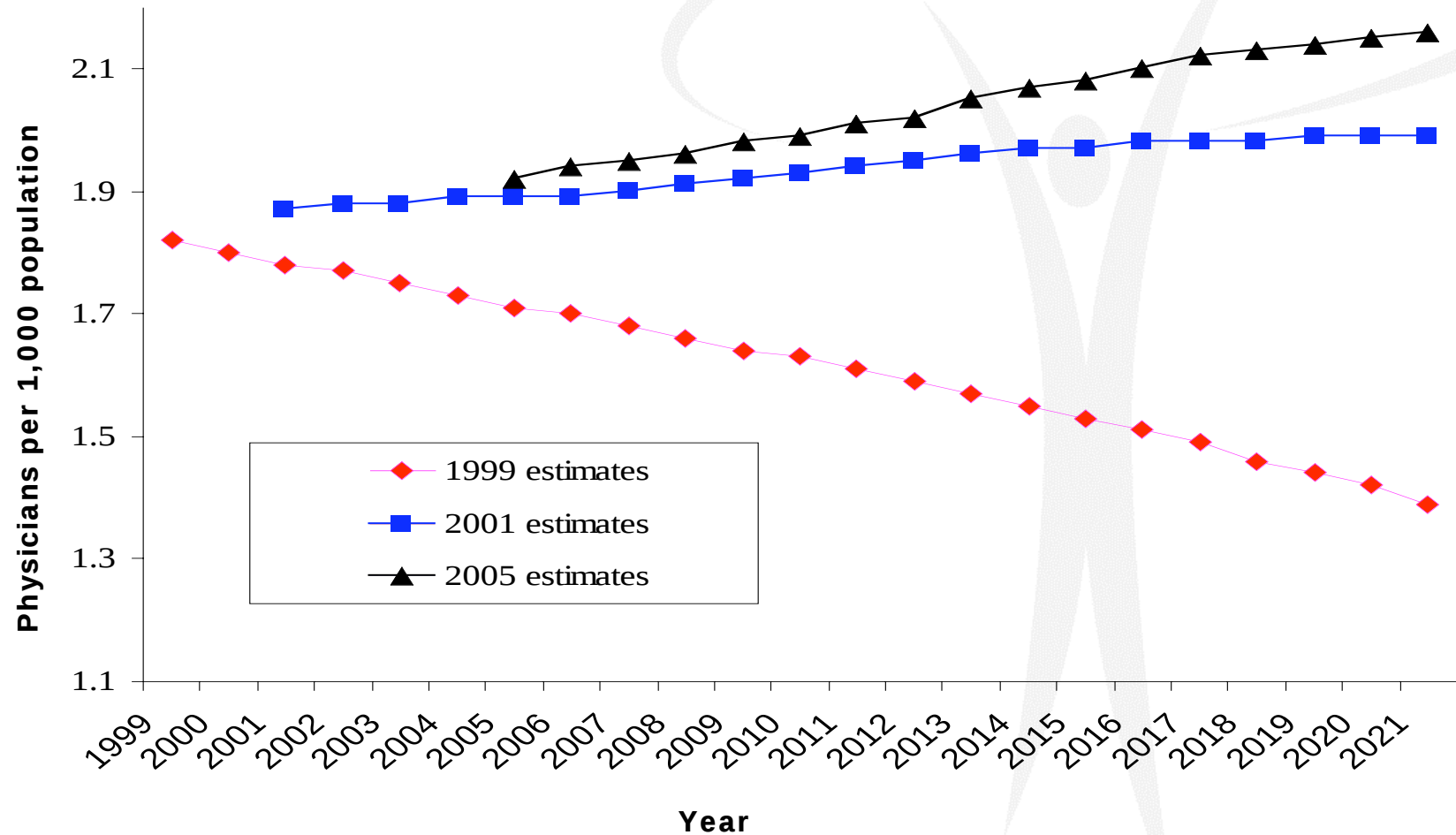
Another productivity imperative: Aging health human resources, MDs



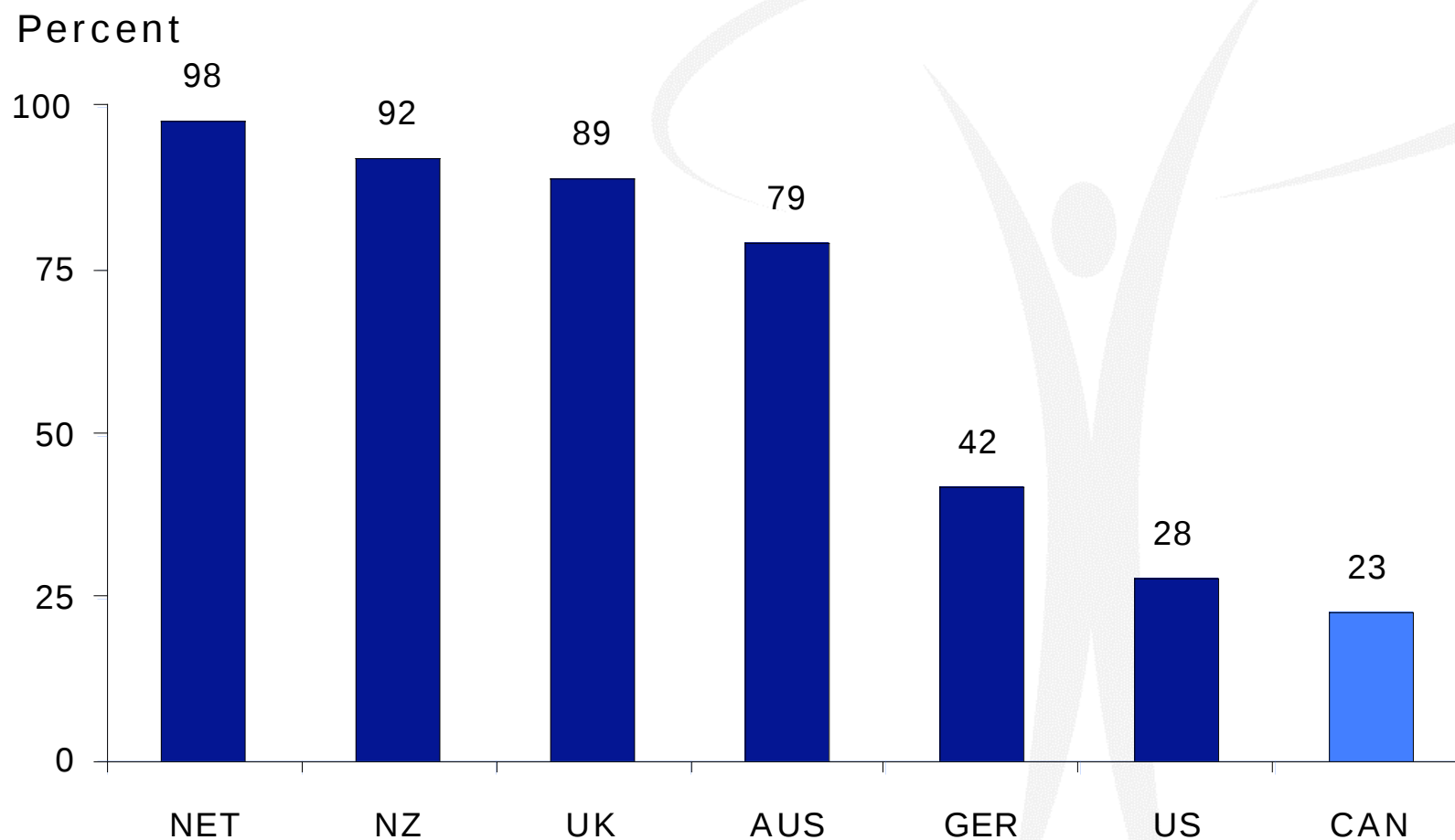
Physician graduate numbers are increasing



Estimates of future physician supply in Canada

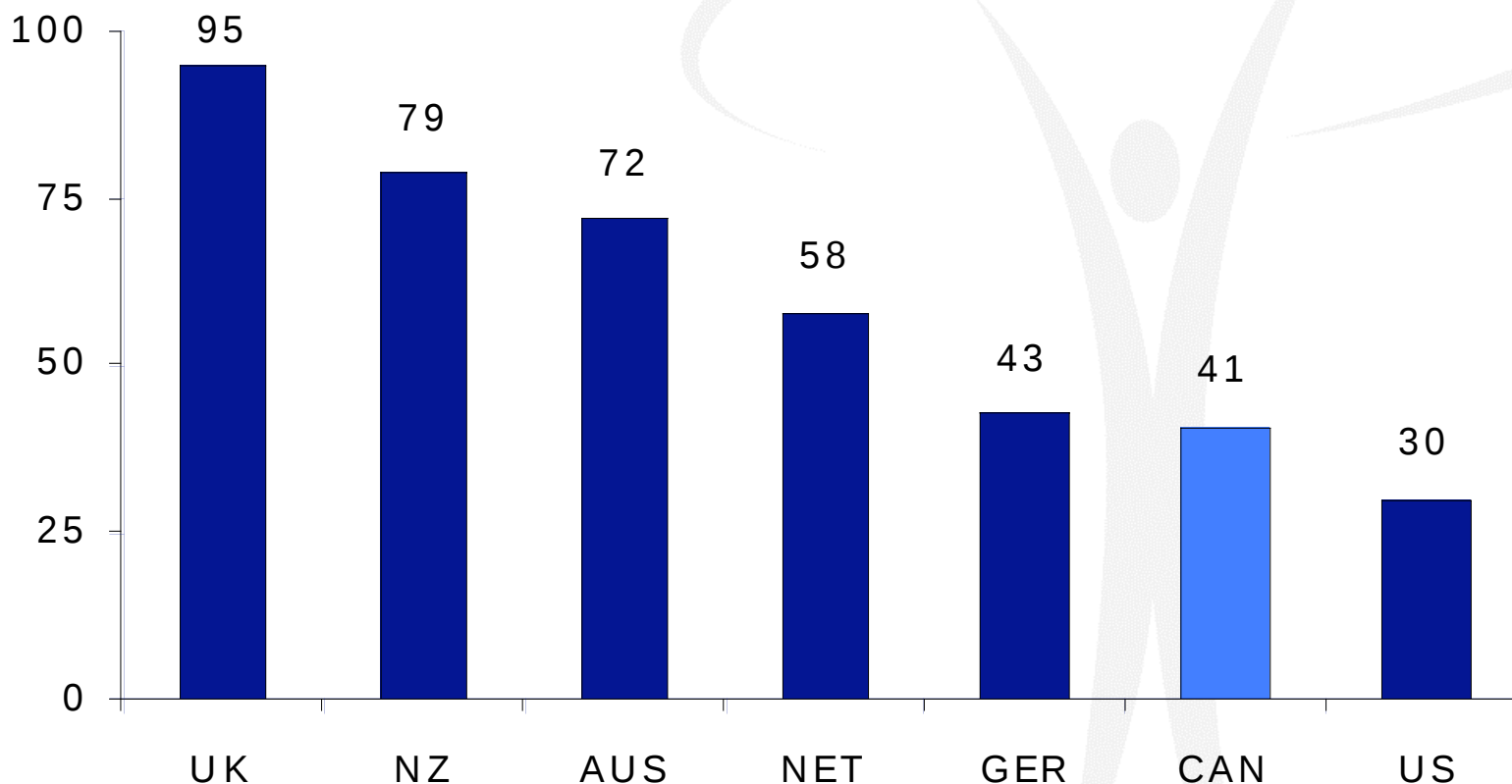


Primary care doctors use of electronic patient medical records in 2006



Primary care doctors' reports of any financial incentives targeted on quality of care

Percent reporting any financial incentive*



* Have potential to receive payment for: clinical care targets, high patient ratings, managing chronic disease/complex needs, preventive care, or QI activities

Why health care renewal matters: Lessons from Diabetes

- Health outcomes report by Health Council of Canada
- Released March 5th, 2007
- Funded by Health Canada
- The report, the first in a series on health outcomes, shows how the health care system needed renewal, where there are care gaps and positive outcomes in the quality of life of Canadians with chronic health conditions such as type 2 diabetes.
- Measuring and monitoring health outcomes helps us understand where the country needs to act and how.

Diabetes care

Patients with chronic diseases often do not receive the recommended care

Indicator	CAN* %	Statistics Canada Canadian Community Health Survey (Cycle 3.1), 2005.
A1C in last 6 mos.	90	74% had an A1C test at least once in the past 12 months. On average, these people were tested 3.4 times during the year, or about every 3 to 4 months.
Feet exam in last yr.	52	48% had a professional foot exam in the last year. 65% had checked their own feet (part of recommended self-care) in the past year.
Eye exam in last yr.	73	61% had an eye check-up in the past 2 years.
Cholesterol checked in last year	91	Data not available.
All 4 services received in last yr.	38	Data not available.

Chronic disease management in Edmonton

Edmonton's health census a bold example of modern care

Second Opinion

ANDRÉ PICARD

One of the most oft-cited and striking examples about our health system are that 1) There is not enough emphasis on prevention 2) There is a lack of innovation.

It would bring these to highlight some initiatives that is not only for good looking, but for

Capital Health in Edmonton, the territory's largest health region, announced recently that it plans to identify the top 100 people in its territory who suffer from diabetes. Then it plans to ensure that every single one of them achieves his or her treatment goals. Deadline: 2009.

On the surface, this may seem like a gloriously obvious thing to do and diabetes and treat them—particularly because diabetes is easy to prevent, but, left unchecked, can degenerate into a truly debilitating condition.

Yes, in Canada, we don't even know how many people actually have diabetes. The best guess is around 1.3 million a year to treat.

That we are doing so little to prevent this kind of suffering and chronic disease is a clear sign of failure in our health system, has gone wrong in the making of patients.

Richard Lewanczuk, medical director, chronic disease management at Capital Health, says that systemic identification and treatment of diabetes should be a no-brainer but that Capital Health is, in fact, the first jurisdiction in such a move, perhaps the world, to try.

"Yes, we should be doing this kind of thing routinely," he says. "But the reason we don't do it is we have an illness care system, not a healthy care system."

In our illness care system, almost two in every three dollars are spent up with the treatment of chronic conditions—conditions that are largely preventable, including diabetes, heart disease, chronic obstructive pulmonary disease and breast cancer.

Dr. Lewanczuk says that our society is all kinds of things to keep their vehicles running, smoothly with no changing the spark plugs and the oil. They don't wait until the engine seizes up and major repairs are required.

But, that is the way we treat our bodies. More yet, that is how the health system is designed—in and with a mindset breakdown, such as a heart attack, stroke, kidney failure, blindness and circulatory problems that require amputations of a limb. All of these are common symptoms of diabetes.

"What we're proposing here with the diabetes management model is preventive maintenance—keeping the engine running smoothly in the long term," Dr. Lewanczuk says.

The diabetes management model that has been adopted in Edmonton is decidedly simple. It begins with using electronic databases to check every blood glucose test and flag abnormal results—all indications a person is diabetic or at risk of developing diabetes. These tests are done routinely, but far too often there is no follow-up by the patient or his doctor.

The next step is getting people with high blood-glucose levels, or full-blown diabetes, the education and treatment they need, from primary care physicians, dietitians, family doctors, nurse practitioners, pharmacists and their specialists, such as ophthalmologists, and keeping them out of emergency rooms.

If this model works—and there is no reason it shouldn't—it could have dramatic results. Studies have shown that for every dollar invested in diabetes prevention, between \$3 and \$20 can be saved in treatment costs.

And if you can systematically track and treat people with diabetes, you can do so for people with high blood pressure, asthma, obesity and other chronic conditions.

The key is having the ability, the personnel and the knowledge to do so, such as Capital Health is doing. But the real story here is hidden in some seemingly mundane bureaucratic details.

The health region can identify diabetes because it has superb electronic health records that include relevant laboratory test results in the results of lab tests. It has also invested in primary care health teams that can provide preventive care and education (an approach that is largely discouraged by the traditional fee-for-service model). From now, health through to specialized diabetes clinics.

These initiatives flow directly from the fact that Alberta has chosen to regulate health services, breaking down the silos that are so common in the health system.

In other words, Capital Health is also doing these things because it has created an infrastructure that allows innovation and creates better patient care.

That's not nothing, says such as a new cancer drug that our politicians and policymakers need to make a bold and clear, firm message: Regulate, invest in electronic health records, and rebuild the preventive care delivery model. If you doubt it can be done, take a trip to Edmonton and see the results.

There they have understood that making investments in the management of chronic illness must be the priority.

The need is better care, not only for diabetes, but for all those who will face the challenge of living with a chronic condition.

We should all be so lucky.

apicard@capitalhealth.ca

“Capital Health in Edmonton ... announced recently that it plans to identify 100 per cent of people in its territory who suffer from diabetes. Then it plans to ensure that every single one of them achieves his or her treatment goals. Deadline: 2009.”

“That we are doing so little to prevent this kind of suffering and expense speaks volumes about how our health system has gone astray in the setting of priorities.”

“It begins with using electronic databases to check every blood glucose test and flag abnormal results -- an indication a person is diabetic or at risk of developing diabetes. These tests are done routinely, but far too often there is no follow-up by the patient or his doctor.”

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Second Opinion

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Two of the most well-known and ongoing complaints about our health system are that it doesn't do enough to prevent disease and that it's too expensive.

It would be nice to highlight some initiatives that are not only for good looking, but for good.

Capital Health in Edmonton, the city's largest health region, announced recently that it plans to identify the top 100 people in its territory who suffer from chronic disease. Then it plans to ensure that every single one of them achieves his or her treatment goals. Deadline: 2010.

On the surface, this may seem like a gloriously obvious thing to do and diabetes and heart disease are particularly good candidates because they are so prevalent but, left unchecked, can degenerate into a costly debilitating condition.

Yes, in Canada, we don't even know how many people actually have diabetes. The best guess is around 1.5 million.

But we are doing so little to prevent this kind of suffering and chronic disease is a major cause of our health system's problems.

Richard Lewanczuk, medical director, chronic disease management at Capital Health, says that chronic identification and management of diabetes should be a no-brainer but that Capital Health is, in fact, the first jurisdiction in such a move, perhaps the world, too.

"We should be doing this kind of thing routinely," he says. "But the reason we don't do it is we have an illness care system, not a health care system."

In our illness care system, almost two in every three dollars are spent on the treatment of chronic conditions — conditions that are largely preventable, including diabetes, heart disease, chronic obstructive pulmonary disease and breast cancer.

Dr. Lewanczuk says that our society will have to change its mind about the way it spends money on chronic disease. It's not about the money; it's about the people who are suffering and the need to prevent disease.

Yes, that is the way we treat our bodies. More yet, that is how the health system is designed — to deal with a massive breakdown, such as a heart attack, stroke, kidney failure, blindness and circulatory problems that require expensive treatment of a kind (all of these are common symptoms of diabetes).

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The result is better care, not only for diabetics, but for all those who will face the challenge of living with a chronic condition.

"We should all be so lucky."

apicard@globeandmail.com

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"We should all be so lucky."

Concluding Thoughts

- Chronic Disease Management and Cancer Screening offer a fantastic opportunity to:
 - Reduce the rate of escalating healthcare costs
 - Improve the productivity of providers
 - Motivate the adoption of electronic health records
 - Improve the quality of care
 - Improve our health
- Initiatives focused on clinical objectives have a much higher likelihood of success
- There may be a good reason why an “eHealth strategy” has never been embraced in Ontario.



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