



ANCHOR

An Interdisciplinary Community-Based Research Project
in Nova Scotia

Project Overview & Results

Our Partners:  NOVA SCOTIA
Health

 Capital Health

 Cape Breton District
HEALTH AUTHORITY
Making healthier Choices Together

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Why ANCHOR?

A Novel Approach to Cardiovascular Health By Optimizing Risk Management

- Growing burden of risk factors and disease prevalence in cardiovascular and metabolic conditions
- Cardiovascular Health programs identify need for more “upstream” interventions
- National primary care renewal strategy -- community based teams with focus on **prevention** and enhanced **disease management**



ANCHOR Background

- **ANCHOR: 3 year collaborative research initiative**
- **Goal:**
 - To improve CVD risk in a primary care adult population measuring the 10-year risk of a coronary event using the Framingham Score
- **Primary Objectives:**
 - To improve management of global cardiovascular risk of patients within two primary care Practices, thereby improving their overall cardiac health
 - To increase patient compliance with lifestyle and pharmaceutical interventions aimed at decreasing global cardiovascular risk



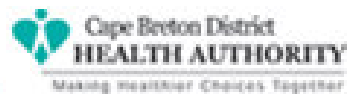
ANCHOR Background

- **Secondary Objective**
 - To determine the health / economic impact of implementing the ANCHOR model within a primary health care setting



Project Partners

- Nova Scotia Department of Health
- Capital District Health Authority
- Cape Breton District Health Authority
- Pfizer Canada
- Heart & Stroke Foundation of NS
- QEII Foundation



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Prospective Design with a Comparison Group

- Primary endpoint: 10-year risk of a coronary event measured by the Framingham score:
 - low risk: (0%-9%)
 - moderate risk (10%- 20%)
 - high risk (>20%)

- 1500 participants recruited, 750 in each of two NS Primary Care Practices
 - Fee-for-Service Practice: **Sydney Family Practice**
 - Salaried Practice: **Duffus Health Centre**
- Final sample size: 1090 (loss to follow up → 27%)
- Comparison cohort in a 3rd primary care site

ANCHOR Project

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- Heart and Stroke Foundation of NS
- Pfizer Canada
- QE II Foundation

Communication Committee

- Communication representatives from partner organizations

Scientific Committee

- Principal Investigators
- Project Manager
- Medical & Research Specialist, Pfizer Canada

Health Economics Committee

- Research Health Economist, Department of Medicine, Dalhousie University
- Senior Health Economist, Department of Health
- Manager of Pharmaceutical Services, Department of Health
- Governmental Affairs Manager- Pfizer Canada
- Project Manager
- Principal Investigators

Steering Committee

- Nova Scotia Department of Health
- Capital District Health Authority
- Cape Breton District Health Authority
- Heart & Stroke Foundation of Nova Scotia
- Pfizer Canada
- Nova Scotia Dept of Health Promotion & Protection
- Project Manager
- Principle Investigators
- ANCHOR Site Team Representative
- Other Community Health Care Professionals

Sub-Committees

Site Teams

Duffus Health Centre

- Family Physician Lead
- Nurse
- Dietitian
- Pharmacist
- Exercise Specialist

Sydney Family Practice

- Family Physician Lead
- Nurse
- Dietitian
- Pharmacist
- Exercise Specialist

A Novel approach to Cardiovascular Health by Optimizing Risk management

Principal Investigators:

- **Dr. Jafna Cox:** Cardiologist
- **Dr. Michael Vallis:** Health Psychologist
- **Dr. Blair O'Neill:** Interventionalist
- **Dr. Brendan Carr:** VP of Medicine

Co - Investigators:

- **Dr. Steve MacDougall:** Sydney Family Practice Centre
- **Dr. Bharti Verma:** Duffus Health Centre



ANCHOR Team

Current Site Research Coordinators / Clinicians:

- **Krista Courtney-Cox:** Cardiology Nurse
- **Leisje MacDougall:** Dietitian

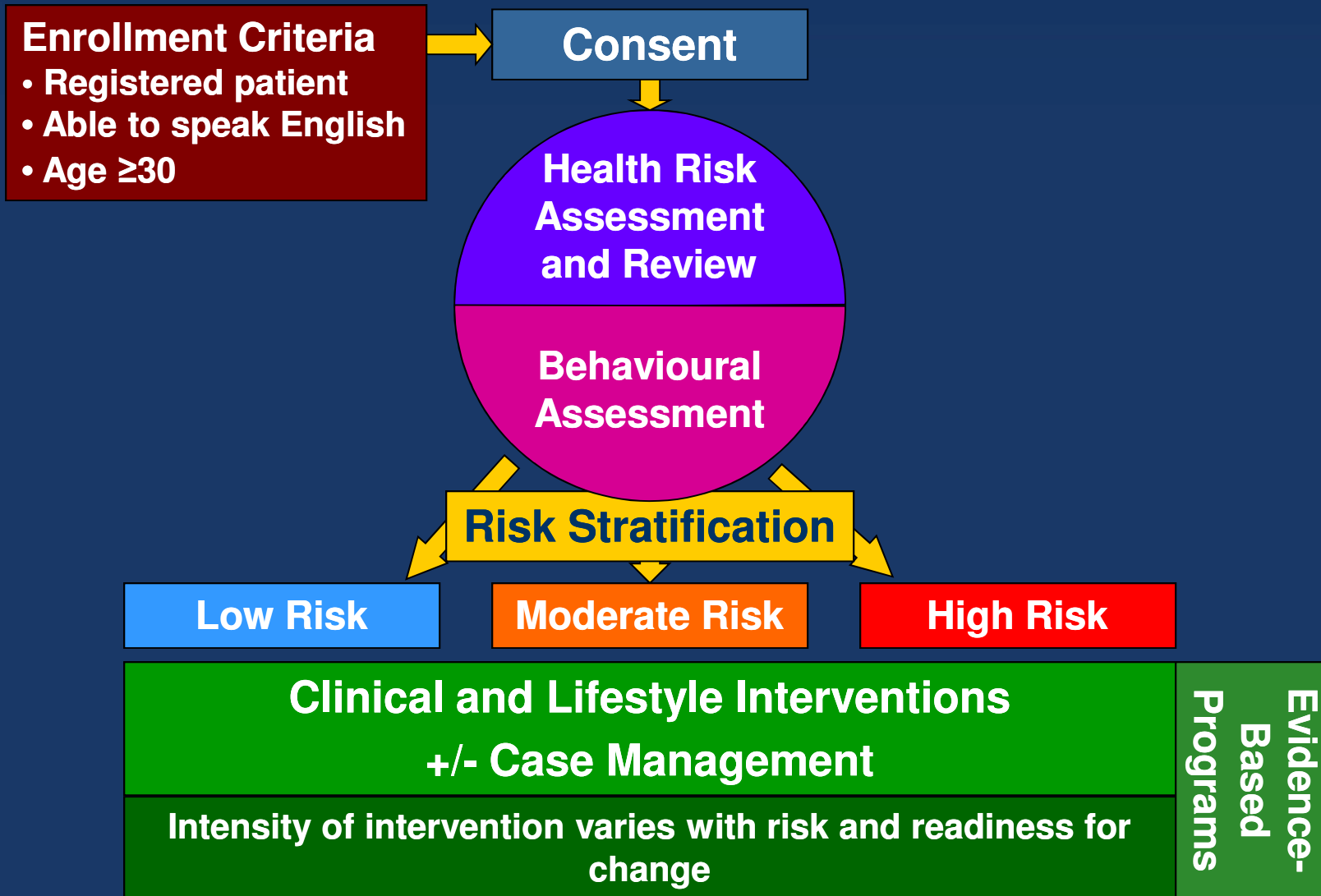
Project Manager:

- **Claudine Szpilfogel:** Research Power Inc.



ANCHOR Site Teams

- Family Physicians
- Nurses
- Dietitians
- Physiotherapist/Exercise Specialist (referral based)
- Pharmacist (referral based)





Study Clinical Results

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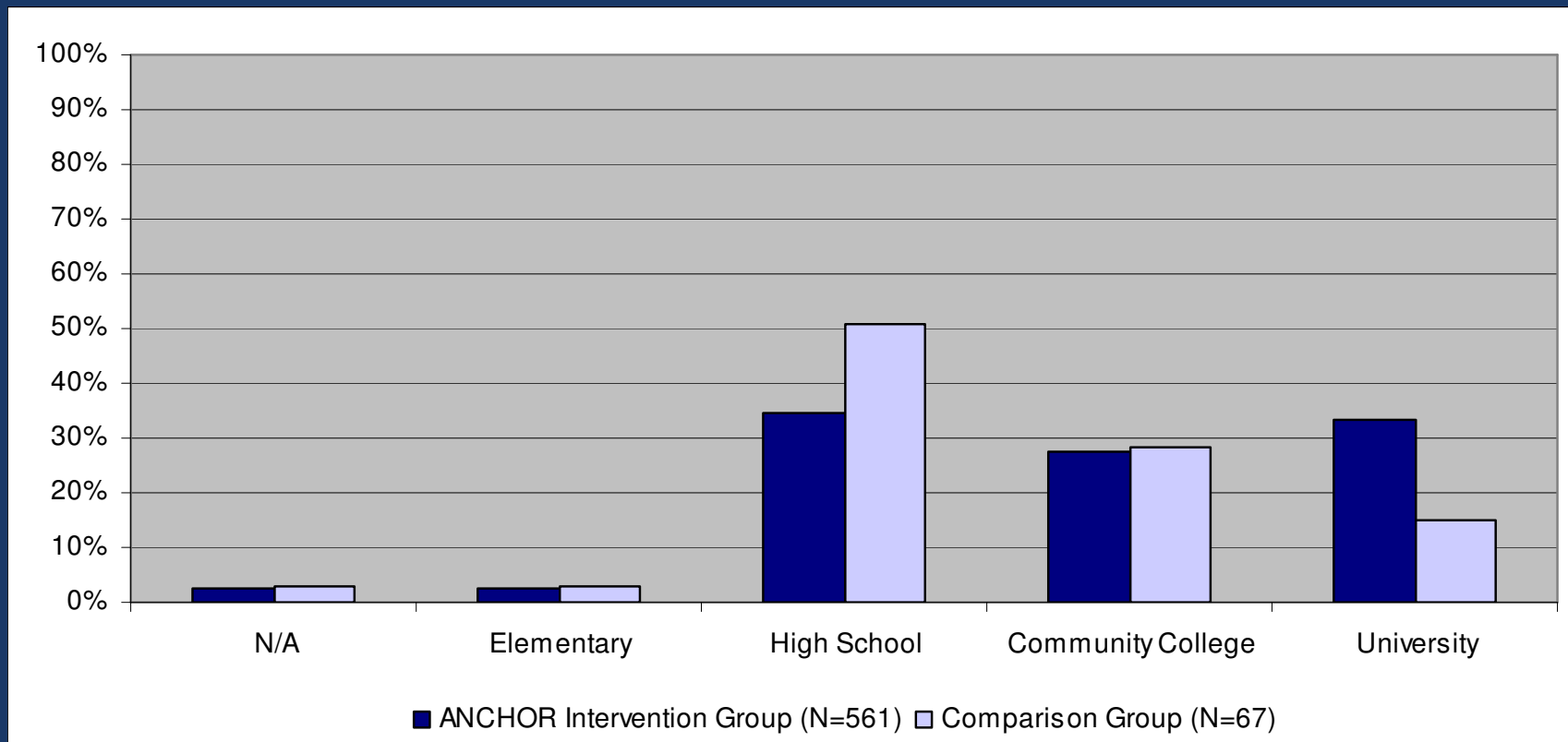
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- **Patient population that completed study: n = 1091**
 - low risk: 324 (30%)
 - moderate risk: 363 (33%)
 - high risk without established disease: 198 (18%)
 - high risk with established disease: 206 (19%)
- **Study Cohort for Analysis : n = 561**
 - moderate & high risk patients WITHOUT established disease

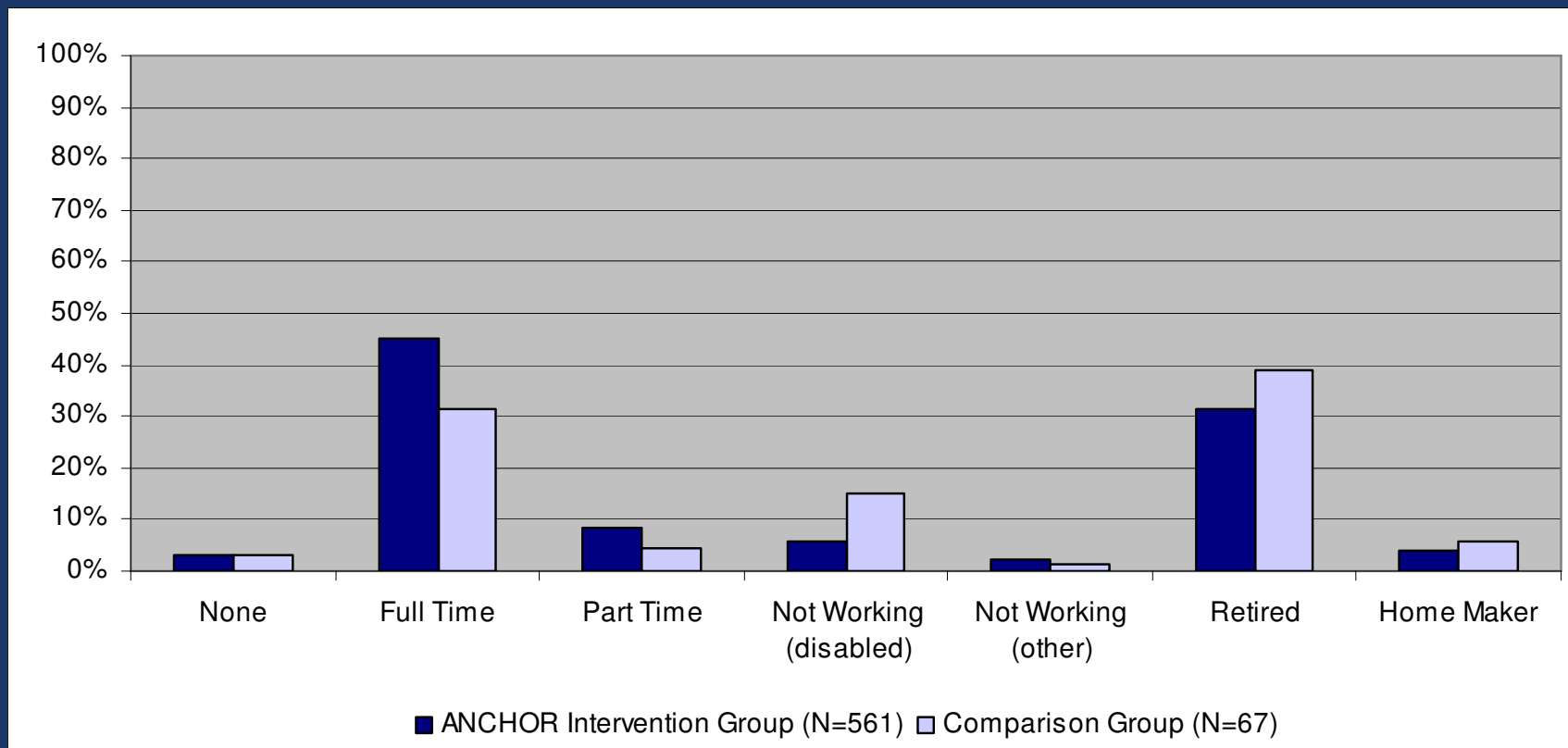
Gender and Age (baseline)

	ANCHOR Intervention (n=561)	Comparison Group (n=67)
Avg Age (baseline)	55.4 years	60.3 years
Female	57.75%	35.82%
Male	42.25%	64.18%

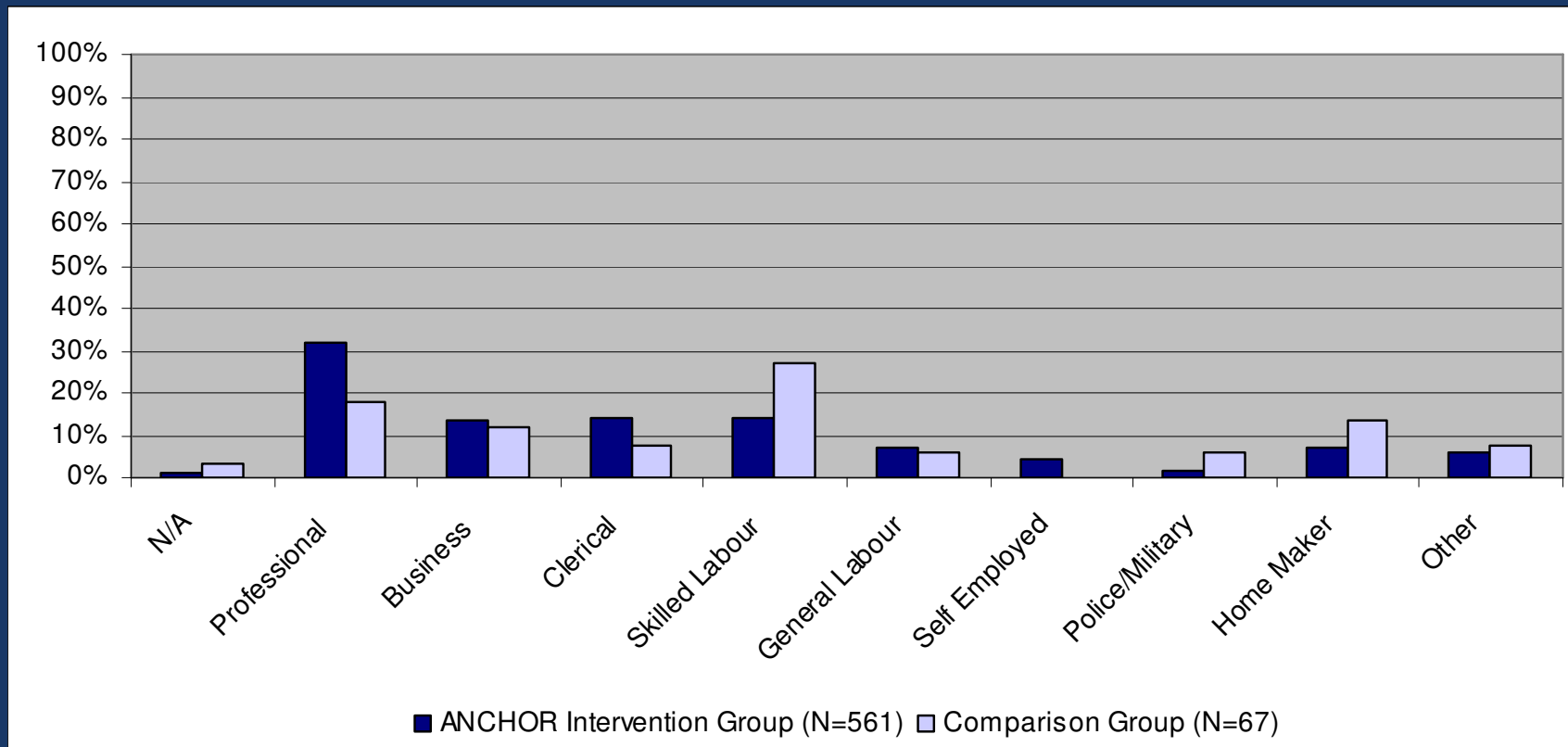
Education Level



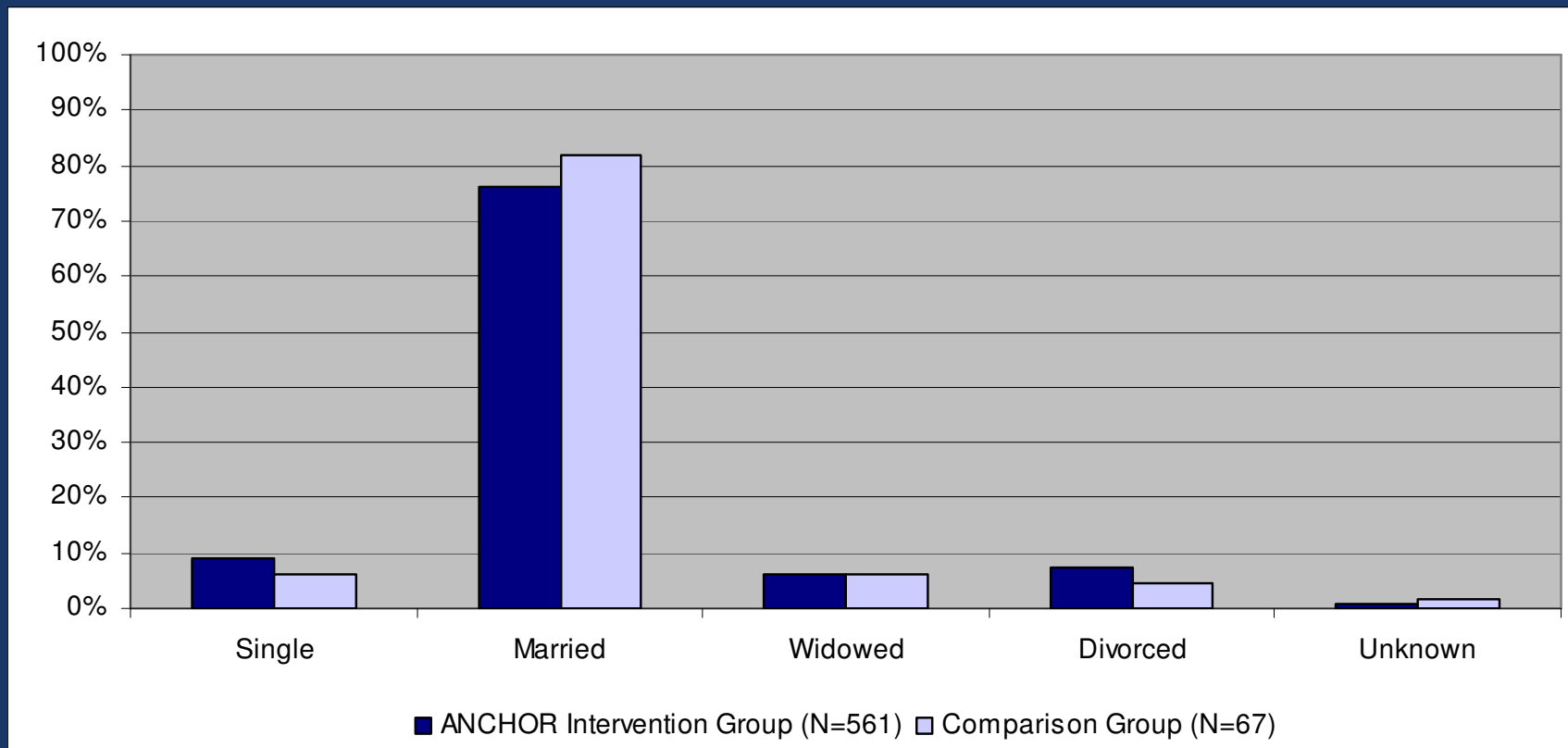
Employment Status



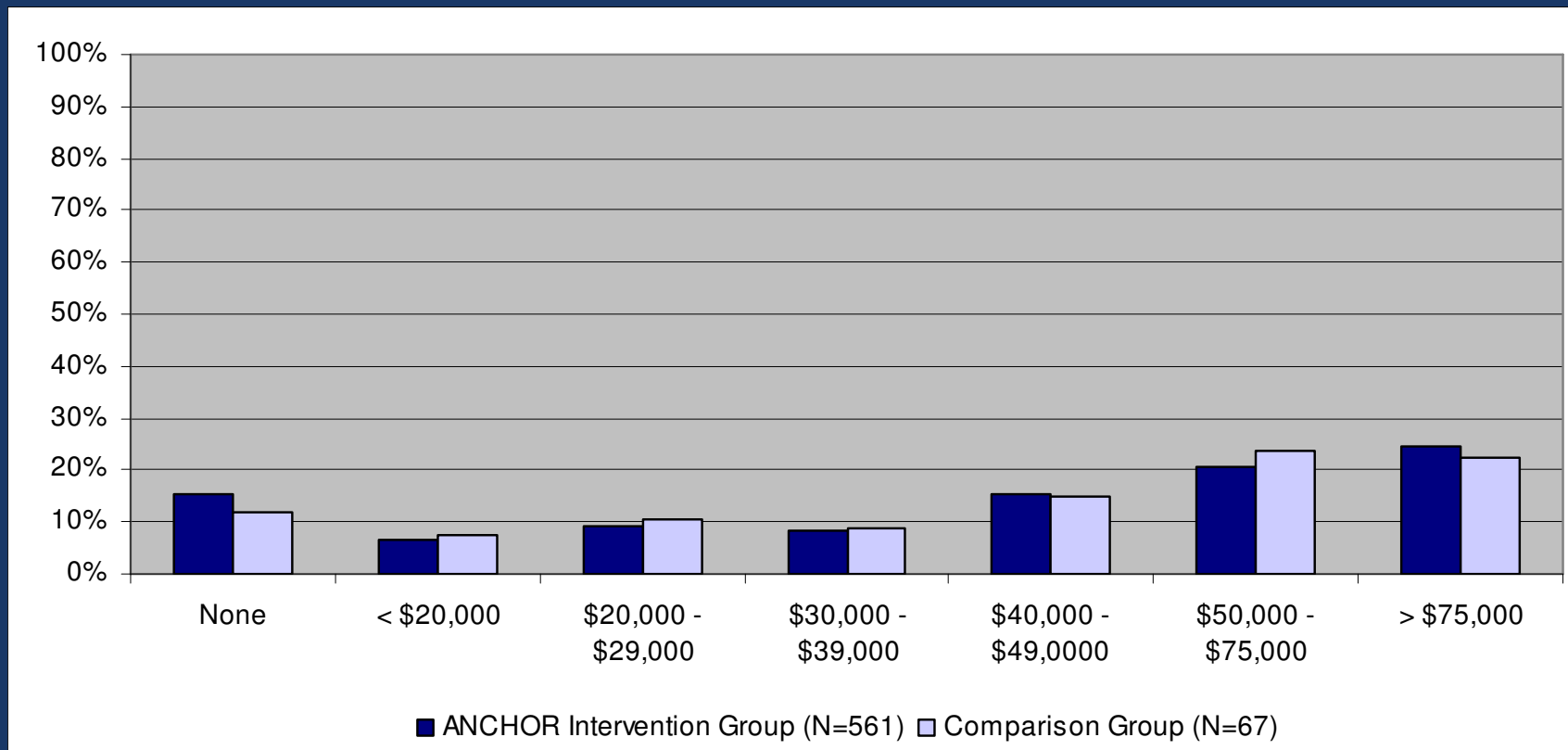
Occupation



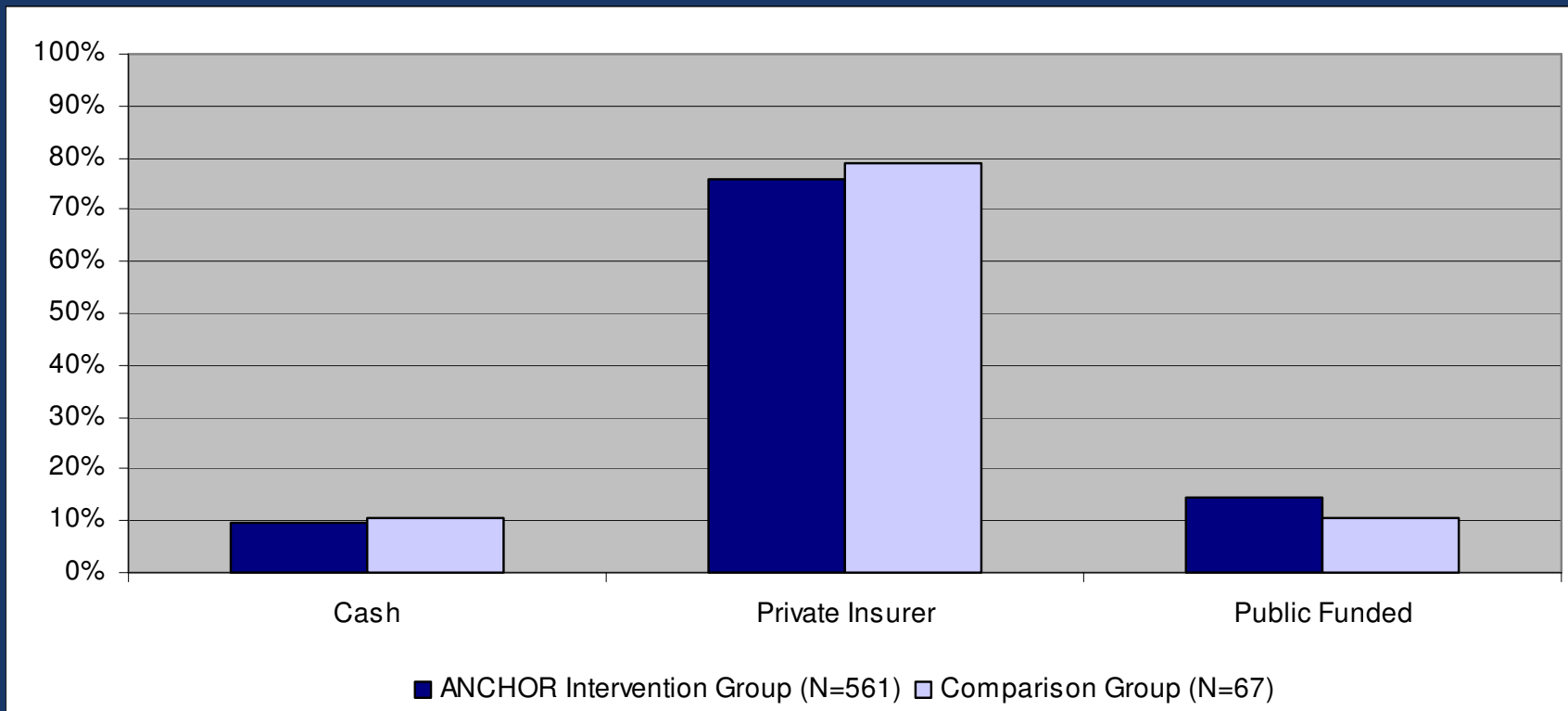
Marital Status



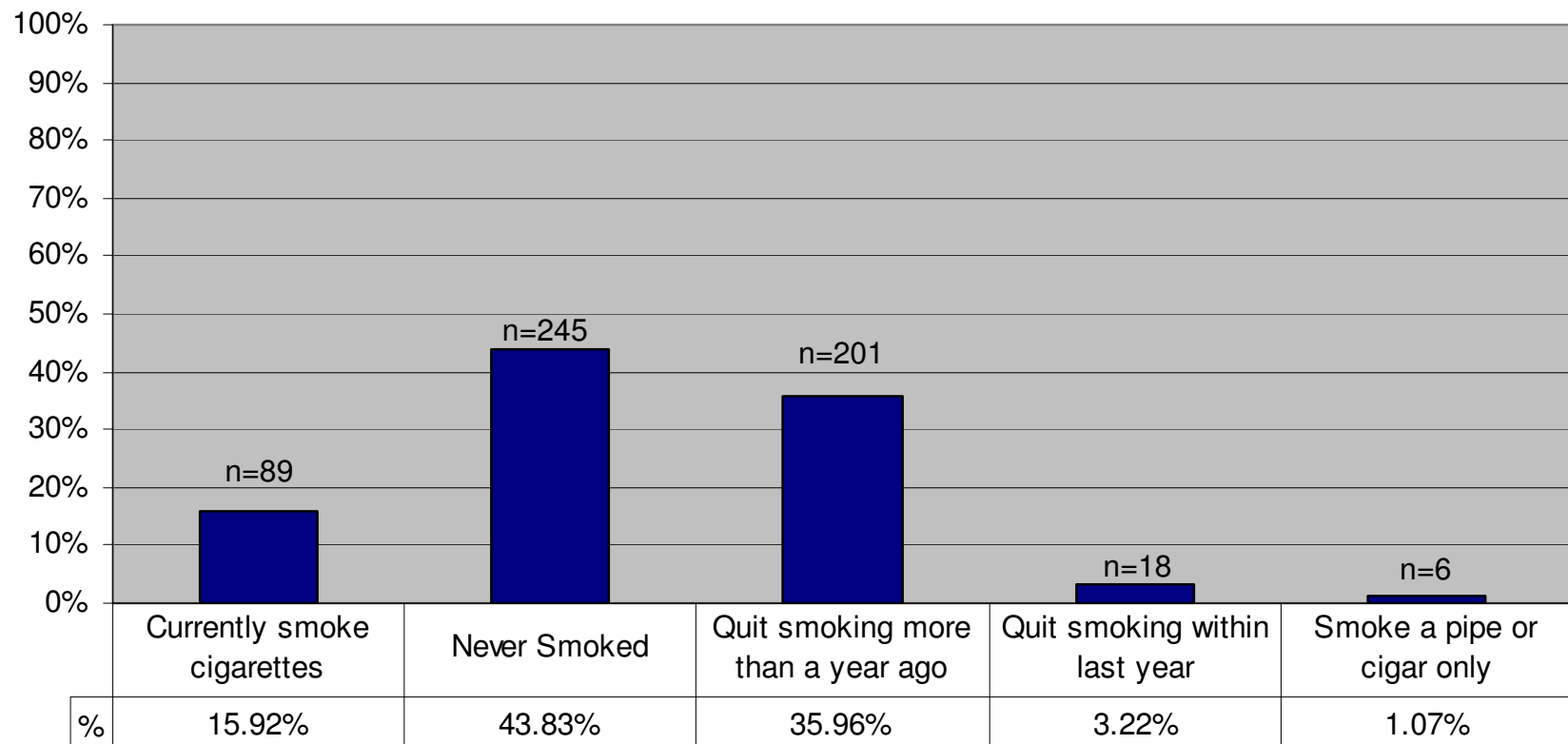
Household Income



Drug Coverage



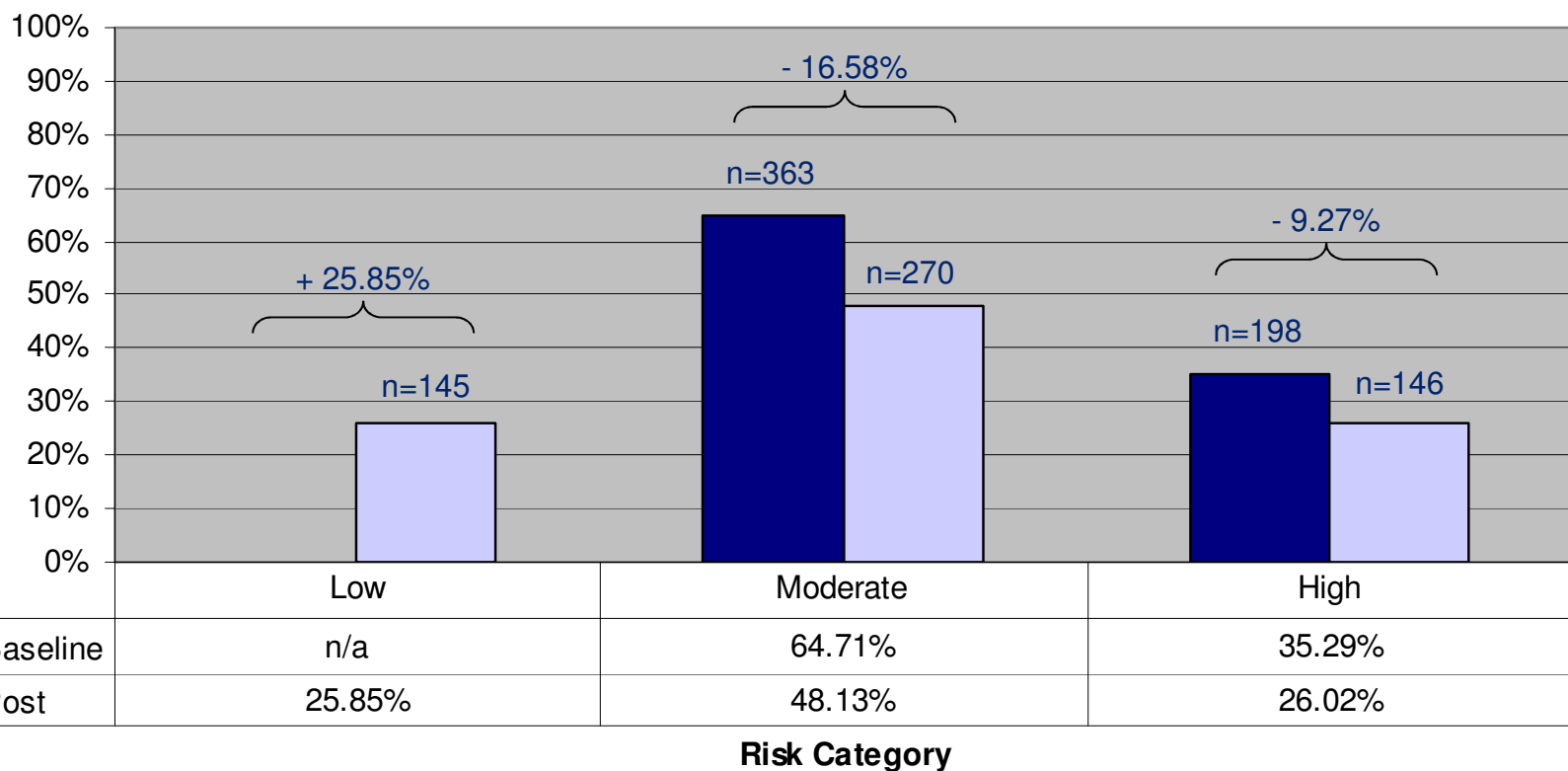
Baseline Smoking Status (n=559) * 2 missing values



ANCHOR Intervention: Shift in Risk Category from Baseline to Graduation (N=885)

		Graduation		
		Low	Moderate	High
Baseline Risk	Low (n=324)	n=266 (82.10%)	n=51 (15.74%)	n=7 (2.16%)
	Moderate (n=363)	n=125 (34.44%)	n=202 (55.65%)	n=36 (9.92%)
	High (n=198)	n=20 (10.10%)	n=68 (34.34%)	n=110 (55.56%)

ANCHOR Intervention: Baseline Risk Category (N = 561)



ANCHOR Intervention: Shift in Risk Category from Baseline to Graduation (N=561)

		Graduation		
		Low	Moderate	High
Baseline Risk	Moderate (n=363)	n=125 (34.44%)	n=202 (55.65%)	n=36 (9.92%)
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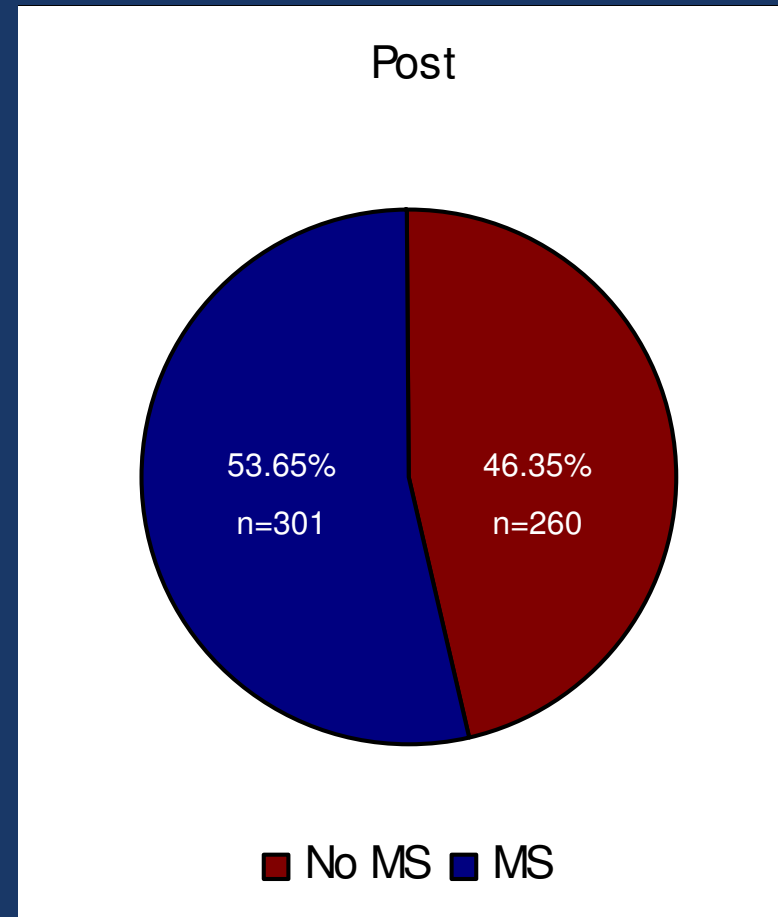
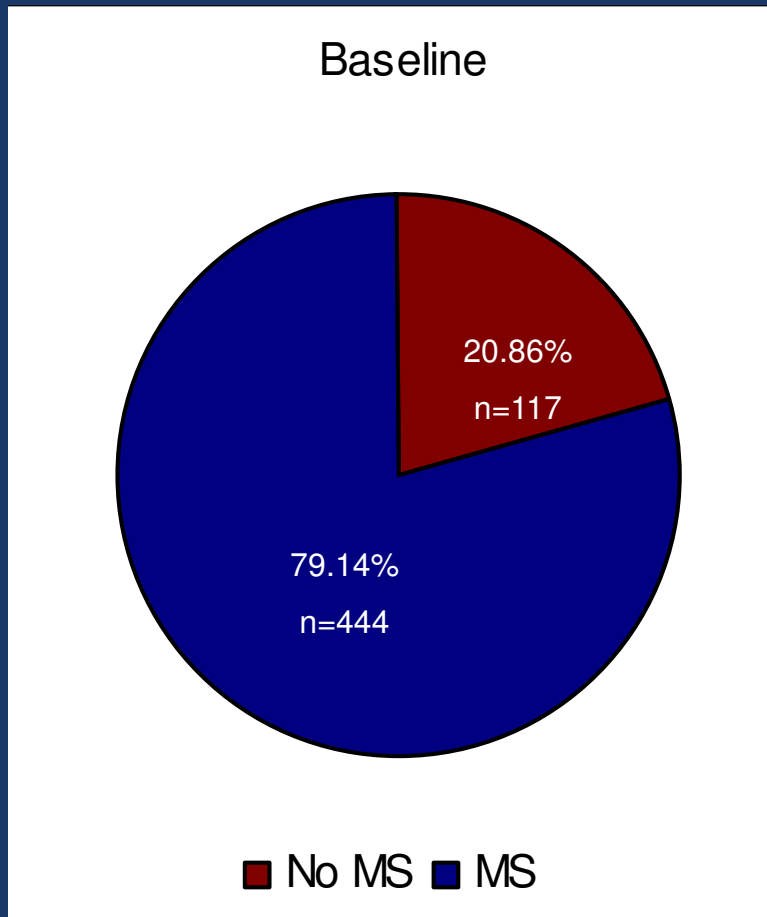
ANCHOR Intervention: Shift in Risk Category from Baseline to Graduation - Female (N=324)

		Post- Risk		
		Low	Moderate	High
Baseline Risk	Moderate (n=252)	n=103 (40.87%)	n=136 (53.97%)	n=13 (5.16%)
	High (n=72)	n=12 (16.67%)	n=33 (45.83%)	n=27 (37.50%)

ANCHOR Intervention: Shift in Risk Category from Baseline to Graduation - Male (N=237)

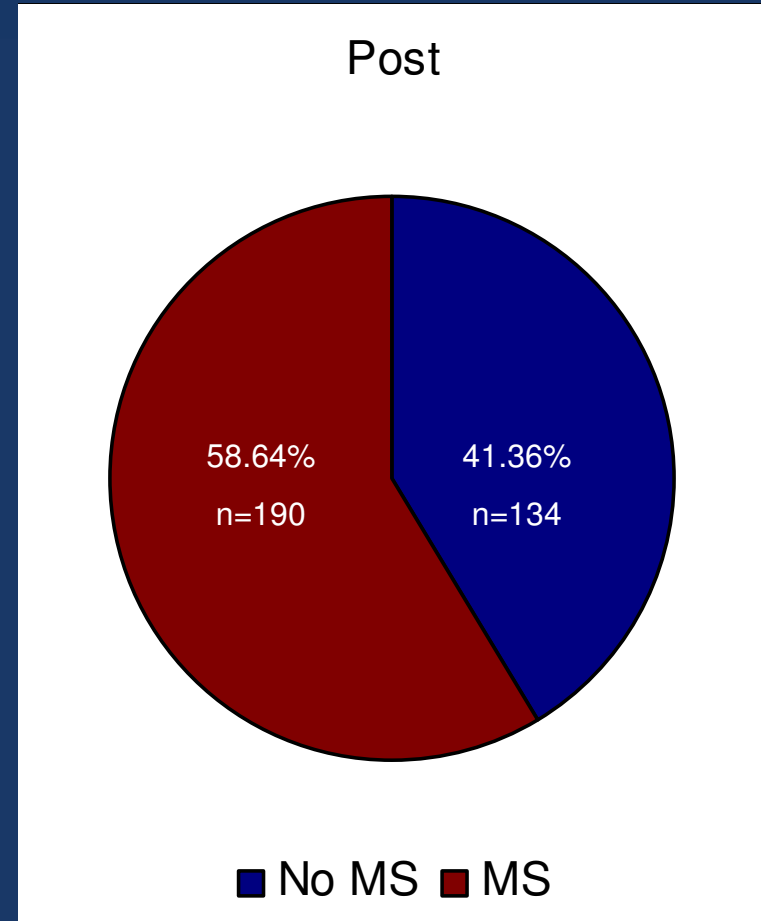
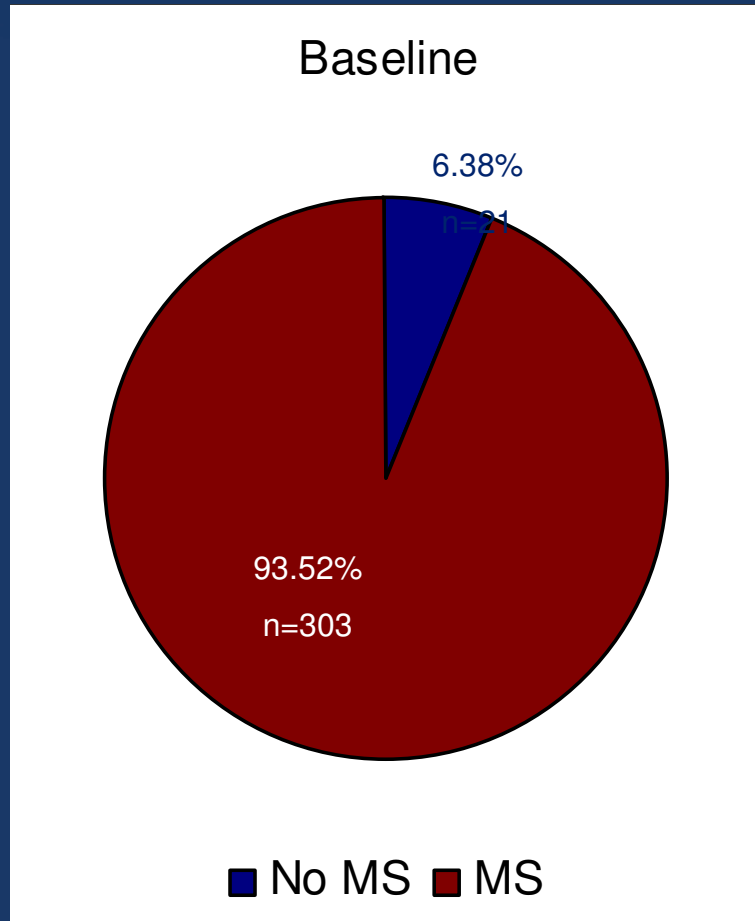
		Post- Risk		
		Low	Moderate	High
Baseline Risk	Moderate (n=111)	n=22 (19.82%)	n=66 (59.46%)	n=23 (20.72%)
	High (n=126)	n=8 (6.35%)	n=35 (27.78%)	n=83 (65.87%)

ANCHOR Intervention: Metabolic Syndrome – Excluding those with Established Diseases (N = 561)



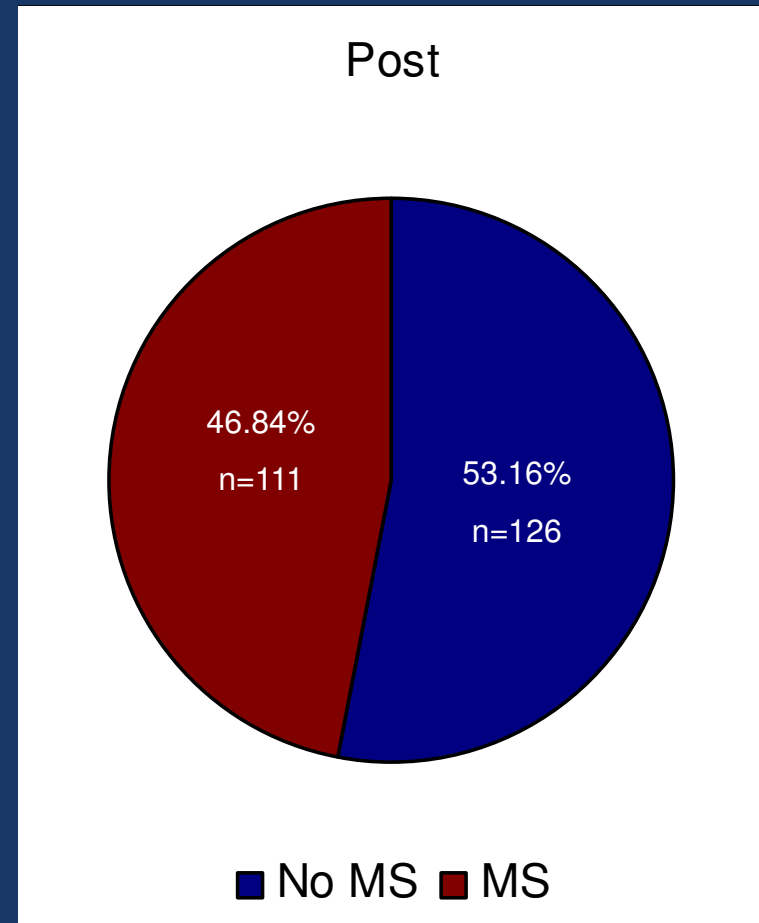
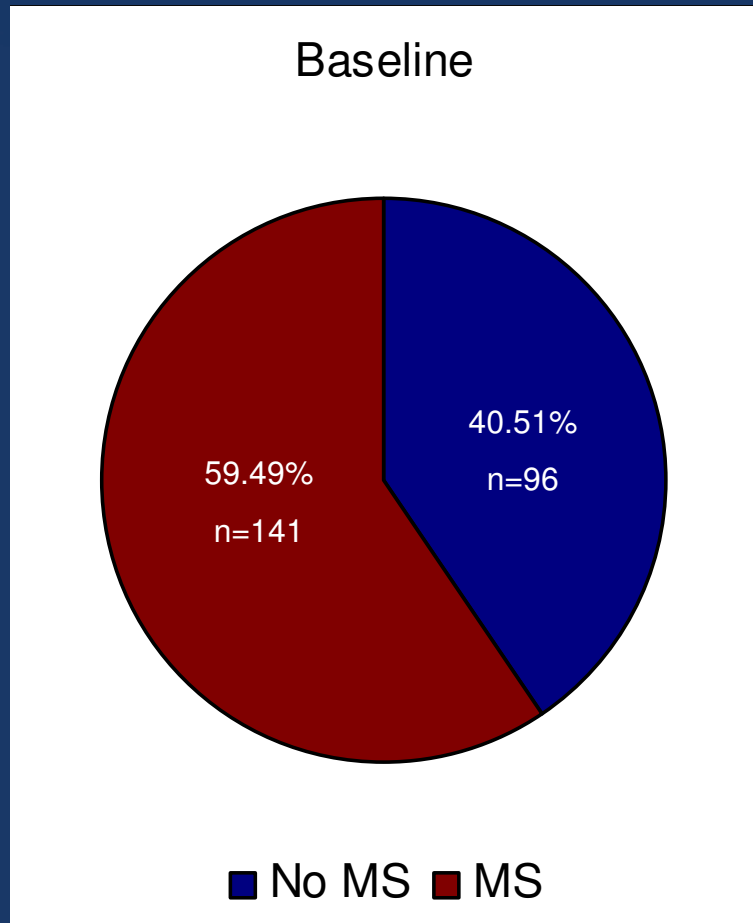
$p < 0.0001$

ANCHOR Intervention: Metabolic Syndrome Shift – Female (n=324)



$p < 0.0001$

ANCHOR Intervention: Metabolic Syndrome Shift – Male (n=237)



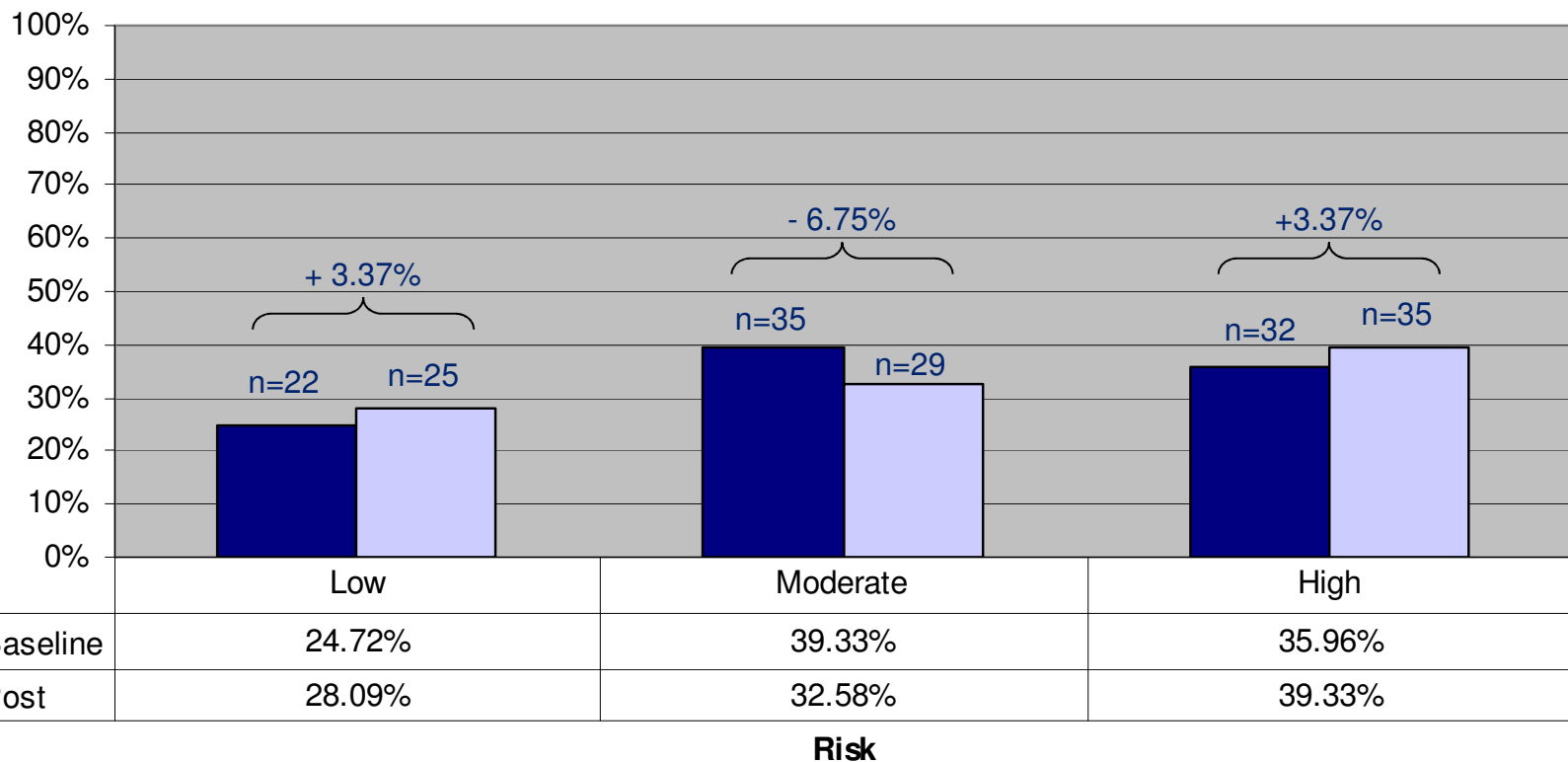
$p = 0.0003$

Smoking Status (n=559) * 2 missing values

		Graduation Status				
		Currently smoke cigarettes	Never Smoked	Quit smoking more than a year ago	Quit smoking within last year	Smoke a pipe or cigar only
Baseline Status	Currently smoke cigarettes (n=89)	n=65 (73.0%)	n=0 (0%)	n=3 (3.4%)	n=20 (22.5%)	n=1 (1.1%)
	Never Smoked (n=245)	n=0 (0%)	n=245 (100%)	n=0 (0%)	n=0 (0%)	n=0 (0%)
	Quit smoking more than a year ago (n=201)	n=2 (1.0%)	n=0 (0%)	n=199 (99%)	n=0 (0%)	n=0 (0%)
	Quit smoking within last year (n=18)	n=3 (16.7%)	n=0 (0%)	n=10 (55.5%)	n=5 (27.8%)	n=0 (0%)
	Smoke a pipe or cigar only (n=6)	n=0 (0%)	n=0 (0%)	n=0 (0%)	n=2 (33.3%)	n=4 (66.6%)

Comparison and Results

Comparison Group: Baseline Risk Category – Excluding those with Established Diseases (N = 89)



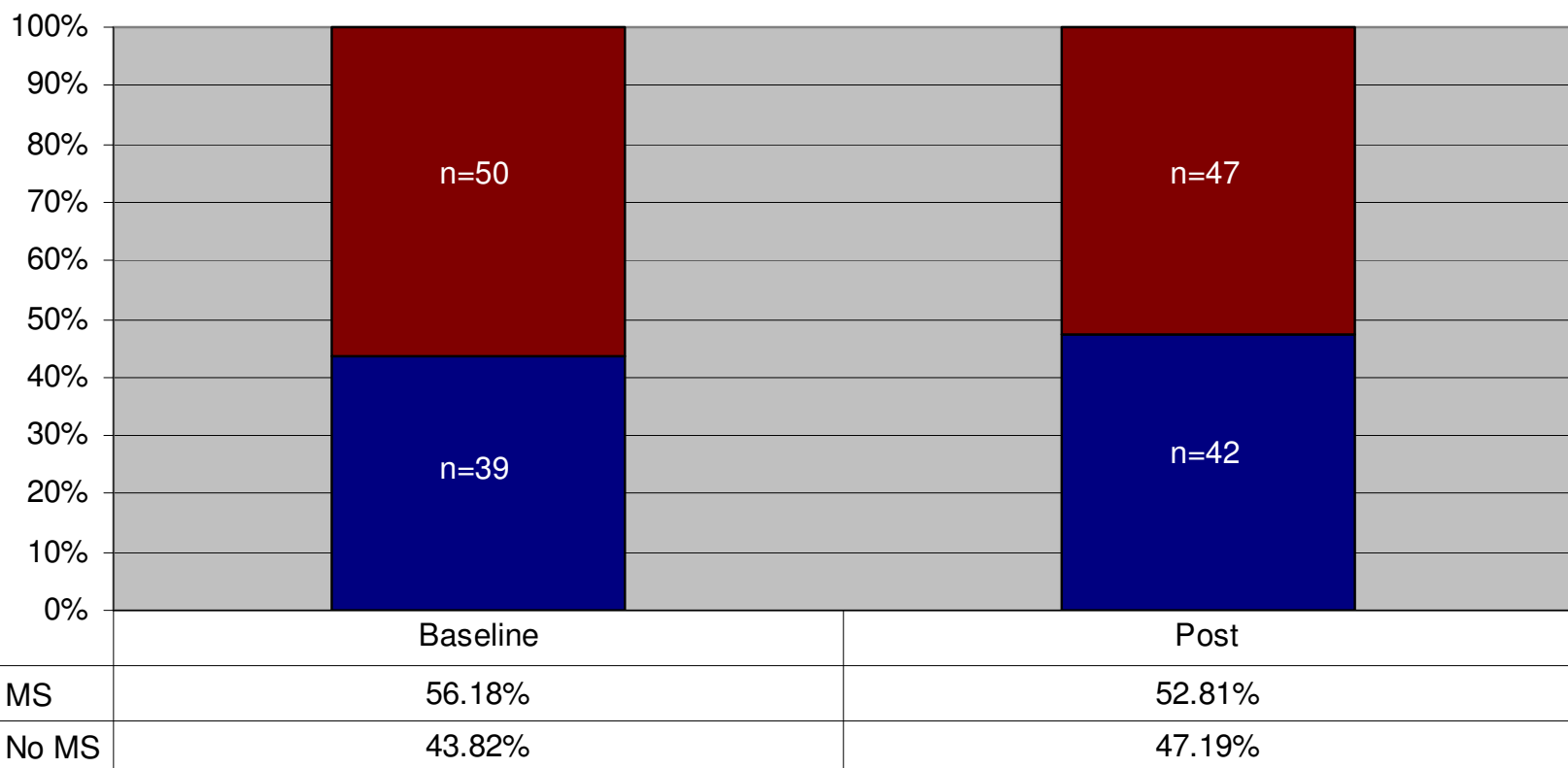
$p=0.06$

Comparison and Results

Comparison Group : Shift in Risk Category from Baseline to Graduation (N=89)

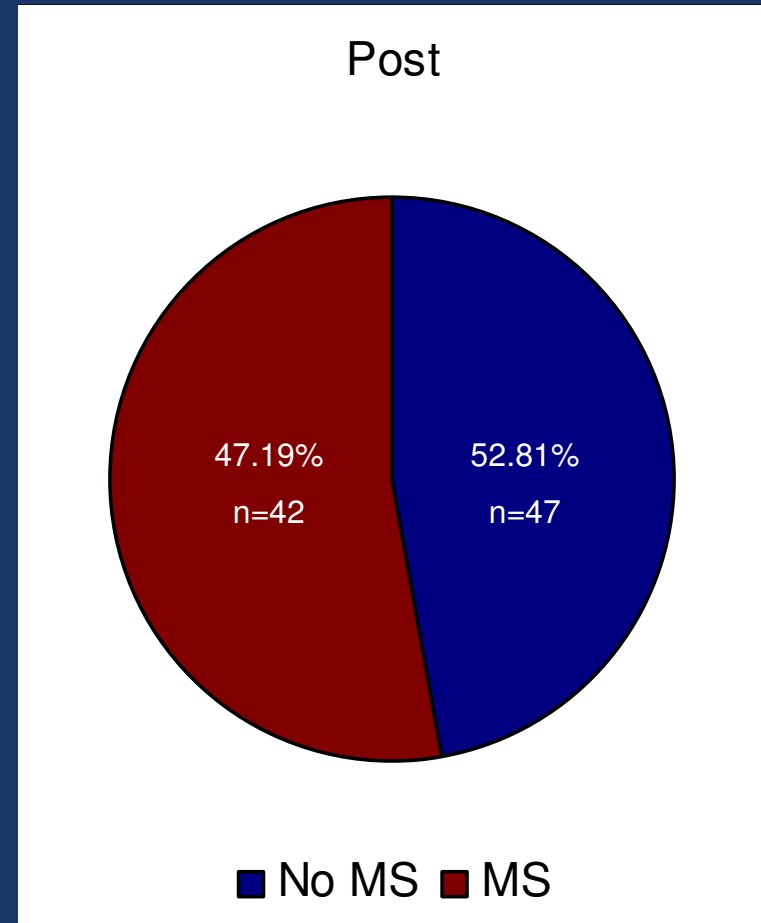
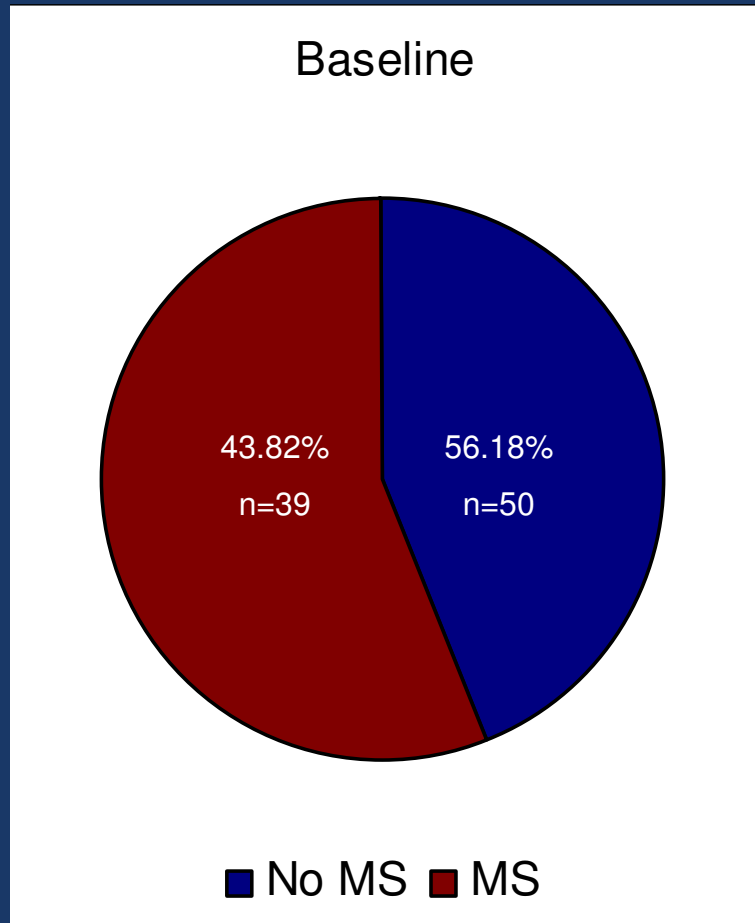
		Post- Risk		
		Low	Moderate	High
Baseline	Low (n=22)	n=15 (68.18%)	n=5 (22.73%)	n=2 (9.09%)
	Moderate (n=35)	n=9 (25.71%)	n=17 (48.57%)	n=9 (25.71%)
	High (n=32)	n=1 (3.13%)	n=7 (21.88%)	n=24 (75.00%)

Comparison Group: Metabolic Syndrome – Excluding those with Established Diseases (N = 89)



$p=0.04$


Comparison Group: Metabolic Syndrome – Excluding those with Established Diseases (N = 89)



$p=0.04$



Behavioral Intervention: The Cornerstone of ANCHOR

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Assess patient readiness to change

Prochaska's Stages of Change:

Pre-contemplation

Contemplation

Preparation

Action

Maintenance

Goal selection:

Specific

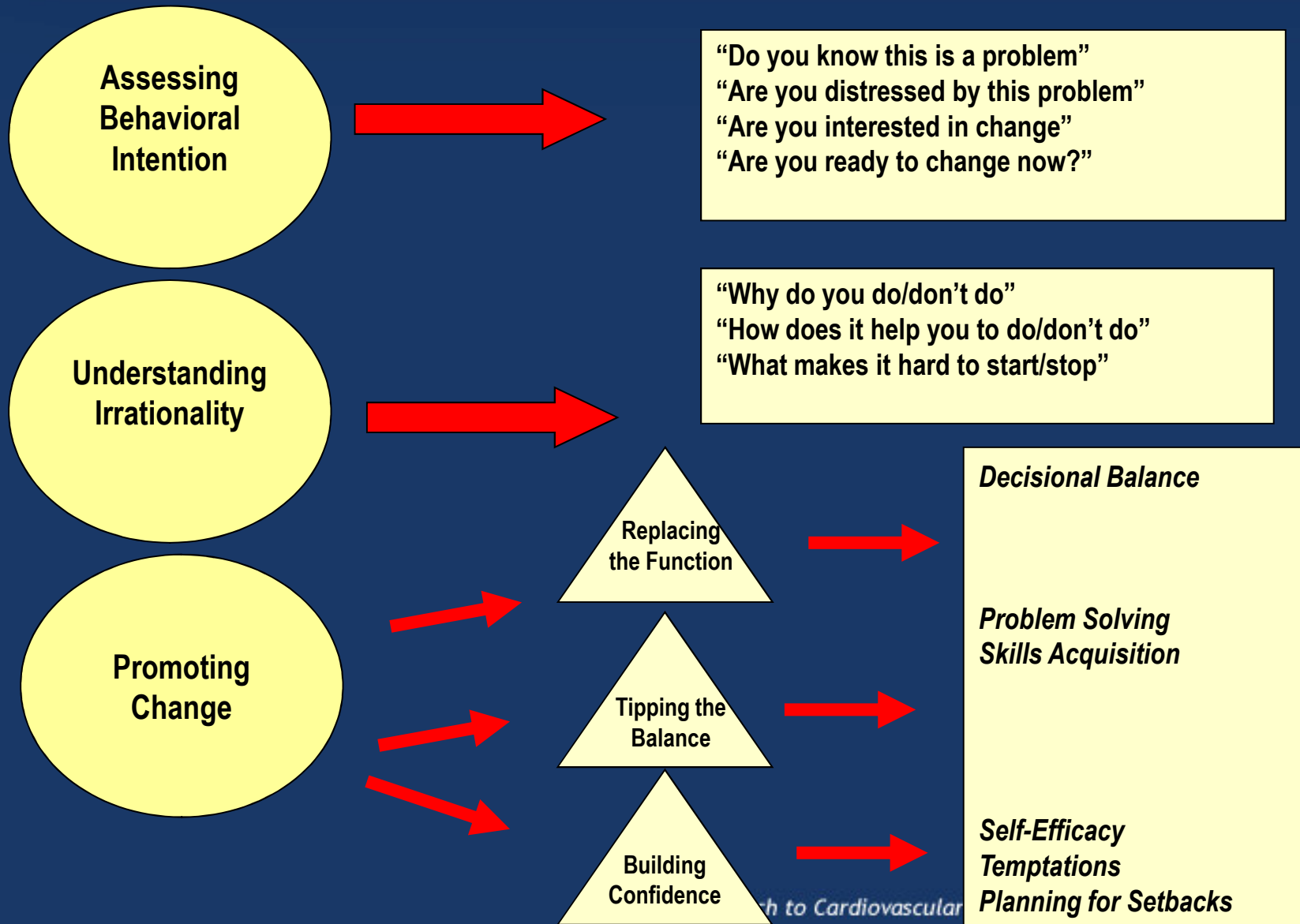
Reasonable

Can be maintained over long term

Motivators and strength of motivators

Barriers and strength of barriers

Behavioural Intervention



Behavioural Intervention


Skills development so that competency in behaviour change intervention is reached

A script to guide the counselors during the counseling sessions

Development of process measures to be implemented each intervention session



Key Lessons Learned & Portability of Model to the Health System

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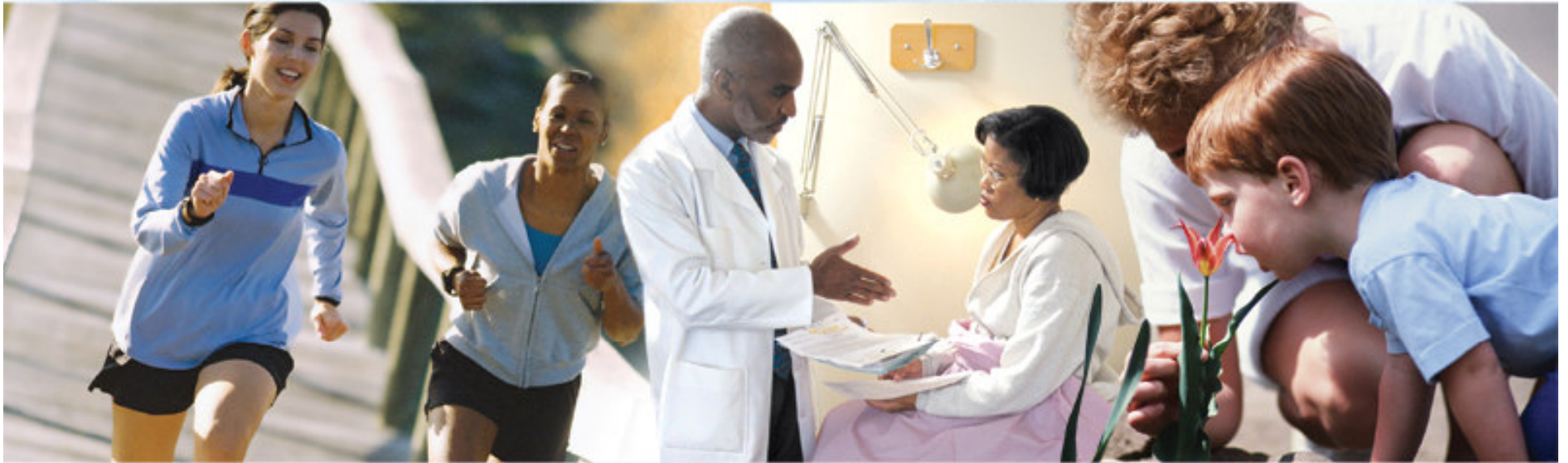
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Key Lessons Learned

- Importance of innovation, partnership and collaboration
- Select team members and primary care practices carefully
- Promote the value of interdisciplinary teams to clients & clinicians
- Invest in team building & training on an ongoing basis
- Develop clear benchmarks for project implementation & evaluation

- Behavioural Intervention: Skill Based
 - A key component of the model that has applicability beyond the ANCHOR Project
 - Behavioral Change Institute (Capital District Health Authority)
- Health Risk Assessment Tool
 - Modified using Canadian clinical guidelines, local expertise and feedback from the ANCHOR Team
- Alignment with PHC Provincially & other Jurisdictions
 - Collaborative care models focused on health promotion and disease prevention using interdisciplinary team
- Portable to Other Contexts
 - Model, tools & expertise (e.g., cardiac rehab, diabetes education centres)



ANCHOR Evolution

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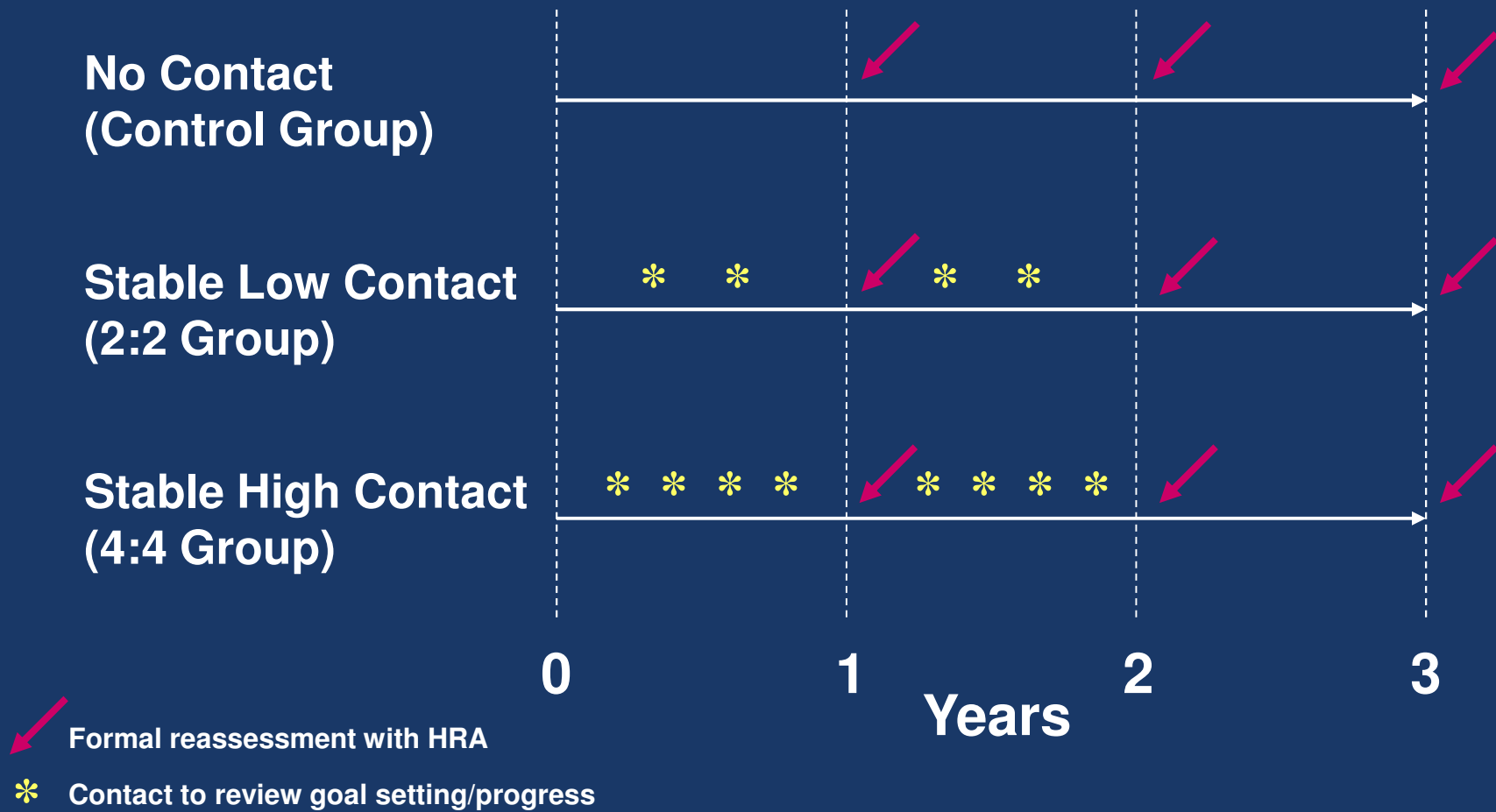
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Minimal Intervention Study

- Minimal intervention will evaluate the efficacy of **different** levels of interventions to maintain or further **enhance** the improvements in health outcomes produced by the original ANCHOR behavioral intervention.
- Important to identify the most efficient means of sustaining these improvements in health behavior by evaluating the “**minimum dosage**” or frequency of patient-clinician contact needed.
- ANCHOR participants who have successfully changed their risk status are recruited.

Randomized Intervention Over 3 Years





Thank you!

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