

Program Strategies to Tame Wait Times

While Improving Outcomes:

Nova Scotia Breast Screening Program

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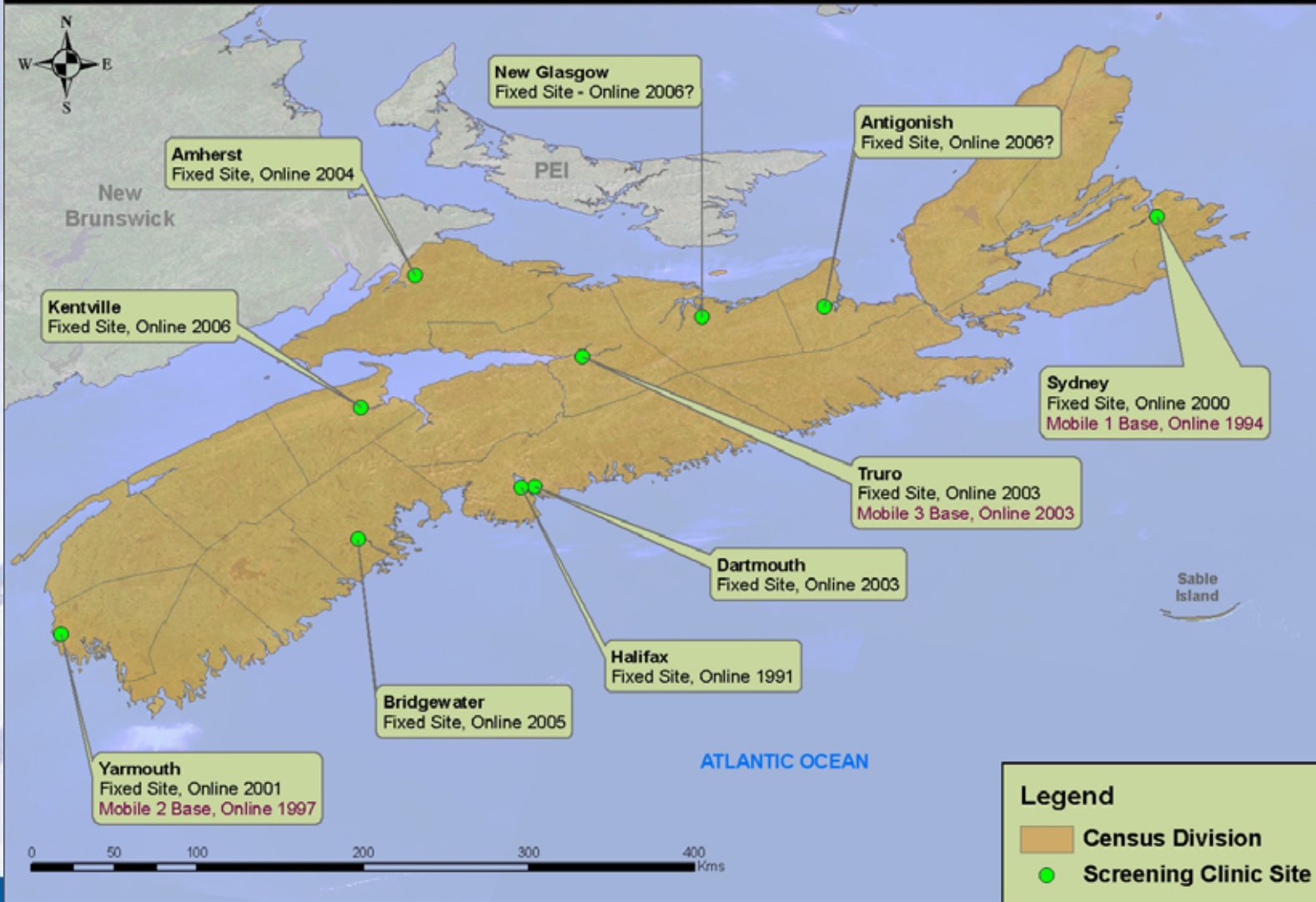
February 9, 2007

Objectives

- To demonstrate our process and progress in addressing wait times for mammography in Nova Scotia
- To outline the key elements in the strategy
- To highlight our successes, challenges, and opportunities

NS BSP Fixed and Mobile Sites

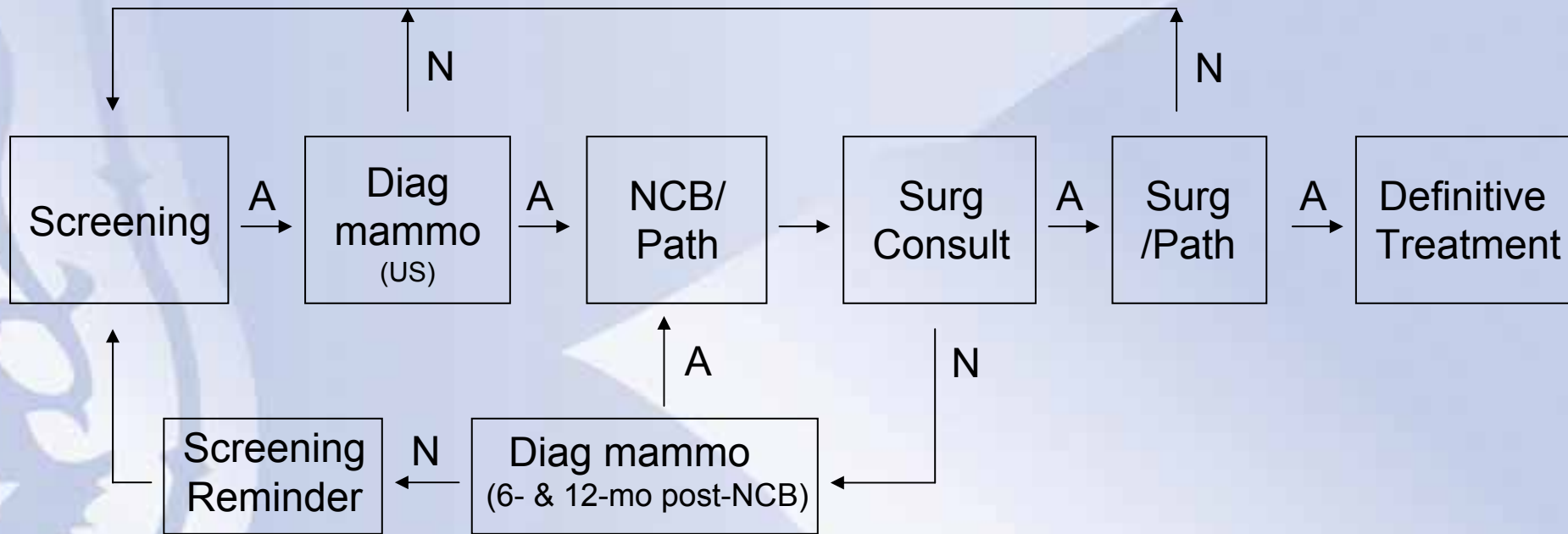
Nova Scotia Organised Breast Cancer Screening Fixed & Mobile Base Clinic Locations With Year They Came Online



Strategy - Elements

- Collaboration
- Leadership
- Quality driven
- Continuum of care focus
- Provincial in scope
- Patient/Client focused
- Capacity building

Clinical Protocol for Diagnostic Work-up Following an Abnormal Screen



A - abnormal
N - normal

Nova Scotia Breast Screening Program - I

- NSBSP has been a dynamic provider of breast services to the women of Nova Scotia since 1991
- Fixed sites - growth over time
- Mobiles – responds to changing needs

Nova Scotia Breast Screening Program - II

- The NSBSP has used its database since 1991 as a “real time tool” to provide the “best outcomes” possible with available resources
- How?
 - Implementing new strategies
 - Responding as needed
 - Outcome evaluation
- Response levels:
 - Woman
 - Site
 - Medical team
 - Program

NSBSP Strategic Initiatives

- I. Needle core biopsy program
- II. Patient navigation
 - supports clinical pathway
 - dissemination of CPG
- III. Program database (screening & diagnosis)
 - link diagnostic reporting database
 - central mammography booking
- IV. Geographic Information Systems Mapping

Needle Core Biopsy - I

- NS is only provincial screening program to institute this procedure as part of standardized protocol for clinical work-up following abnormal mammography (1991)
- Establish national standards
- Advantages:
 - reduces wait times
 - decreases benign breast surgery

Reference:

Guidelines for monitoring breast screening program performance, 2nd ed., Draft

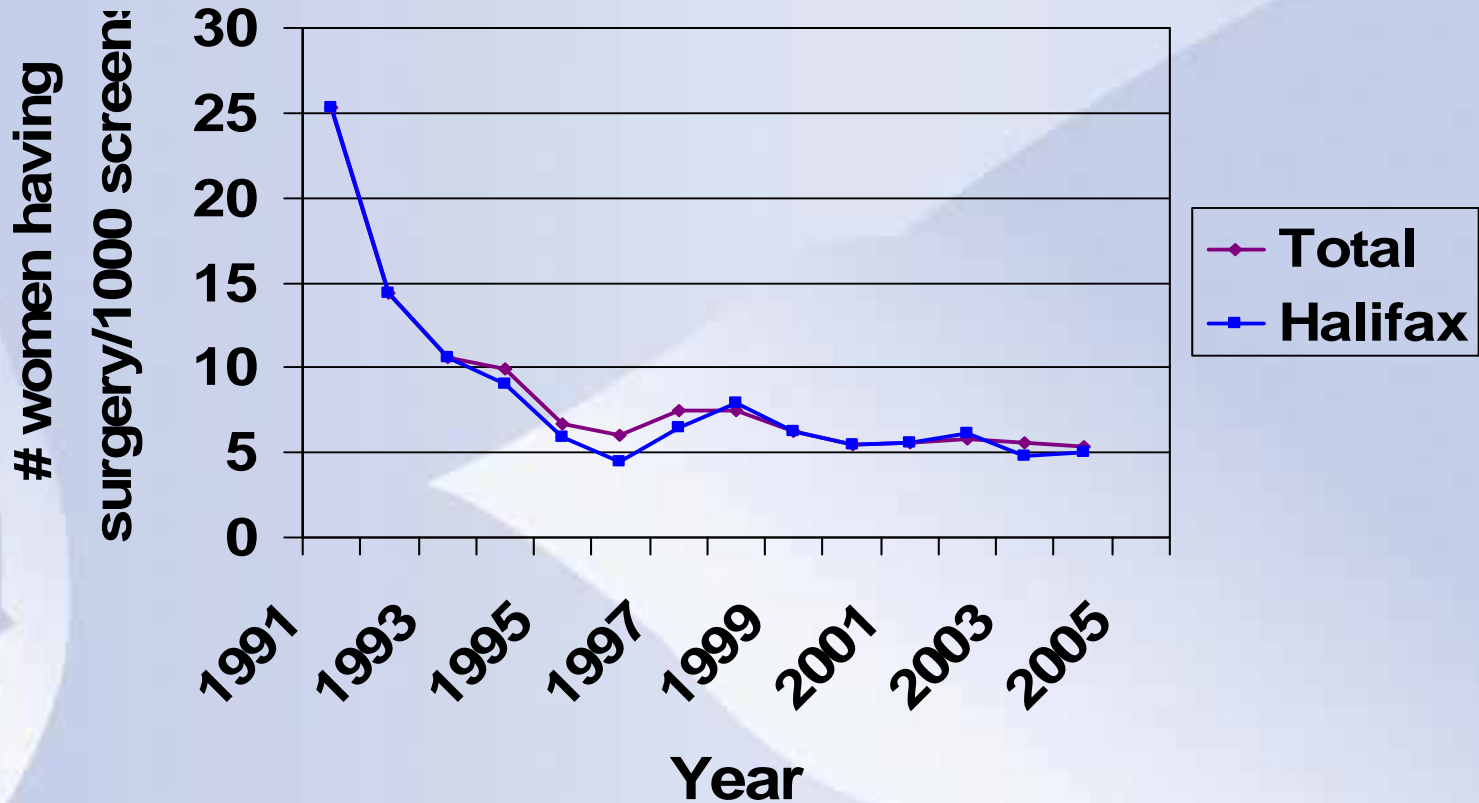
Needle Core Biopsy - II

- SNCB is as accurate as surgery, cheaper and less morbidity for women
- SNCB audits Radiologists, Surgeons, Pathologists
- NCB volume: 36 (1991) → 794 (2005)
- Screen vol. 1896(1991)---50,895 (2005)

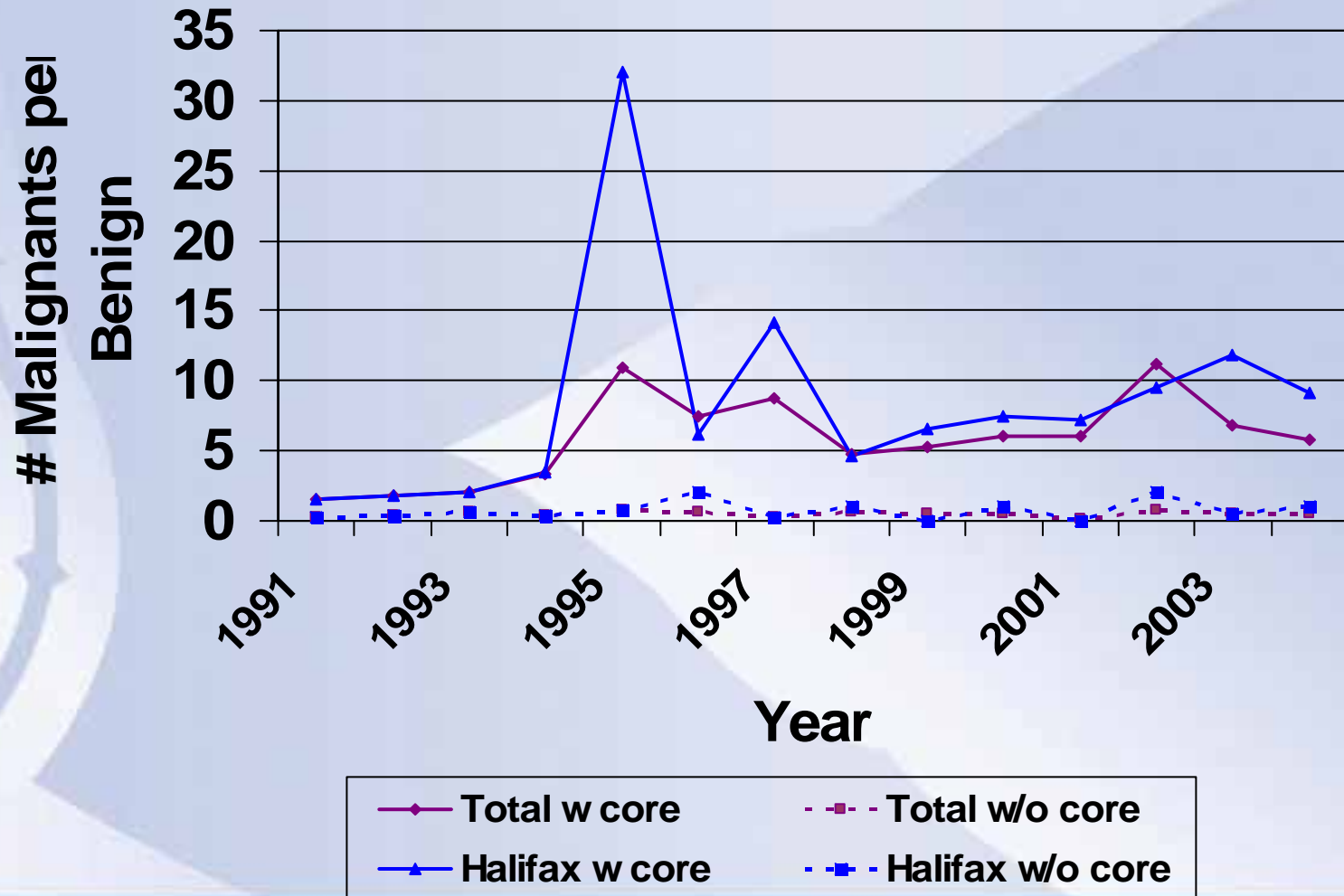
References:

1. **NSBSP Experience: use of needle core biopsy in the diagnosis of screening-detected abnormalities.** Caines J Chantziantoniou K, Wright BA, et al. *Radiology* 1996;198:125-30.
2. **Stereotaxic needle core biopsy of breast lesions using a regular mammographic table with an adaptable stereotaxic device.** Caines JS, McPhee MD, Konok GP, Wright BA. *AJR* 1994;163:317-21.
3. **Ten years of breast screening in NSBSP: 1991-2001.** Caines J et al. *CARJ* 2005;56:82-93.

Needle Core III – Time trends in the rates of open surgery



Needle Core IV – Malignant:Benign Ratio on Surgery



Needle Core Biopsy V - Indicator Targets and Performance (50-69 yrs)

Indicator	Canadian Target	Canada	Nova Scotia
Benign to Malignant Open Biopsy Ratio (1999-2000) ¹	< 2 : 1	1.3 : 1	0.5 : 1 0.2 : 1 (2005-2006) ²
Benign Open Biopsy Rate (per 1000 screens) (2001-2002) ³	No developed Target	2.4	0.6

Source:

¹ Organized Breast Cancer Screening Programs in Canada (1999-2000) published 2003.

² Canadian Breast Cancer Screening Database (2001-02) published 2005.

³ Organized Breast Cancer Screening Programs in Canada (2001-2002) published in 2005.

Patient Navigation - I

- introduction: 1991 (limited fashion)
 - physician assistance with abnormal screen referrals
 - physician/patient contacted by local NSBSP team leader and informed of appointment details at diagnostic centre
 - improved wait times to first diagnostic work-up
 - acceptance by medical community
 - to date 375,642 screens – 21,284 women navigated

Reference:

Patient navigation: improving timeliness in the diagnosis of breast abnormalities.

Psooy B, Scheuer D, Borgaonkar J, Caines J. *CARJ* 2004;55:145-50.

Influence of direct referrals on time to diagnosis after an abnormal breast screening result

Kathleen M. Decker MHA et al: Cancer Detection and Prevention 28 (2004) 361-367

Patient Navigation - II

- Two parallel systems
 1. NSBSP - asymptomatic women
requires accreditation, volume, data collection
 2. Diagnostic system – symptomatic and **screens**
??? accreditation, volume, **no** data collection

No Navigation



Inconsistency, confusion, increased wait times, duplication

“Women slip through the cracks”

Patient Navigation - III

- expansion 2000
 - requests received from medical community to extend the service to also navigate women with abnormal diagnostic reports through the diagnostic process
 - full time navigator position was established in central region due to large the diagnostic component
- results
 - reduced diagnostic interval
 - increased patient and physician satisfaction
 - promotes clinical pathway

Reference:

Waiting for a Diagnosis after an Abnormal Breast Screen in Canada, published 2000.

Navigation IV - Purpose & Methods

To determine the impact of Patient Navigation on timeliness in the diagnosis of breast abnormalities

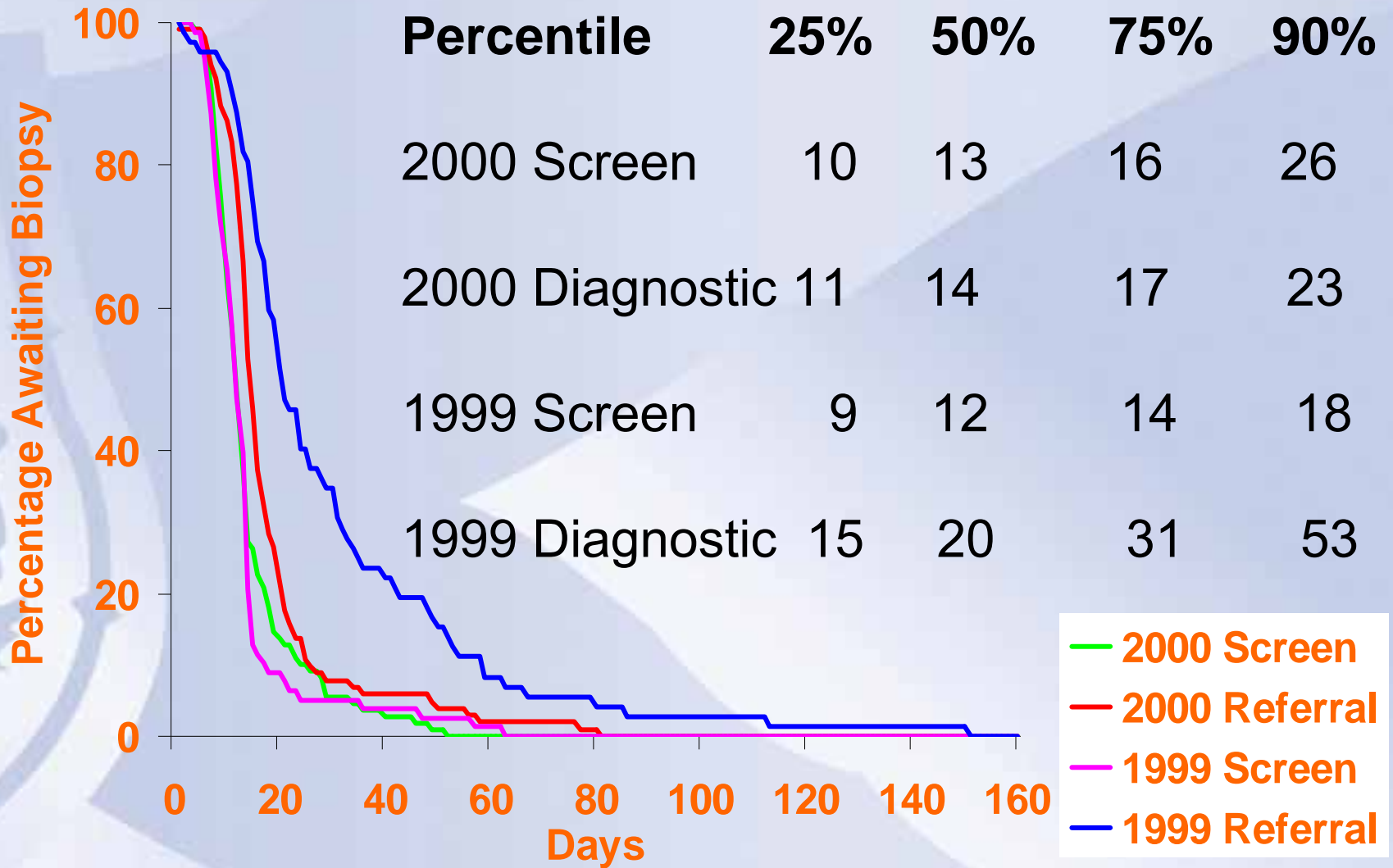
Group\Year	1999	2000
NSBSP	Navigation	Navigation
Diagnostic (Referrals)	No Navigation	Navigation

Step 1: Was timeliness different between the groups ?

Step 2: Was navigation responsible for the differences ?

CARJ 2004:55(3):145-50.

Navigation V - Results



Database Development - I

- NSBSP Diagnostic Mammography Database
 - improved diagnostic database designed to integrate the NSBSP screening database with a diagnostic database
 - provide one provincially standardized diagnostic mammography reporting module with upgraded services
- more comprehensive and accurate data capture
 - better quality indicator measurement (ppt rate **46% to 53%**)
 - better understanding of resource use
 - capacity to evaluate interventions in 'real time'

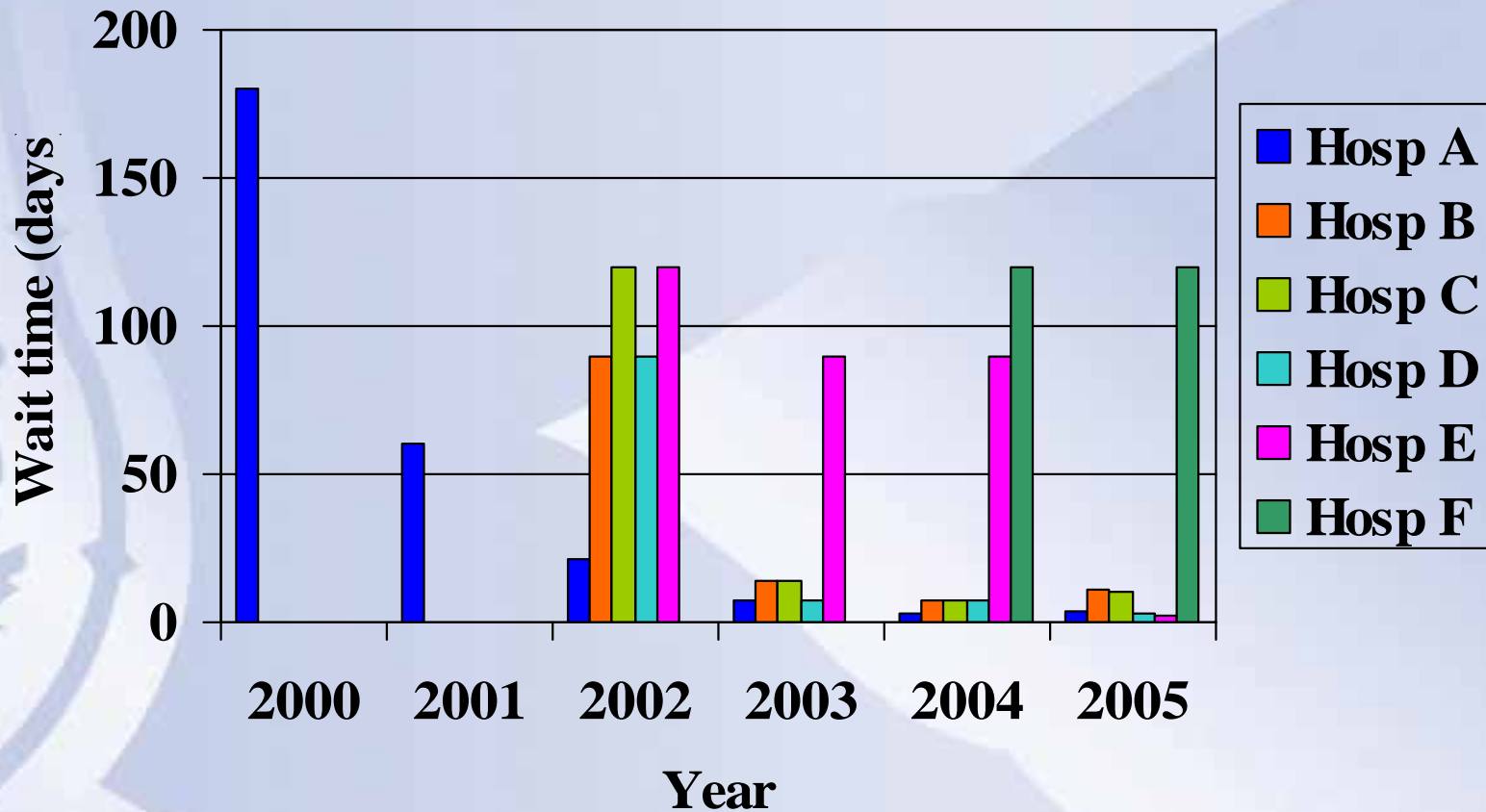
Database Development – II

Central Mammography Booking

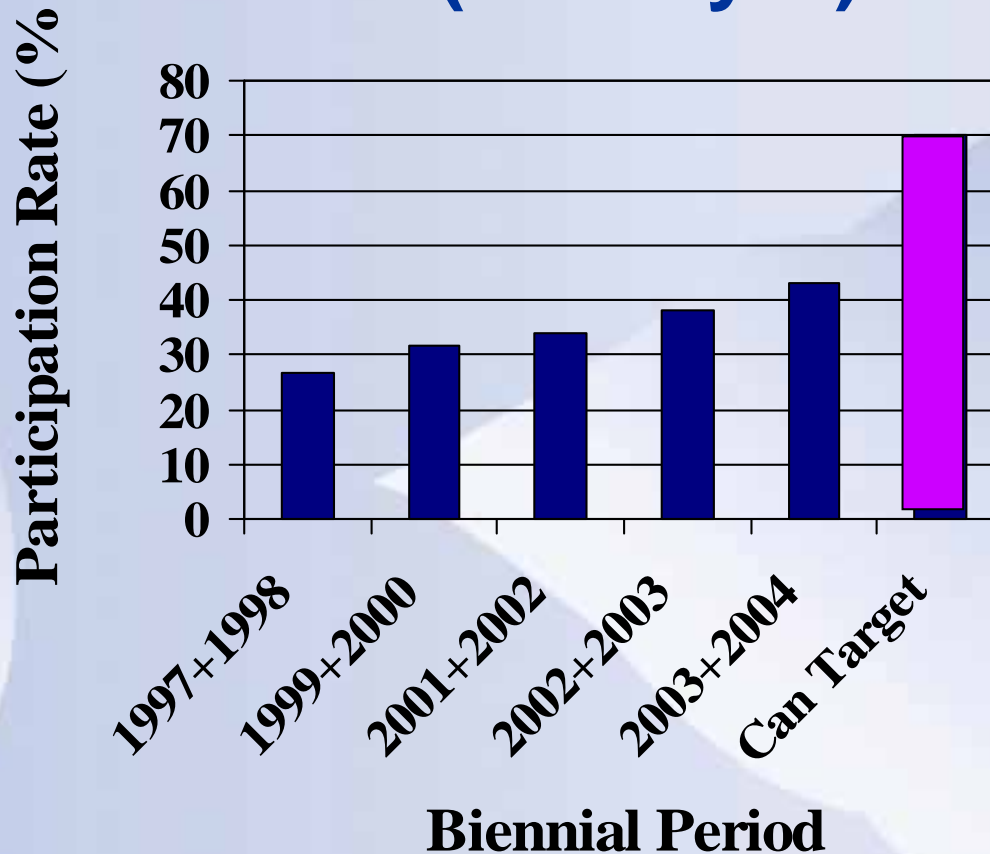
- central booking of all provincial screening and diagnostic examinations
- implemented in 2000 in the Central Region
- phase-in process to be completed in 2006
- improved Diagnostic Interval
 - partly due to channelling the flow of asymptomatic women to the screening facilities and freeing up diagnostic capacity

Database Development III

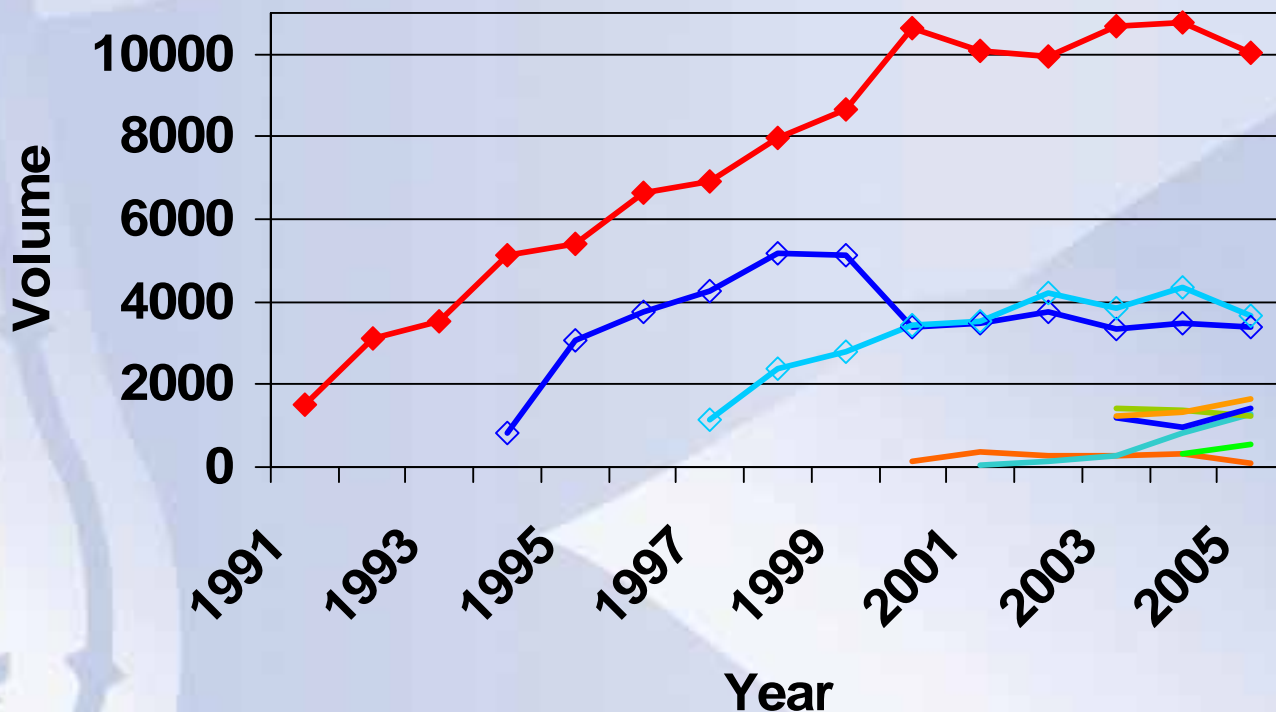
Provincial Diagnostic Wait Times – Time Trend



Database Development IV - Biennial Participation Rate Time Trend (50-69 yrs)



Database Development V - Growth of Screening Volume (1991-2005)

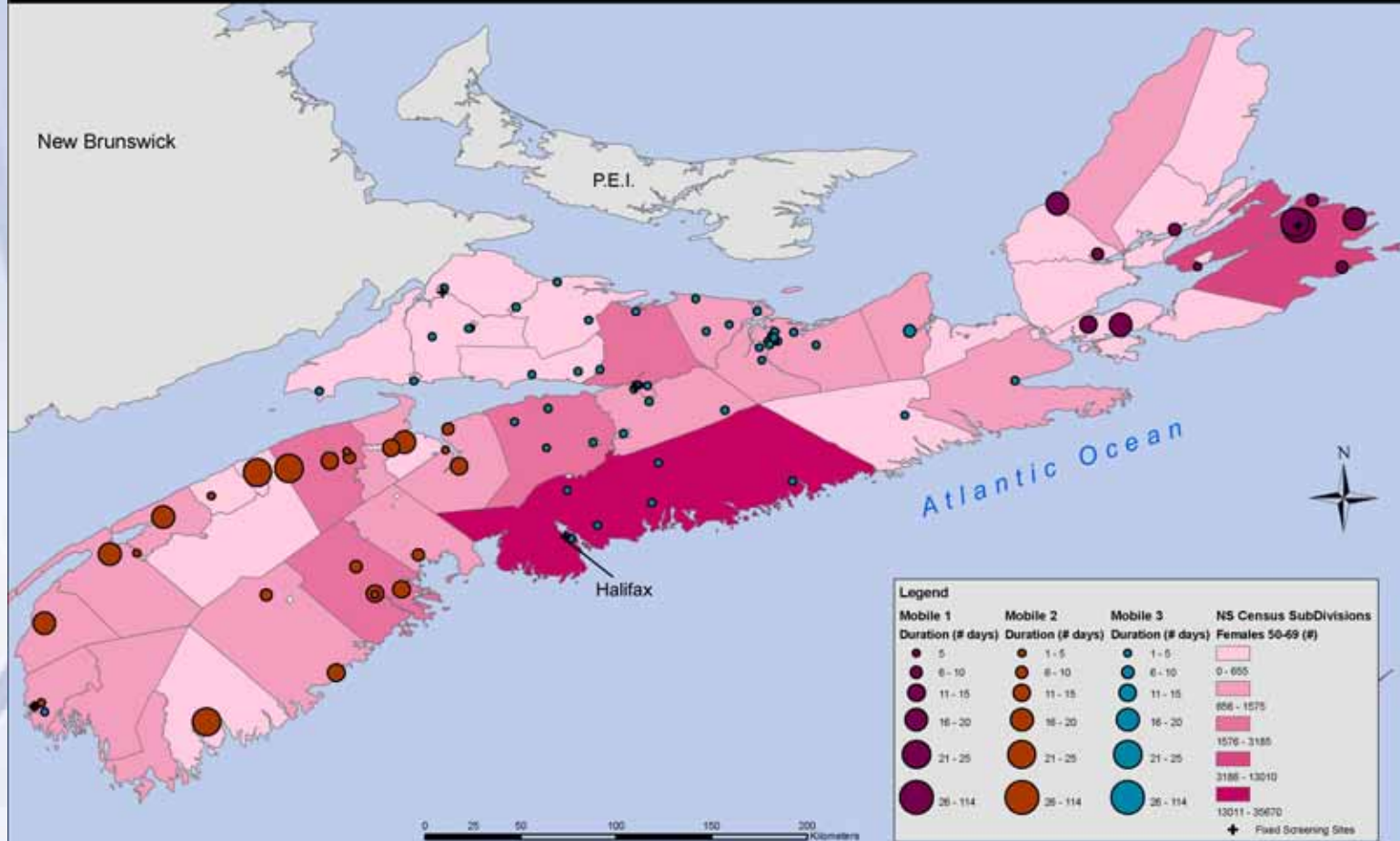


Geographic Information Systems (GIS) I

- Is a computer technology that uses a geographic information system as a framework for understanding a problem
- Links information to location, then layers different types of information to understand how they may work together
- Has been applied to analyze variations in health services utilization
- First time used to evaluate a provincial screening program

GIS II - Population Size & Location/ Duration of Mobile Unit Visits

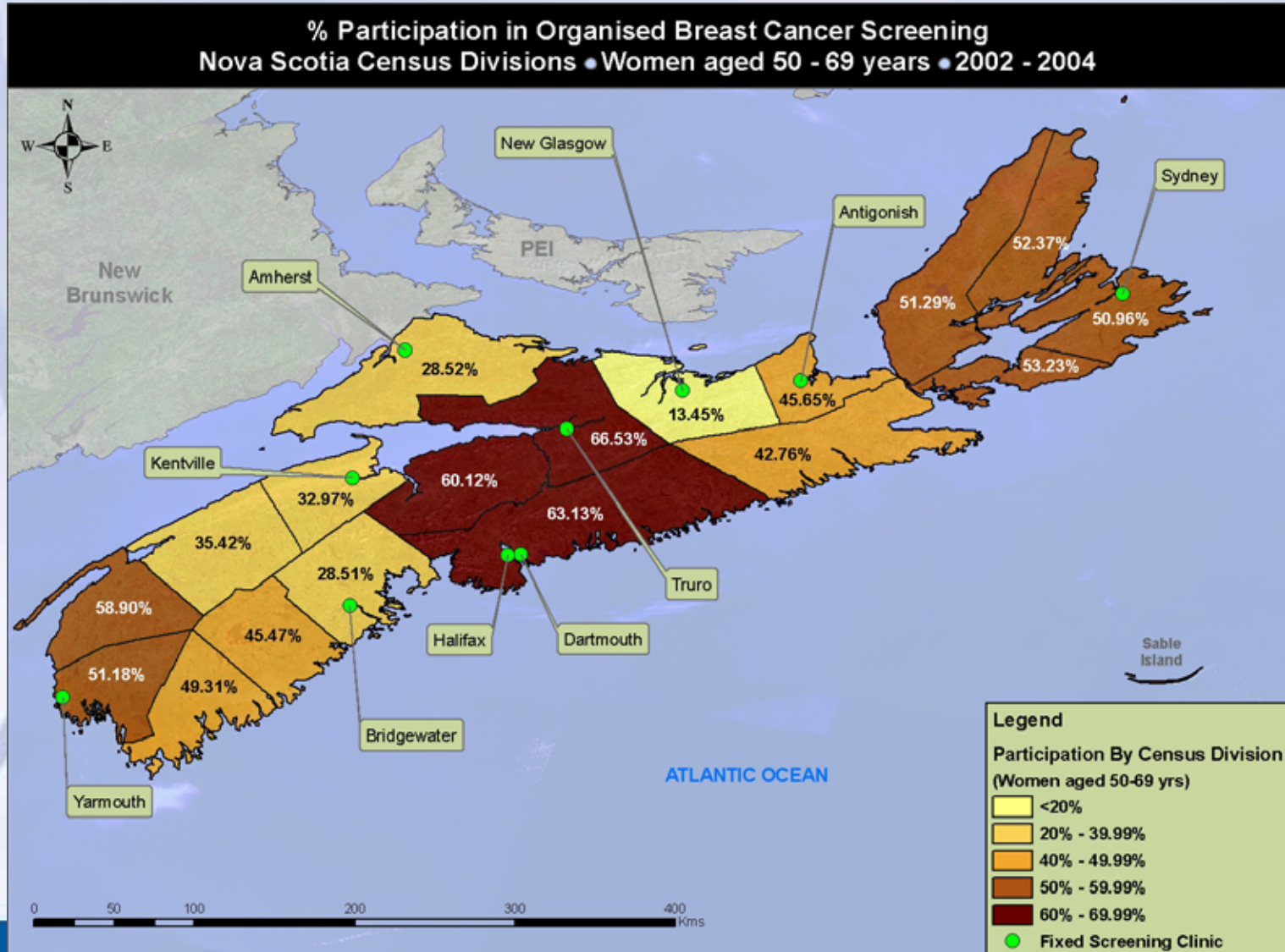
Nova Scotia Mobile Breast Screening Units, by duration (# days) and Female Population 50-69 years (count) by Census Subdivision, 2004



Sources: Nova Scotia Breast Screening Program, Statistics Canada, DMTI

April 5, 2005
GIS Infrastructure

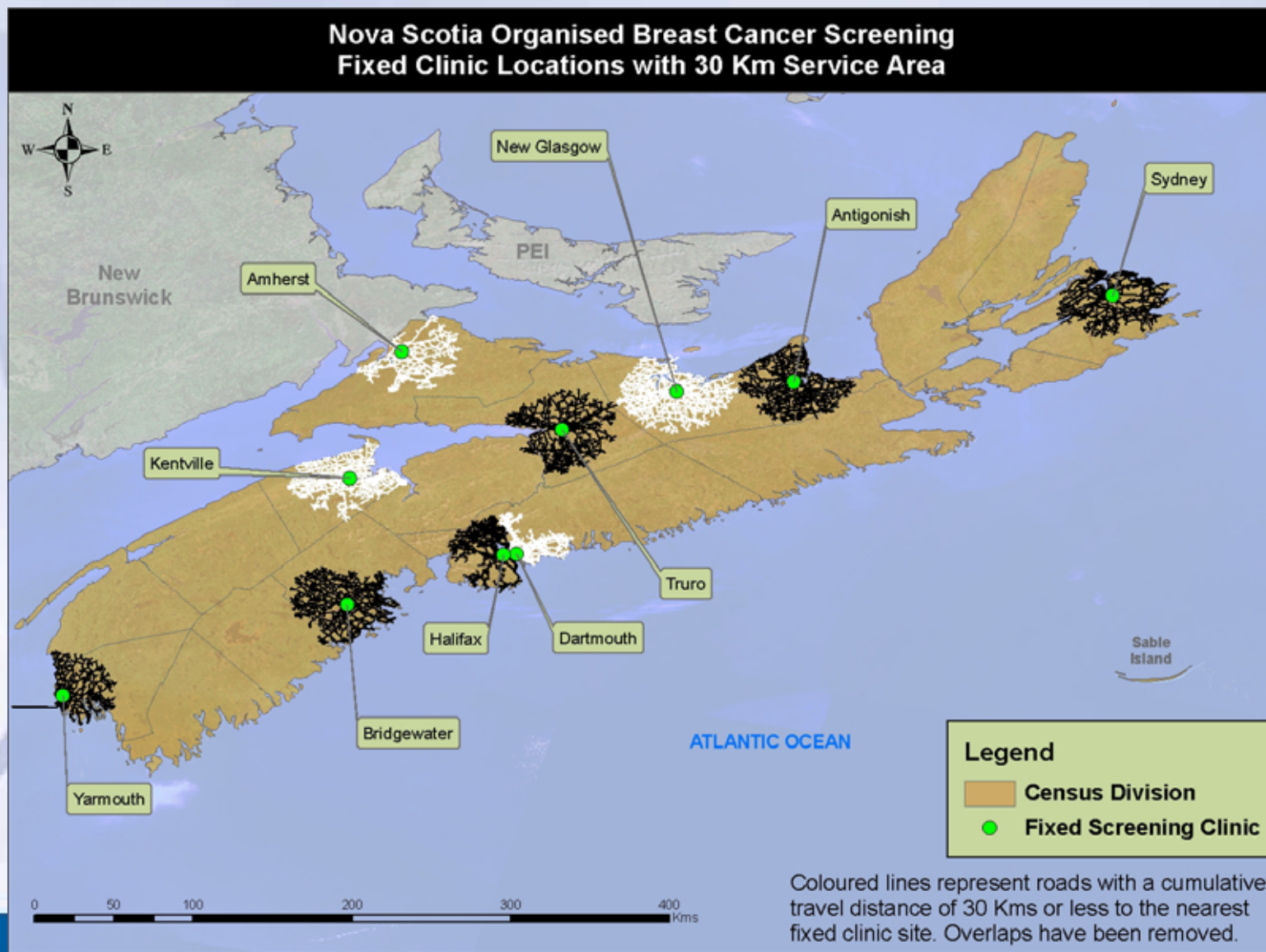
GIS III- Screening Participation Rates



Sources: Statistics Canada, DMTI, NS Organised Breast Cancer Screening Program

April 4, 2006

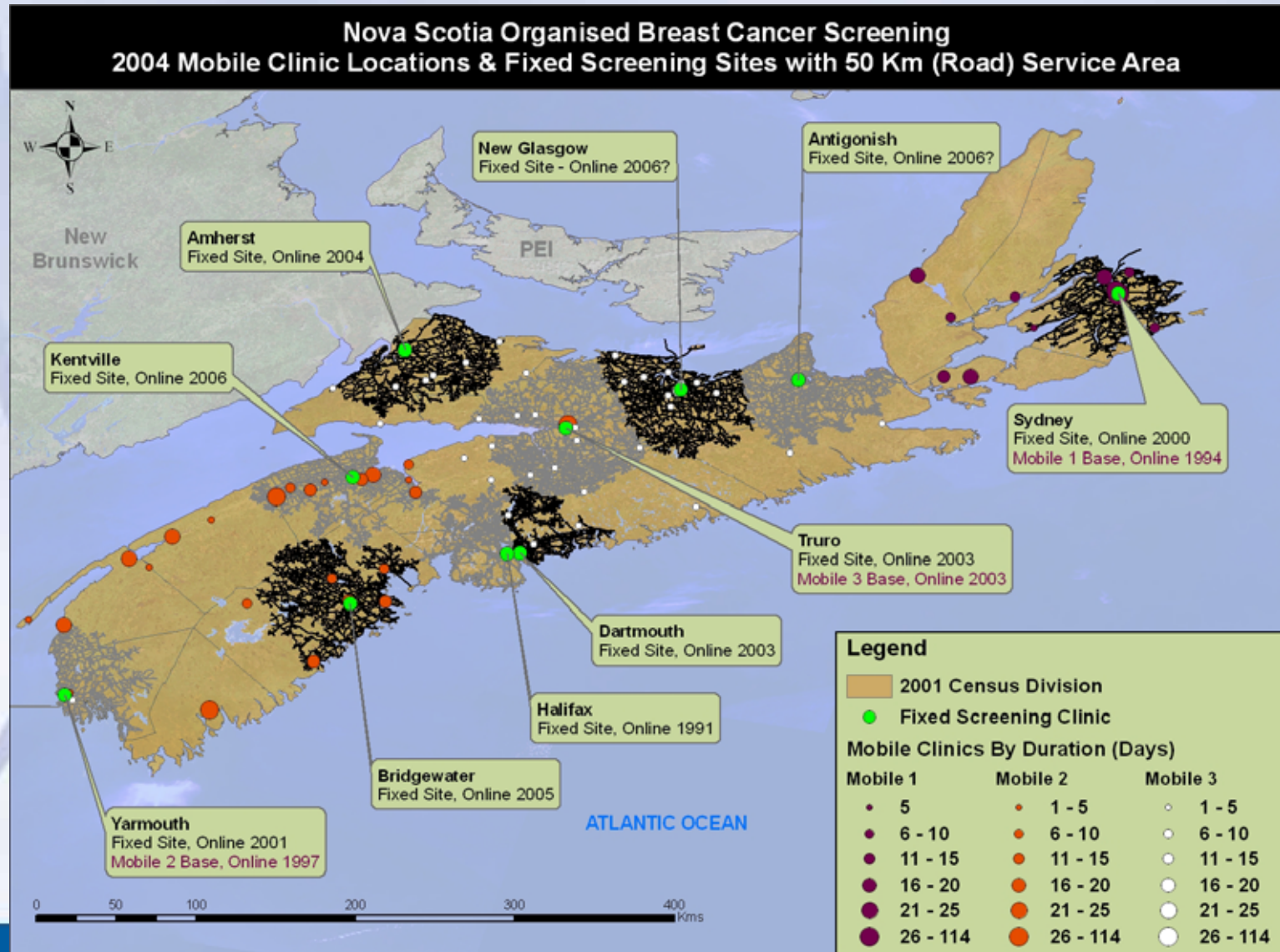
Scenario 1: Distance Traveled to Fixed Sites = 30 km



Sources: Statistics Canada, DMTI, NS Organised Breast Cancer Screening Program

April 4, 2006

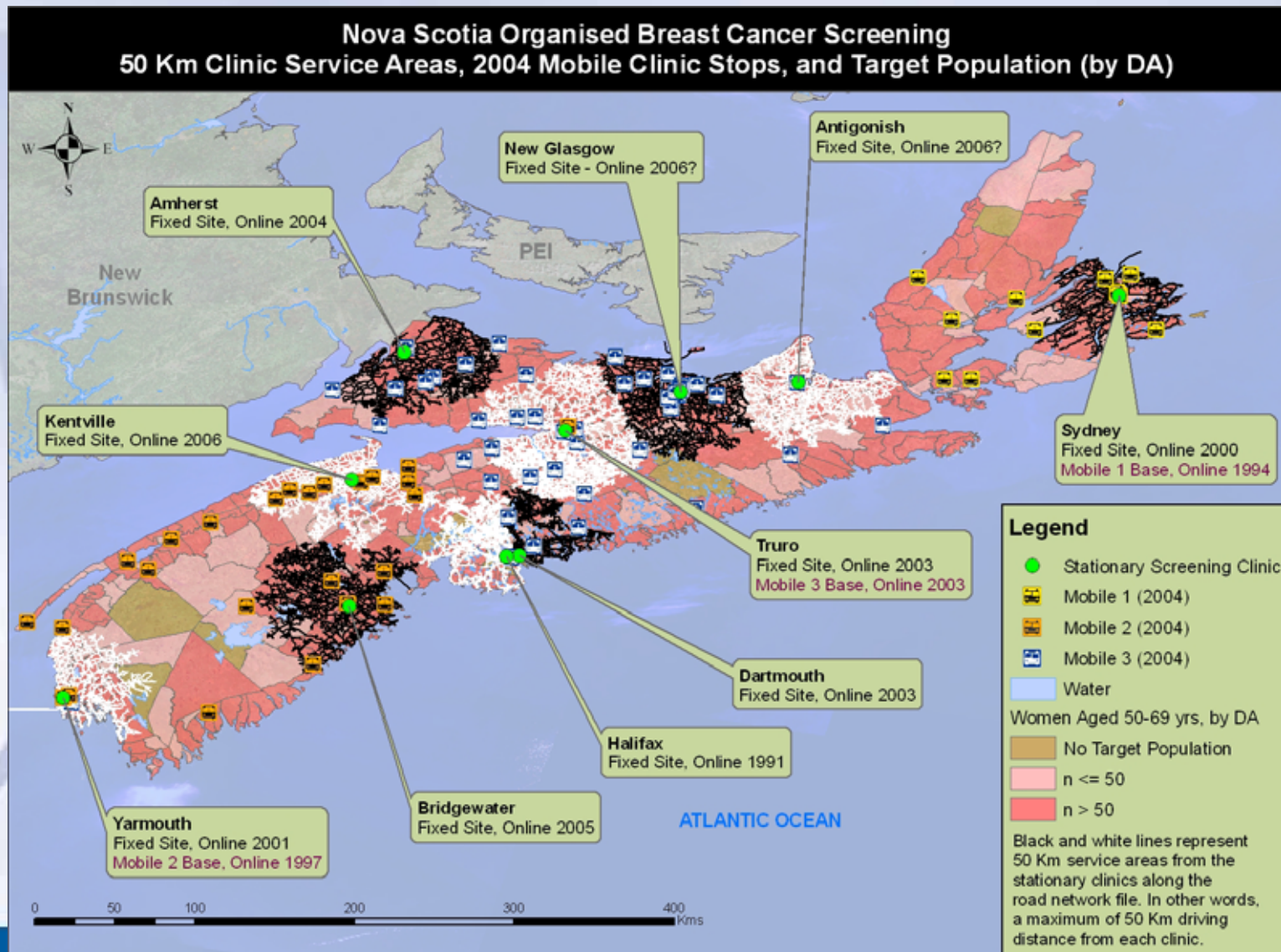
Distance Traveled = 50 km and Mobile Stops



Sources: Statistics Canada (2001 Census), DMTI, ESRI, NS Organised Breast Cancer Screening Program

May 24, 2006

Distance = 50 km, Mobile Stops, Population



Sources: Statistics Canada, DMTI, NS Organised Breast Cancer Screening Program

May 24, 2006

Challenges and Opportunities

- dynamic provision of breast screening services:
 - last 2 fixed sites joining program in 2006
 - NSBSP: complete mammography capture in NS i.e., participation = screening
- increasing service capacity:
 - what are current inequalities in participation/retention?
 - what are current inequalities in wait times for both screening and diagnostic work-up?
 - how to allocate capacity to address inequalities
 - region-specific interventions?
 - how to schedule mobile units to continually complement fixed sites?
- **priorities: participation vs retention vs wait times**

Next Steps

- use GIS in on-going surveillance of need for/use of screening
 - help target under-serviced populations
 - evaluate impact of 2 new sites & FFDM
 - * participation vs retention vs wait times
- goal: use road-mapping approach to develop various scenarios for scheduling of mobile units
- Canadian Breast Cancer Foundation Atlantic Chapter grant obtained in Jan 2007 for full-scale project
 - * Stephanie Lea, Master's student
Applied Health Services Research, Dalhousie U
 - * Dr. Jennifer Payne, PhD, Epidemiology
- introduction of full-field digital mammography in 2006