

Creating a Proactive Provincial Approach to Vascular Access Service (VAS)

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Purpose of Presentation

Joanne:

- a) Getting started
- b) Pilot Projects
- c) Progress Made
- d) Future Aims

Rick:

- e) Nursing Initiatives
- f) Clinical Care Monitoring
- g) Accomplishments
- h) Future Plans



Background

1. Vascular Access Services include:

- Radiology, Surgery, Nephrology & Clinical Care Monitoring

2. Consequences of poorly functioning VAS

- Hospitalizations for VA creation, repair and to treat complications
- Infections requiring prolonged antibiotic use
- Catheter use leading to thrombolytic agents
- Inadequate dialysis
- Additional Radiological and Operating Room procedures
- Lack of coordination between Nephrology, Radiology & Surgery due to differing priorities and systems issues.
- Frustrated clinical and administrative folks
- Unnecessary use of some scarce resources



What Prompted the Initiative?

1. Substantiated the Need:

- Data showed patients receiving sub-optimal VA care
- Data showed variability among renal regions
- Data raised concern about escalating costs and funding not being spent in the right place for the right reasons

2. Identified the Opportunity

- Agreement that VAS needs improvement
- Redesigned VAS would improve patient outcomes
- Shifting some VAS resources to other parts of system would create a more cost effective VAS



Assumptions

- **Chronic problems exist because the true extent & cause of problem is unknown**
- **Someone must be responsible for solving cross functional problems**
- **Coordination is necessary when mutual interests are identified**
- **We can reduce variability & improve quality if we all use the guidelines**
- **Guidelines are used to adjust thinking, behavior & individual practice**
- **Guidelines alone are ineffective. They require leadership, teamwork, appropriate expectations, communication, monitoring and ongoing measurement**
- **Awareness proceeds change**
- **Those affected or required to take on a process must have an opportunity for input and be included in the process**
- **New standards must be placed within the context of current standards & norms**
- **“You manage what you measure” (Dr. Brent James)**
- **Uncovering one deficiency often identifies others**



WE KNOW

Every system is perfectly designed
to get the result it gets

Berwick (1996)



Getting Started

- PRA assumed primary role to bring together clinical & administrative representatives from each Renal Region to consult, plan and provide leadership to the project
- Creation of an interdisciplinary regional VAS teams and provincial interdisciplinary interregional VAS team (PVAAT)



“Go Forward” Strategy Included

- Collaboration among providers from all specialties
- Evidence based provincial guidelines
- Pilot projects
- Performance measurement



Essentials

1. Commitment from Pilot Renal Regions Executive Sponsors:
 - a) Formalized partnership by letter of understanding April'04
 - b) HA partners provided equal funding for pilot projects
2. Demonstration pilot projects April '04
3. VAS Coordinators positions for each renal region
4. Identified performance measures
5. Available Provincial and Health Authority data
6. Collaboration between Surgery, Radiology and Nephrology
7. Monthly PVAST teleconferences to review progress, solve problems & provide encouragement



GUIDING PRINCIPLE

FISTULA FIRST



GOAL OF VAS PROJECT

To develop and implement province wide solutions to improve VAS in the province and within the renal regions



VAS Project Targets

Vascular access creation

Patients Known to Nephrologists prior to HD start

- > 80% of patients will have a functioning permanent access.
- 50% incident rate for AVF/AVG use for first HD treatment in patients anticipated to require chronic HD

In any given unit/ day

- 80% prevalent rate for AVF/AVG use in chronic HD patients
- Decrease in # of perm catheter insertions for temporary purposes by 10% every 6 months to a maximum of 10% catheter usage
- 100% patients receive VAS guideline based care

Vascular access Maintenance

- Timely (within 24 – 48 hours of problem identification) assessment and repair of dysfunctional access.
- Increase # of fistulas salvaged



VAS Pilot Projects

Purpose:

To establish regional pilot projects to demonstrate feasibility of a new VAS and to address important regional clinical problems

Goal: small solutions for improvement

Pilot Projects:

- Interior Health
- Northern Health
- Vancouver Coastal Providence Health



Process for Refining Pilot Projects

Determine major focus of the pilot

- * Determine key interventions for pilot
- * Determine outcomes associated with changes
- * Determine data requirements to capture “pre” and “post” intervention



Statistical Reports for all Pilot Sites

Three Common Indicators:

1. Incident rates for all access types
2. Prevalent rates for all access types
3. Use of Thrombolytics



Introduction of Provincial Guidelines

Principle: it is okay to vary from the guideline

... you just need to say why

Approach to dissemination & implementation included:

- **Leadership:** assigned responsibility to region's VAS RN as point person to oversee process
- **Set Up:** communication at Executive and Renal Regions plus education on guidelines
- **Accountability:** renal regions report issues and progress to PVAST and PRA Executive. PRA provides renal regions with regular reports on VA rates and patient outcomes
- **Close Gaps:** includes responding to issues and confirming resources required to improve VAS

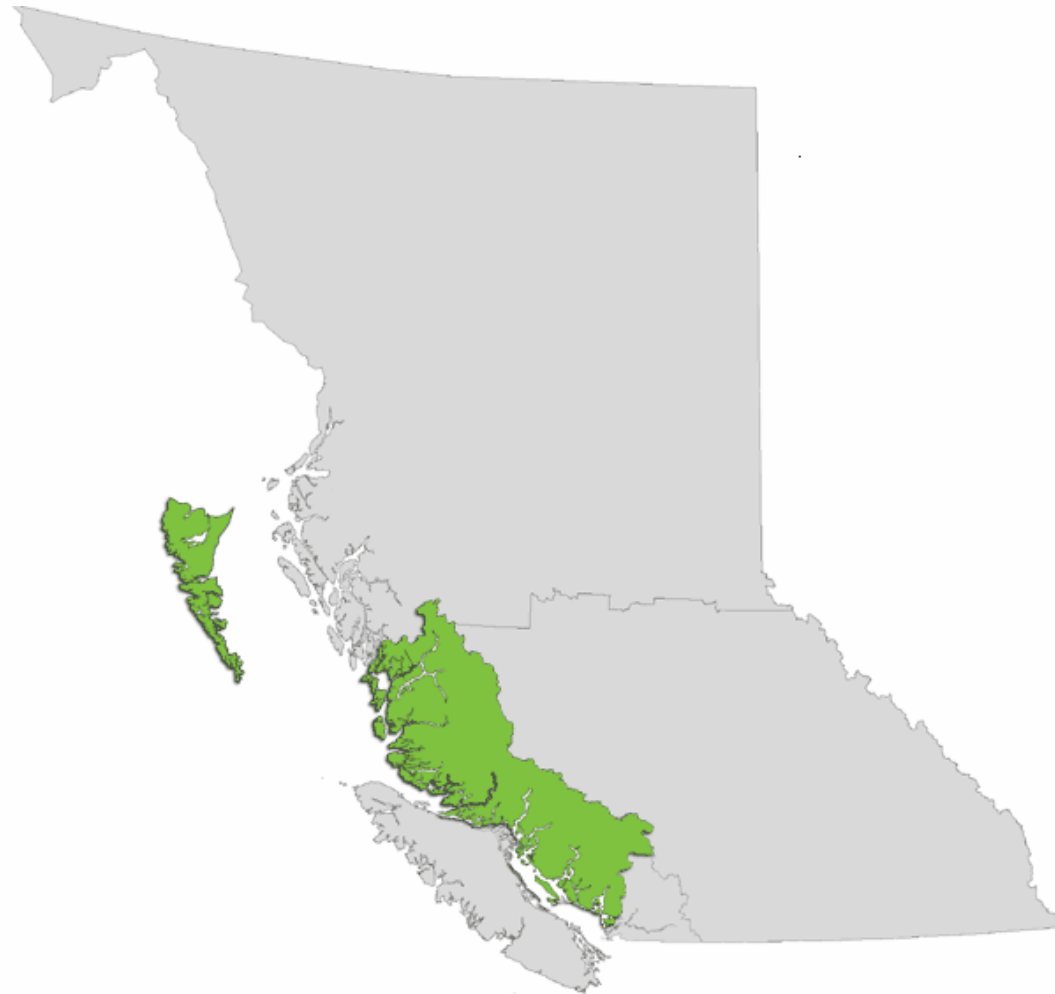


A Word about the Pilot Data

- Slides reflect what occurred in a 6-month period: Nov'04-May'05
- Incident data: 2004 (April'04 – Nov'04); 2005 (Feb'05 – Aug'05)
- Prevalent data: 2004 (Nov 30'04); 2005 (May 31/05)
- While 3 pilots, all regions actively intervened to improve VAS
- **Prior to VAS pilot project:**
 - a) Renal Regions did not have a Vascular Access Program
 - b) Renal Regions did not have a VA Nurse Coordinator
 - c) Renal Regions did not know their catheter & fistula count
 - d) Not all Renal Regions had a Transonic
 - e) Not all Renal Regions had meetings with Nurses, Nephrologists, Surgeons and Radiologists



Vancouver Coastal Providence Health



Vancouver Coastal Providence Health

Key Interventions:

1. Standardize VA service criteria, forms and reports across St Paul's Hospital and VGH
2. Increase VA Coordinator time
3. Increase access to VA OR time

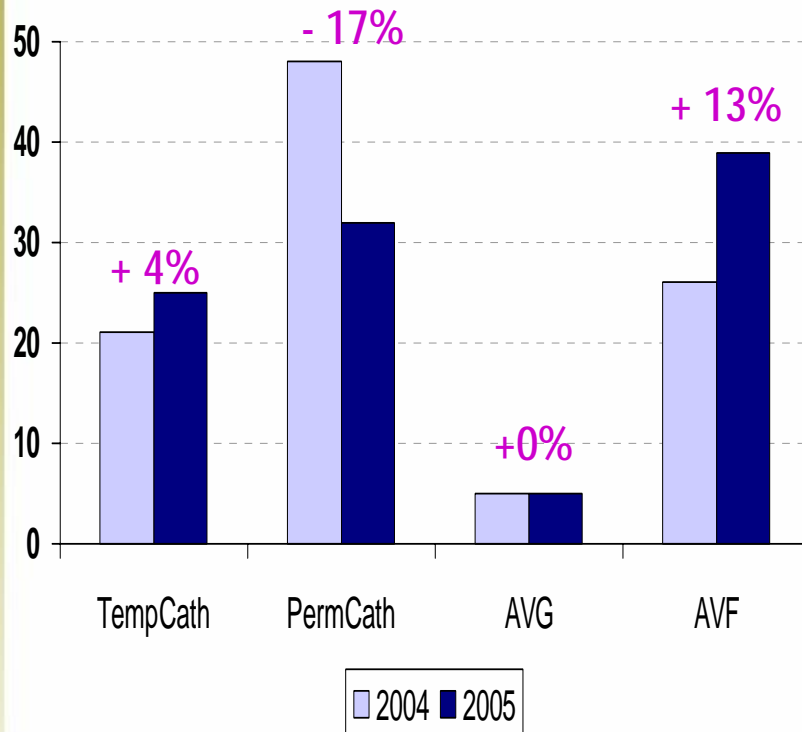
Improvements:

1. Establishment of Interdisciplinary VA clinics
2. Improvements in Transonic monitoring
3. Enhanced patient and staff education
4. Improved follow-up care

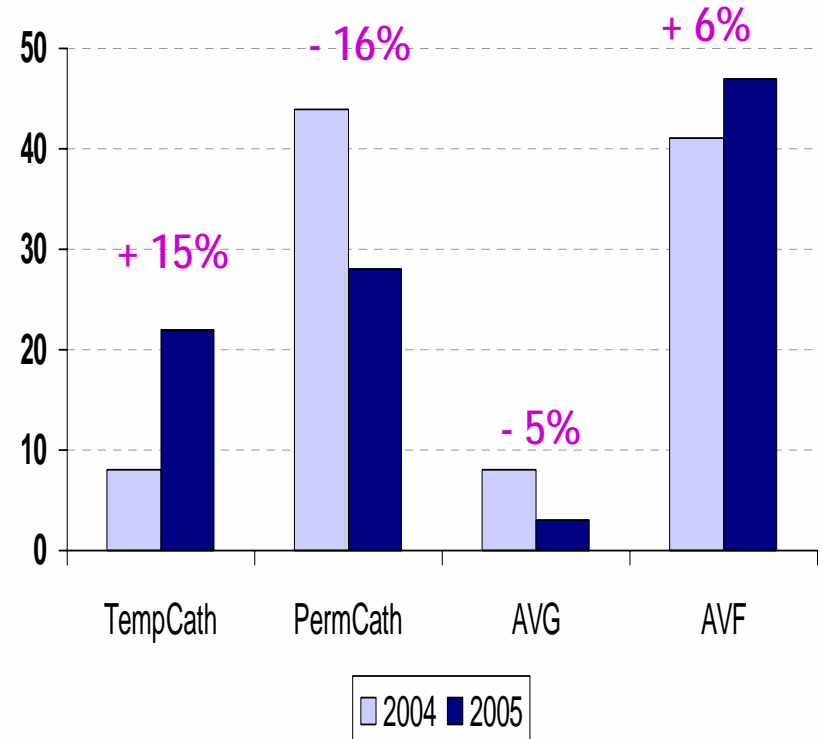


Incident Access Type Rates, Pre-Post Pilot Comparison: VCH/PHC

All Incident Patients

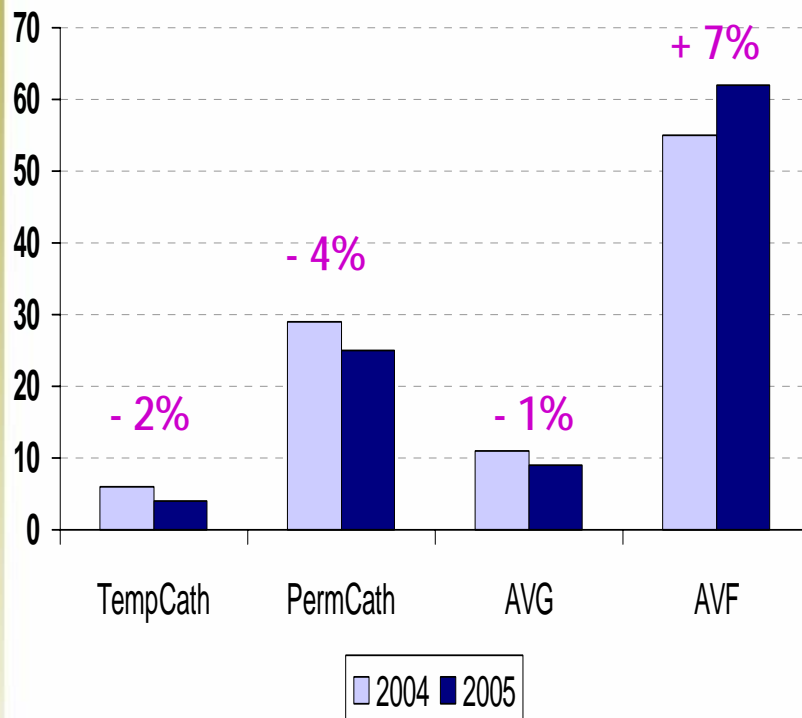


Patients Known > 6 Months

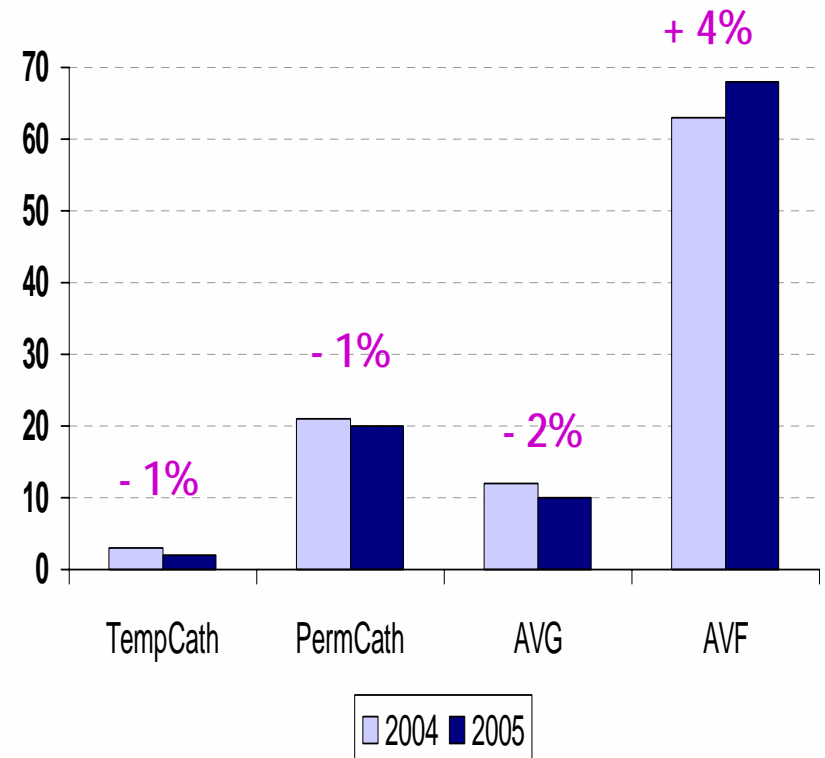


Prevalent Access Type Rates, Pre-Post Pilot Comparison: VCH/PHC

All Prevalent Patients



Patients Dialyzed > 12 Months



Interior Health Authority



Interior Health Authority (IHA)

Key Interventions:

1. Standardize VA service criteria, forms and reports across IHA
2. Introduce VA Coordinator
3. Increase access to VA OR time for access creation & revision
4. Increase access to Interventional Radiology time for fistulograms, angioplasty and Ultrasound vein mapping

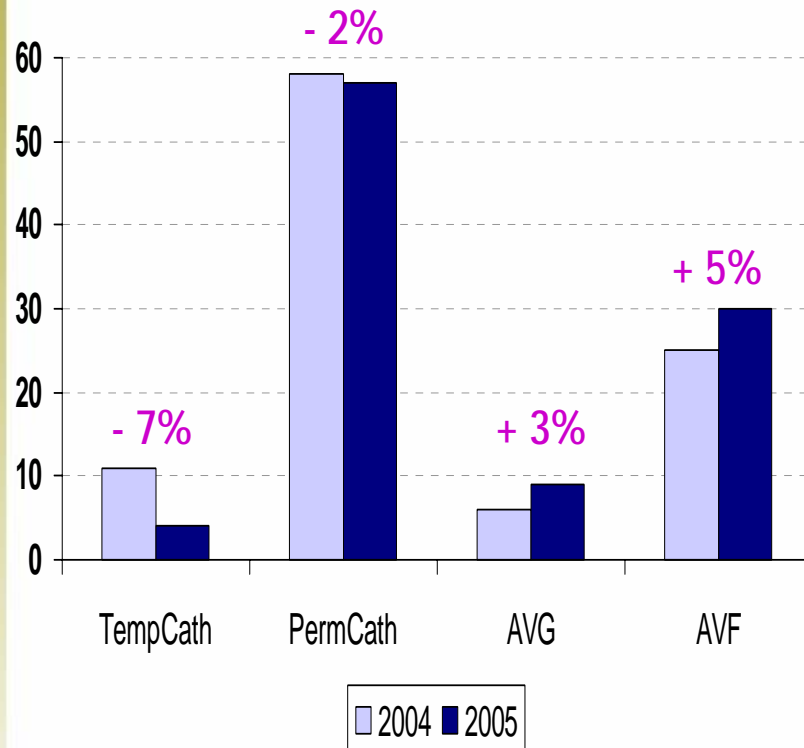
Improvements:

1. VA Coordinator hired in Sept'04
2. Developed Surgical Referral & Interventional Radiology Forms
3. Increased creation of native AV Fistulas
4. Decreased central venous catheters from 42% to 30%
5. Decreased number of declotting procedures

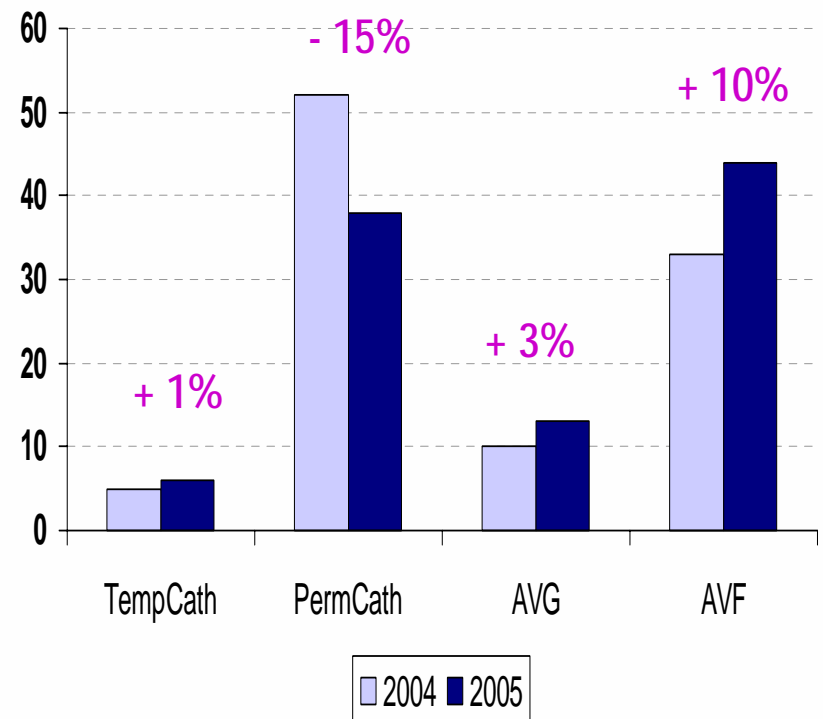


Incident Access Type Rates, Pre-Post Pilot Comparison: IHA

All Incident Patients

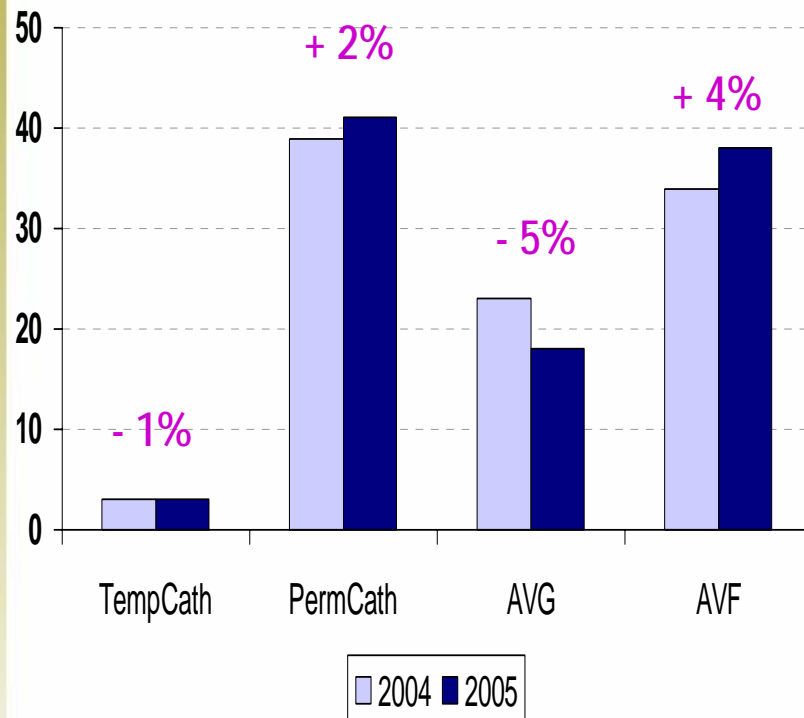


Patients Known > 6 Months

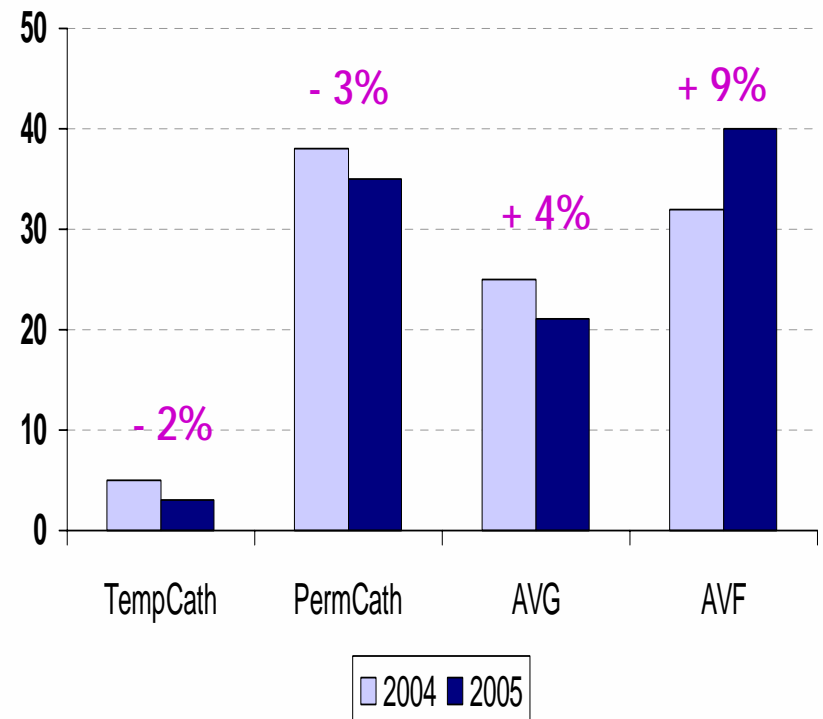


Prevalent Access Type Rates, Pre-Post Pilot Comparison: IHA

All Prevalent Patients



Patients Dialyzed > 12 Months



Northern Health Authority



Northern Health Authority

Key Interventions:

1. Introduce VA Coordinator
2. Purchased Transonic & introduced vascular access monitoring
3. Enhanced communication between Nephrology, Surgery & Radiology

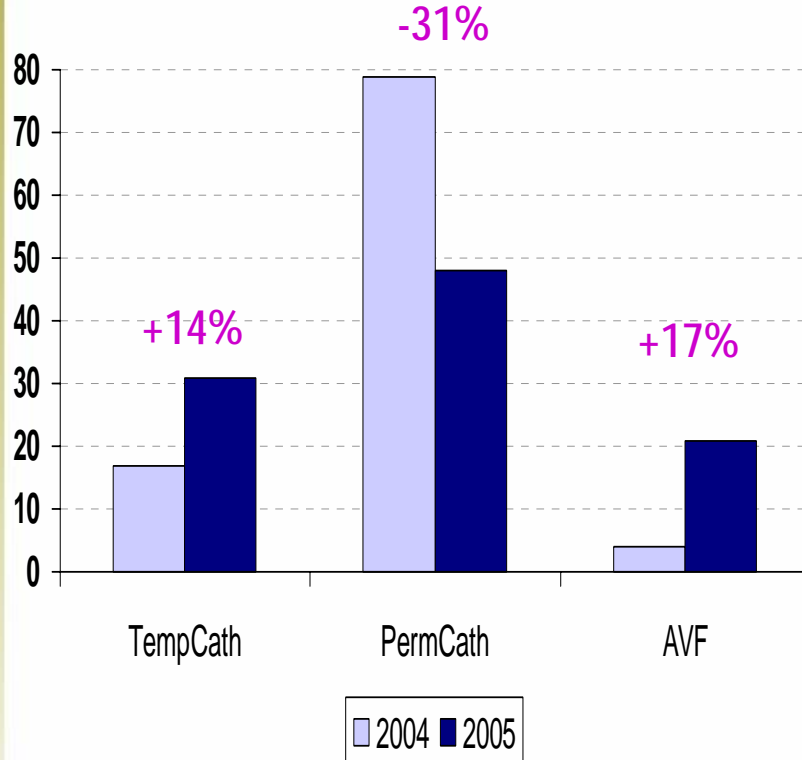
Improvements:

1. VA Coordinator hired in Oct'04
2. Improvement in RN VA monitoring
3. Introduction of surgical referral form
4. Establishment of Vascular Access Clinics

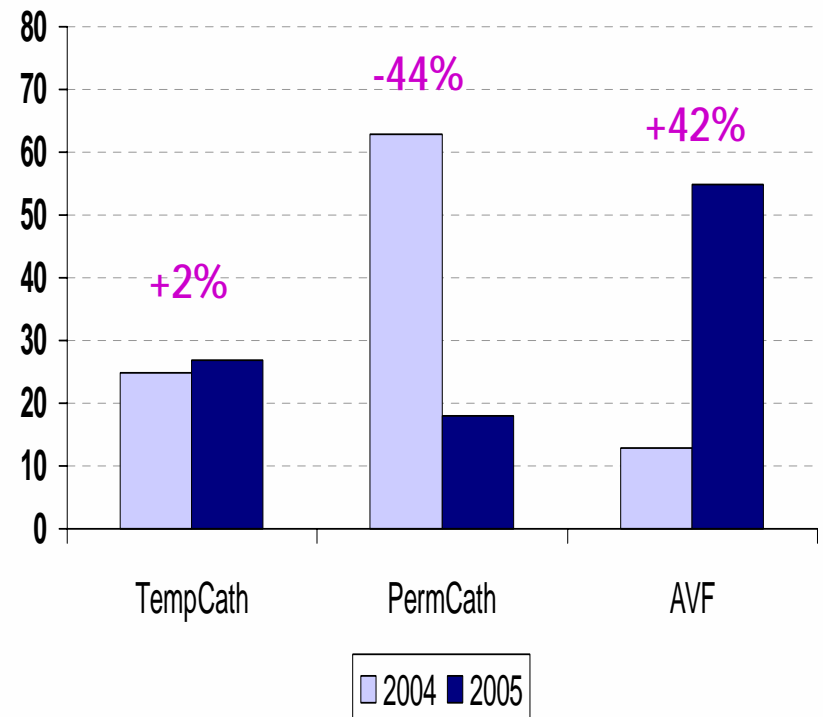


Incident Access Type Rates, Pre-Post Pilot Comparison: NHA

All Incident Patients

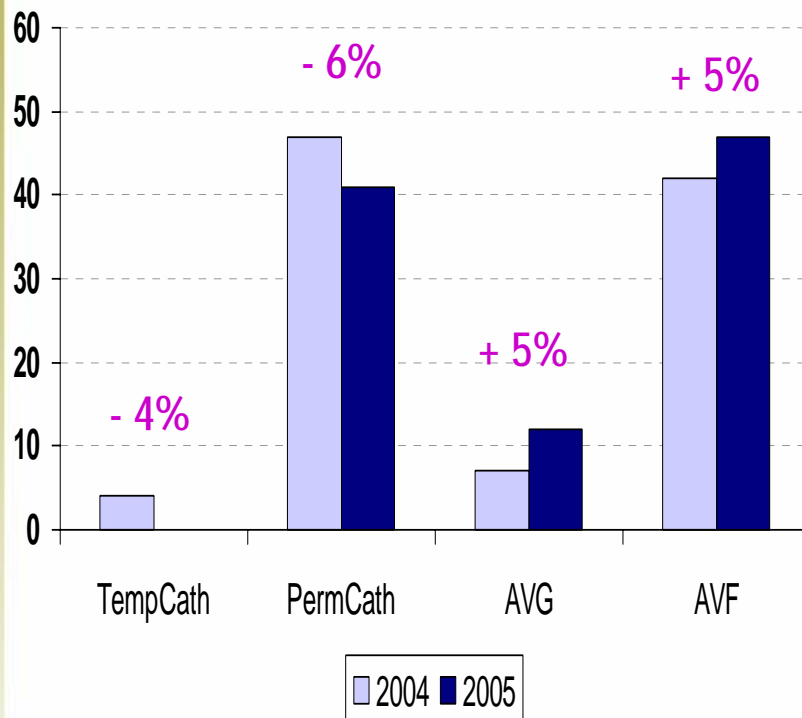


Patients Known > 6 Months

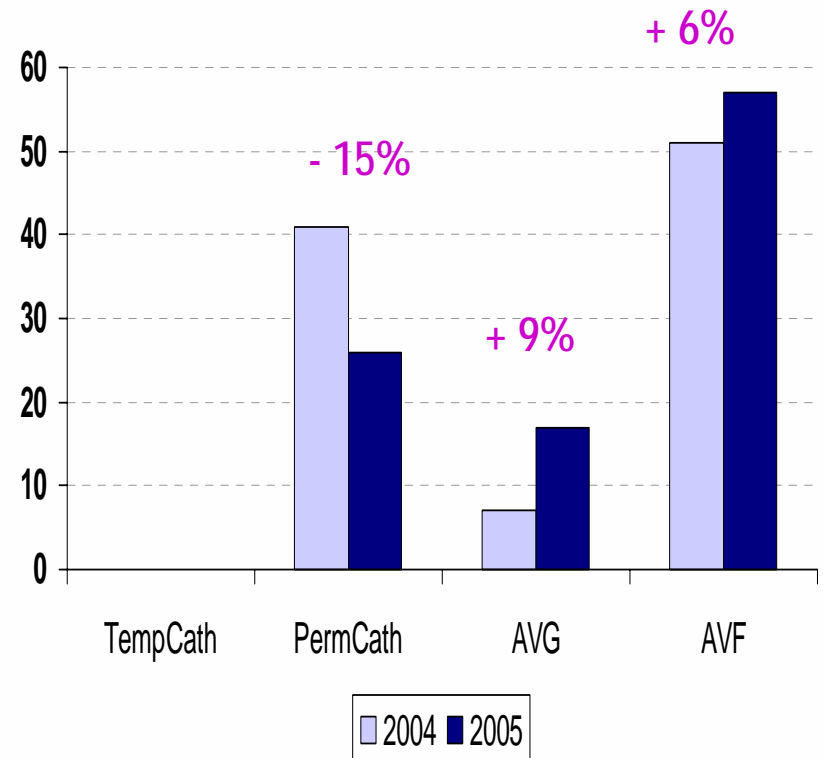


Prevalent Access Type Rates, Pre-Post Pilot Comparison: NHA

All Prevalent Patients



Patients Dialyzed > 12 Months



Fraser Health Authority



**BC Renal
Agency**

An agency of the Provincial
Health Services Authority

Fraser Health Authority

(Renal Partnership Initiative: FHA, PHSA & Baxter)

Key Interventions:

1. Establish & integrate role of VA Coordinator within region
2. Complete baseline data collection for all renal VA procedures and costs
3. Establish a VA monitoring and surveillance program
4. Establish interdisciplinary work teams for Vascular Surgery & Interventional Radiology
5. Integrate guidelines into established quality improvement cycles for the partnership



Fraser Health Authority

(Renal Partnership Initiative: FH, PHSA & Baxter)

Improvements:

1. VA Coordinator hired in fall of 2003
2. Guidelines adopted by interdisciplinary working groups
3. Surgery & Interventional Radiology hold regular rounds at two sites
4. VA monitoring & surveillance program established successful at one site
(100% staff (25 RNs) trained and 100% patients monitored q 4-6 weeks)
5. Prevalent rate for AVF (range from 48% - 83% across 5 sites): average 67%
6. Quarterly review of permcath rate as part of quality improvement cycle
7. Proposal for consideration to consolidate renal VA surgery at one Fraser Health site in 2006 submitted to senior management



Vancouver Island Health Authority



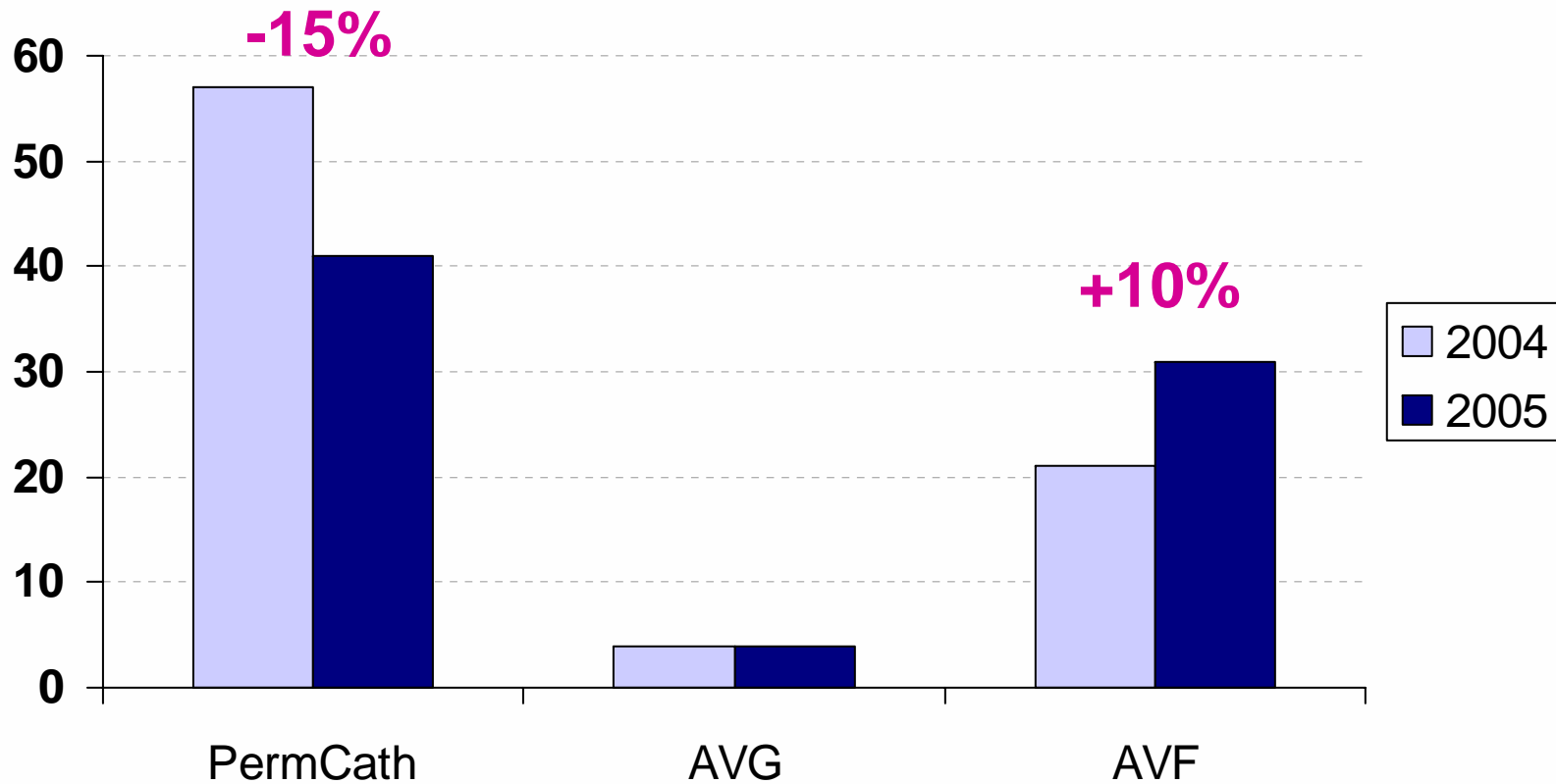
Vancouver Island Health Authority

Key Interventions and Improvements:

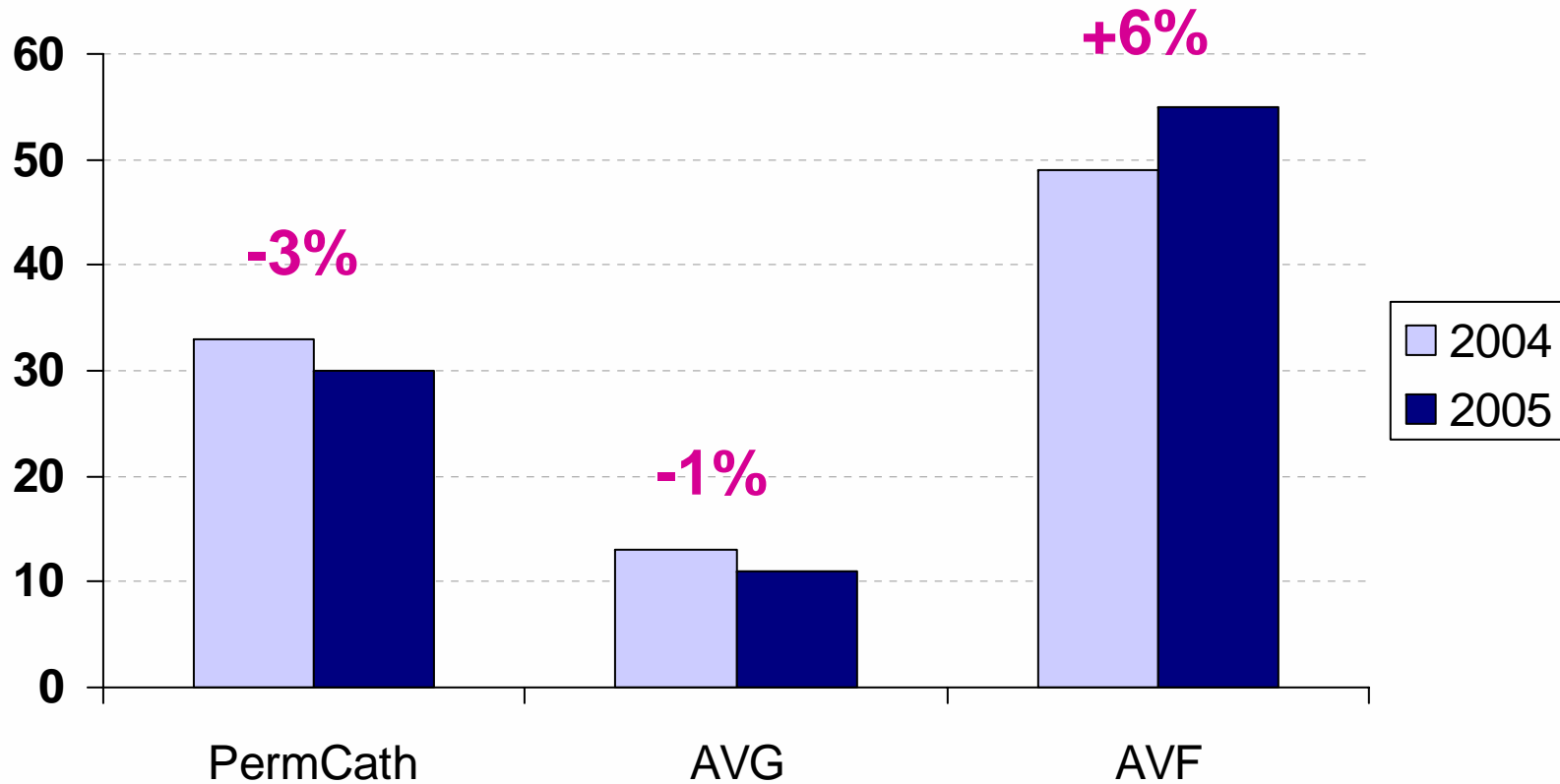
1. Monthly reports on surgical wait times
2. Tracked accesses types
3. Improved transonic monitoring
4. Improved coordination and booking of VA surgery
5. Developed Vascular Access Committee
6. Developed “Issues Paper” including waitlist & referral data compared to benchmark data
7. Developed Task Force to address surgery waitlist issues



Incident Access Type Rates, Pre-Post Pilot Comparison: BC



Prevalent Access Type Rates, Pre-Post Pilot Comparison: BC



Provincial VAS Data: Key Messages

1. Length of time in Nephrology Care:

- If patients in Nephrology care for > 6 months there is greater opportunity to increase fistulas and decrease use of catheters.

Message: patients need to be referred early to CKD Clinic and from CKD to Vascular surgeons

2. Redistribution of access types:

- There is an increase in the number of fistulas between the baseline period and the intervention period along with a substantially lower percent of perm catheters used
- “Fistula First” success

Message: VAS interventions made a difference



Provincial VAS Data: Key Messages

3. Costs reduced due to catheters down by 15%:

a) Catheter Associated Costs:

- Reduction in catheter use
- Reduction in Thrombolytic Therapy (tPa) use
- Reduction in use of antibiotic use

a) Unit Associated Costs

- Reduction in Pharmacy & Nursing time involved with above

Message: Project reduced costs by about 15%



Summary: Profound Changes in VAS Due to:

1. Increase awareness of VAS issues and problems
2. Financial investment for selected VAS improvements:
 - a) VAS Nurse Coordinators in each renal region
 - b) Transonic monitoring protocols
3. PVAAT to discuss VAS issues, problems & solutions
4. Interdisciplinary VA patient rounds
5. Improved cooperation and teamwork across disciplines and specialties
6. Development & dissemination of Provincial guidelines
7. VA Nurse Group focus on education, standardization and consistency



Future Aims

Shift from Project to Sustainability:

- Hold the gains and sustain improvement over time
- Continue to compare each region's VAS outcome data with themselves and other renal regions
- Determine impact of provincial guideline use
- Identify issues & barriers to implementing guidelines
- Develop solutions to address issues and barriers.
- Develop provincial and/or customized renal region VAS improvement proposals
- Improve tools to measure performance
- Consider introduction of new care delivery models



Thank You for Your Attention

