

Healthy Heart Team: Sharing Success



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Healthy Heart Team

- **Sara Thomas**, Chair of Healthy Heart Team, Cholesterol Coordinator
- **Marge Koepping**, Diabetes Program rep
- **Michele Gemeles**, QI representative
- **Dr. Miles Rudd**, Medical representative
- vacancy, Nursing representative
- **Jennie Chase-Wilson**, Lab representative
Mary Ann Raushenburg, Lab rep alternate
- **Mitzie Allen**, Pharmacy representative
- **Natalie McBride**, Nutrition representative, Congestive Heart Failure case manager

CVD Prevention Strategies

Mass Strategies

Lipidsonline.org

<u>Condition</u>	<u>Intervention</u>	<u>Benefit</u>
Diphtheria	Immunization	1 in 600
Fatal car accidents	Seat belts	1 in 400
CHD before 55	0.5 mM cholesterol	1 in 50 ^(a)
0.5 mM is ~20 point decrease	reduction in adults	1 in 25 ^(b)

^(a)Average risk: cholesterol 6 mM; systolic blood pressure (SBP) 120; nonsmoker. ~230 mg/dl

^(b)High risk: cholesterol 6.7 mM; SBP 150; smoker.

~260 mg/dl

NHLBI Framingham Heart Study. Data on file.

The Problem:

High Volume and High Risk

- About 40% AI/AN adults have cholesterol problems but, just as in the general population, they are often not being systematically identified, diagnosed, referred, treated, and if treated, are often lost to follow-up.
- Heart disease is the #1 cause of death in AI/AN.
- While rates of heart disease are decreasing in the general population, they are increasing in the Native American population. Diabetes appears to be a major factor driving this increase.

1 in 4 American Indians/Alaska Natives Die from Cardiovascular Disease



FYI: Strong Heart Calculator

- Estimated Risk of Developing CHD in 10 Years for Native Americans age ≥ 30 based on the Strong Heart Study
 - Google “strong heart calculator” or go to
 - <http://strongheart.ouhsc.edu/CHDcalculator/calculator.html>
- This is better than the Framingham Calculator which underestimates risk in AI/AN and can't be used for patients who already have diabetes or heart disease.

Population Specific Problems:

- Cholesterol patients, especially AI/AN, are at risk for diabetes so we add a blood sugar test when they get their annual follow-up cholesterol labs.
- Outcome: Blood sugar testing of cholesterol patients directly lead to the diagnosis of 24% of the newly diagnosed diabetes patients in 2002. Early diagnosis of diabetes helps prevent complications.

Population Specific Problems:

- Getting follow-up labs done is much easier if non-fasting labs may be used—it gets done and the patient doesn't have to come back. Since Total Cholesterol, Chol/HDL and direct LDL are accurate fasting or non-fasting we decided to use Chol/HDL & direct LDL as our outcome measurements
- We generate annual follow-up letters.
- We created a local E.H.R. reminder for annual lipid profiles in cholesterol patients

The Solution: Key Components

- **Cholesterol Coordinator**, since 1994
- **Healthy Heart Team** multi-disciplinary QI group,
- **Registered Dietitians**. Food First. People can 'out eat' their medications.
- **Lipid Intervention Protocol**: Simplified, integrated, and customized to improve implementation
- **Hyperlipidemia Register** (Case Management System in RPMS) to record, follow-up, generate statistics
- **Streamline and standardize** communication and data entry—form letters, chart review forms, etc.
- **Annual Chart Reviews**
- **Generate Outcome Statistics and share them**

Overall 76% of our cholesterol patients are either at goal or within 30 points of goal.

60% are at the Chol/HDL goal of ≤ 5.0

Comprehensive CVD assessment in patients with Heart Disease

IHS 2010 Goals:	2010	WS2007	
• BP Assessed:	95%	98%	goal met +3
• LDL Assessed:	85%	97%	goal met +12
• Tobacco Assessed:	50%	87%	goal met +37
• BMI Measured:	45%	92%	goal met +47
• Lifestyle Counseling:	75%	73%	not met
• Depression Screen:	20%	75%	goal met +55
• <u>All Assessments:</u>	<u>15%</u>	<u>60%</u>	<u>goal met +45</u>

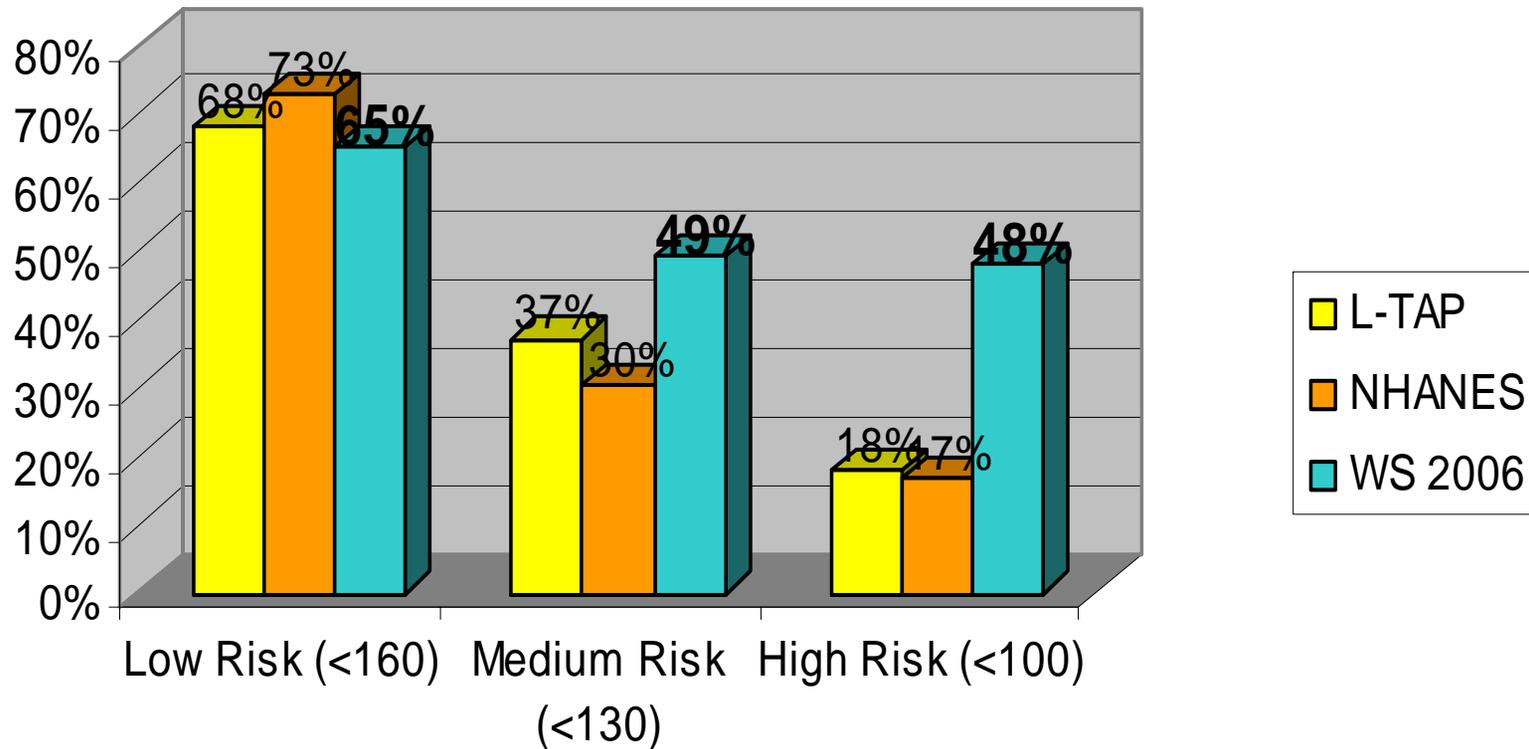
(GPRA Comp. CVD excludes depression screen this year)

Selected GPRA data, 2007

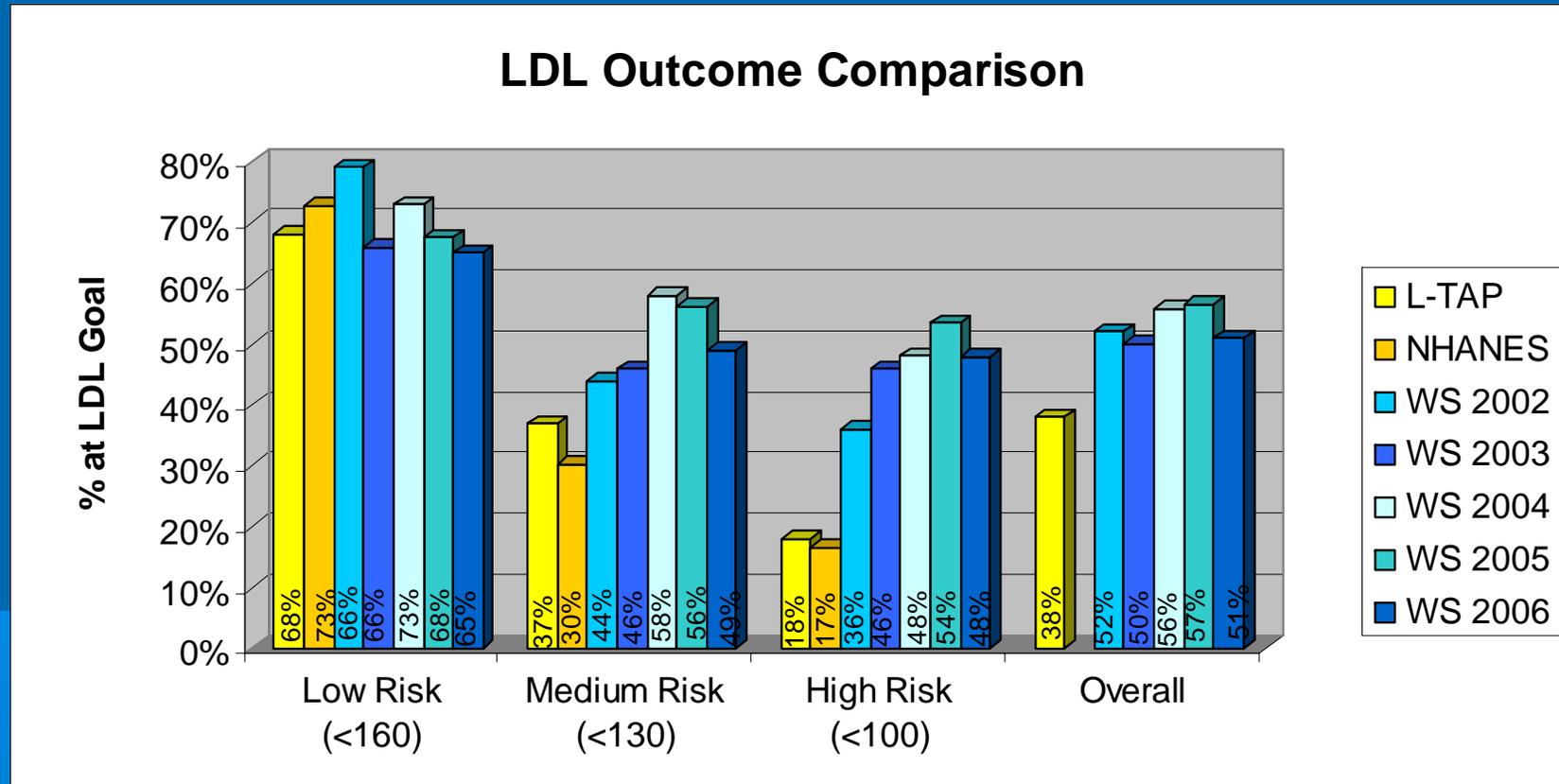
- Cholesterol screened, general population
 - 43% I.H.S. Nationally
 - 80% 2010 Goal
 - 78% Warm Springs
- LDL done in past year, Diabetes patients
 - 53% I.H.S. Nationally
 - 70% 2010 Goal
 - 84% Warm Springs

Warm Springs Statistics Compared to National Statistics: % at LDL goal

LDL Outcomes by Risk Level



Percent at Goal



*Patients: 14% low risk, 39% med. risk, 38% high risk, 9% at very high risk (high and very high combined in this graph)

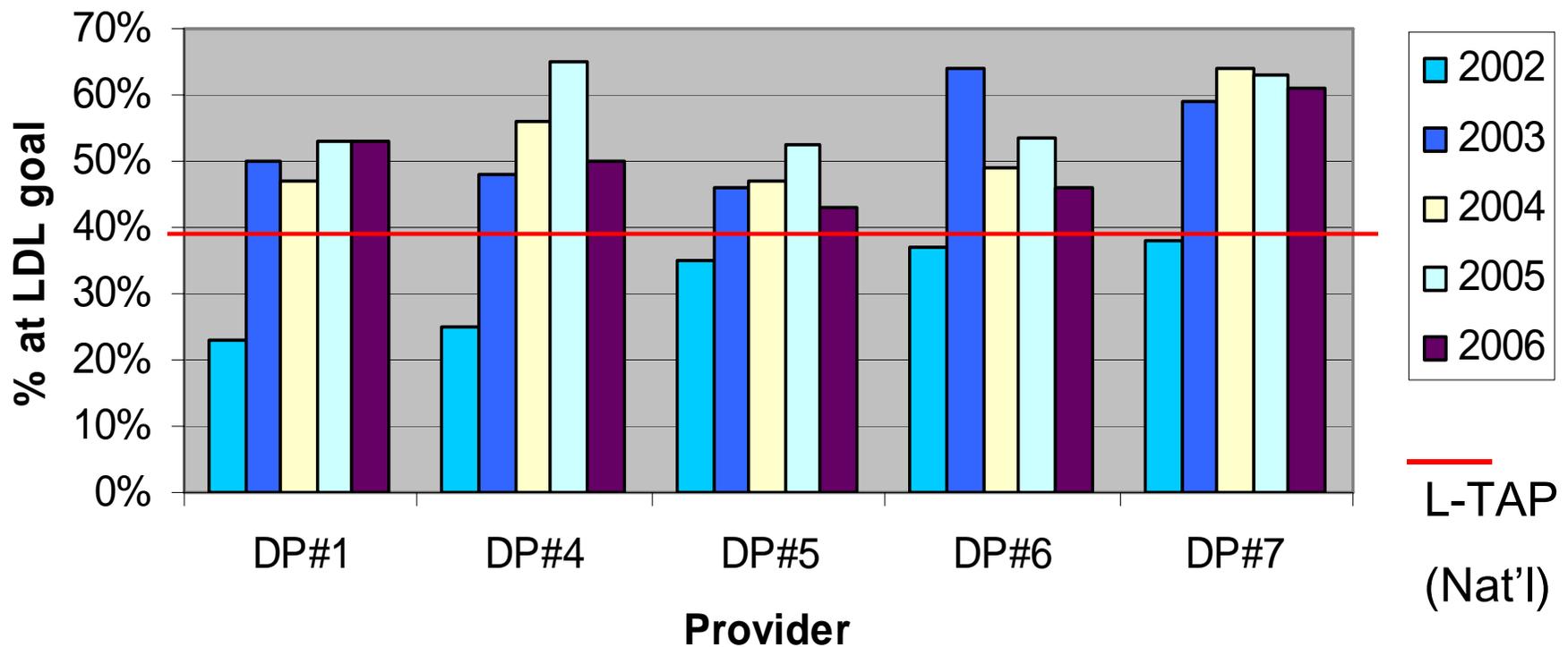
Note: We added a lot of new patients in 2006 which lowered our overall outcomes in 2006.

Provider Specific Outcomes

- At baseline all providers were at or below the national rate of 38% (L-TAP study, n=4888 patients from 619 US outpatient practices). Now all providers exceed the national rate, making 23% to 130% improvements in the last 4 years. These gains were made despite the fact that these providers were managing a larger panel of patients; an average increase of 215% (range 70-755%) more cholesterol patients per provider.

Provider Specific Outcomes: Percent of patients at LDL goal

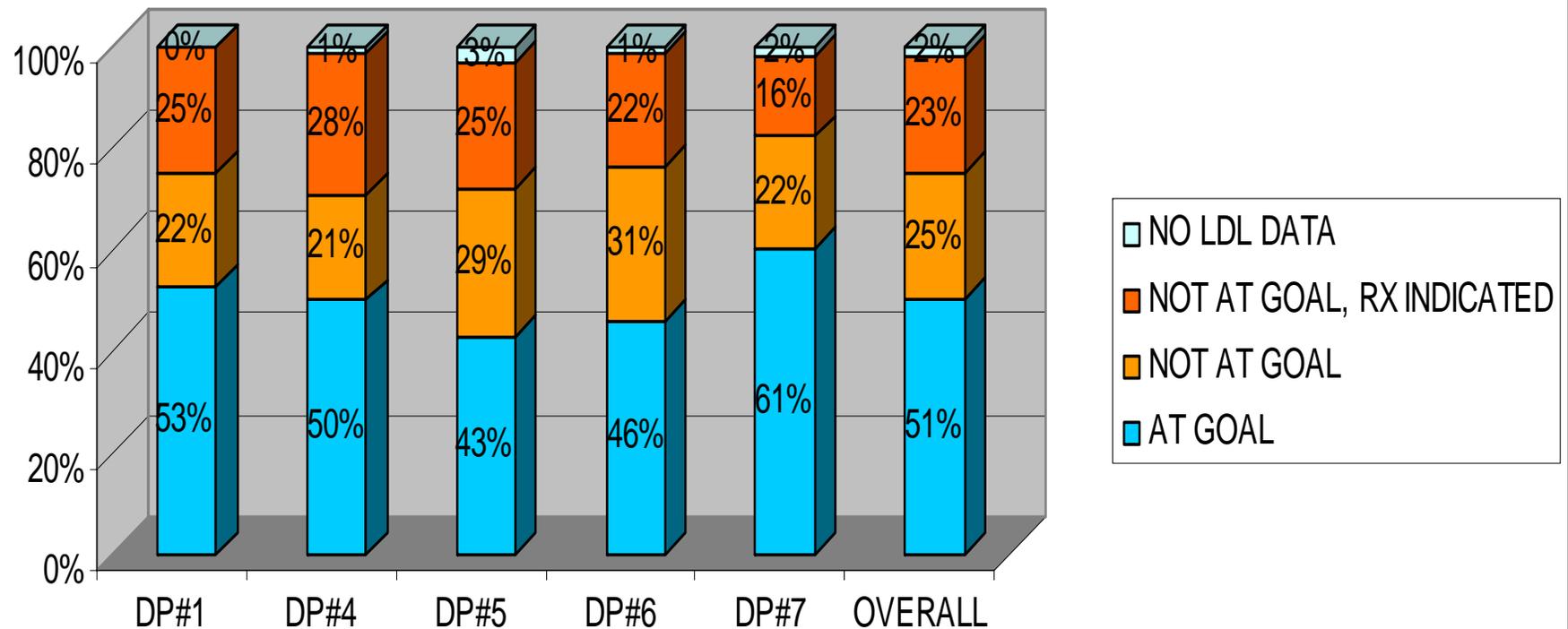
Trends in LDL outcomes by Designated Provider



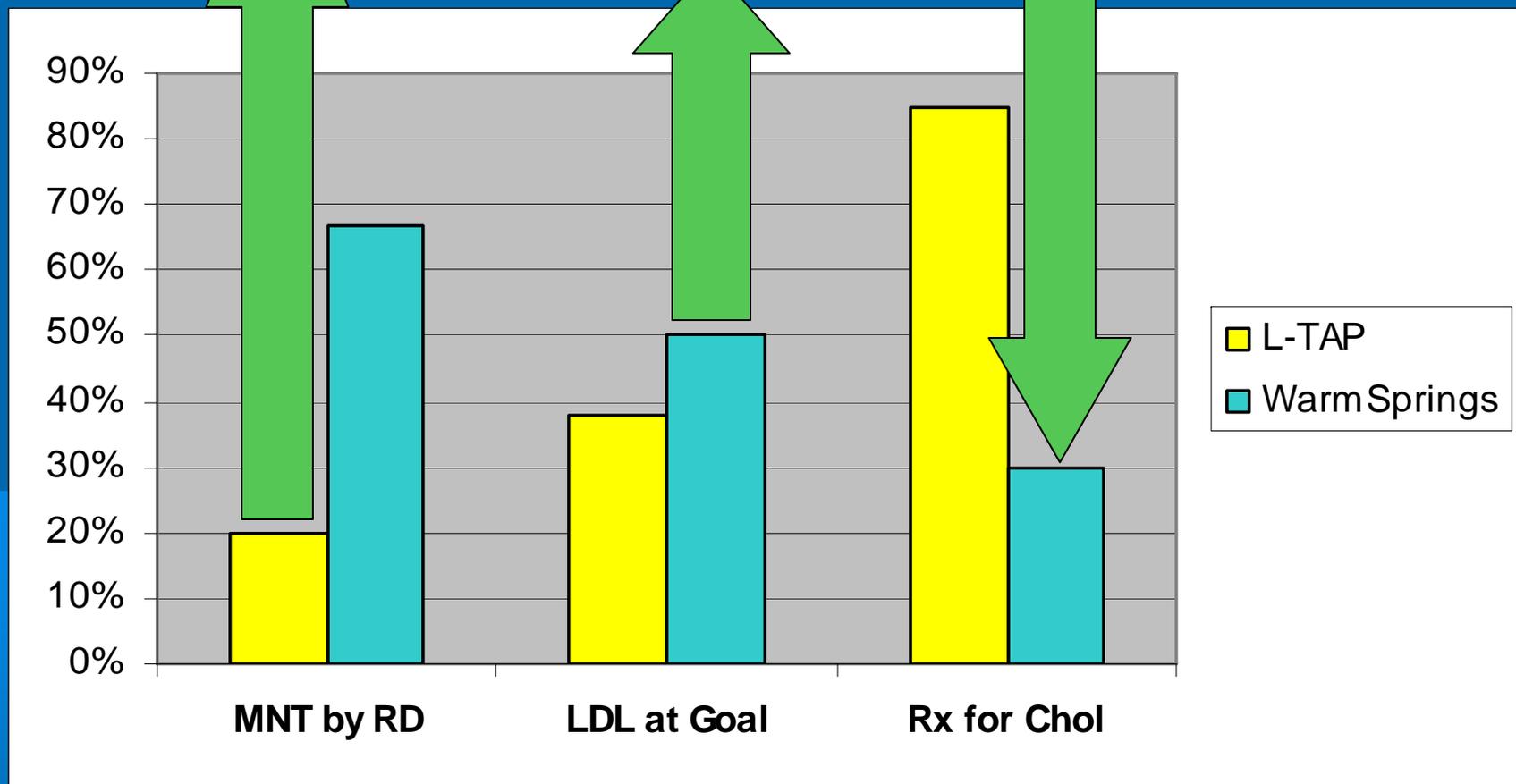
New: Provider Specific Outcomes

Patients needing new/more Cholesterol Medication

Percent distribution by LDL status by Provider, FY2006



Medical Nutrition Therapy Means Better Outcomes with Fewer Drugs



Warm Springs 2003 Data compared to the L-TAP study (n=4888)

Lipid Treatment Assessment Project *Arch Intern Med.* 2000;160:459-467.

Medical Nutrition Therapy (MNT) with a Registered Dietitian (RD)

- 2 out of 3 (66%) of active lipid patients in Warm Springs have had at least one visit with an RD—*WS 2004 data analysis*
- 3 out of 4 patients who see a dietitian improve their lipids, 28% on average, 18% overall for all*
- Most (58%) got this benefit with a ‘dose’ of 3 or fewer visits (MNT) with the dietitian*

**Lipid Outcomes of Medical Nutrition Therapy 1994-1998, IHS Research Conference Abstract 033, 1999*

Random selection of 100 nutrition visits for cholesterol.
Outcomes of nutrition therapy prior to any drug therapy

Estimated Drug Cost Savings from Medical Nutrition Therapy

- \$33.30 to \$97.20 a month in drug costs*
 - 30% on Rx = 160 patients (actual)
 - 85% on Rx = 452 patients (if same as L-TAP)
- \$180,619 to \$527,213 a year = 85% on Rx
- \$ 63,936 to \$186,624 a year = 30% on Rx
- \$ 59,960 actual costs in 2003

\$116,683 to \$340,589 SAVED a year

*Warm Springs monthly drug costs in 2003: Niaspan \$49.95, Gemfibrozil \$71.24, Pravastatin 10mg \$83.40, Atorvastatin 10mg 66.60, 20mg \$97.20. 40mg \$105. Atorvastatin tablets can be split.

The Overall Message:

- Know your numbers.
- Know your goal.
- Treat to goal.

Outcome Reports are Vital but you must **SHARE** them

- Positive Outcomes generate hope, confidence and competitiveness which in turn motivates change. Community Specific outcomes are **MUCH** more meaningful than ‘some study, some where with some people I don’t know.’
- GPRA reports are a built in method for tracking CVD related outcomes

Information on References

- **The study using NHANES III data included cholesterol data from a national sample of 6,796 patients age 20 and up. Jacobson et al. Arch Intern Med. 2000 May 8;160(9):1361-9.**

<http://archinte.ama-assn.org/cgi/content/full/160/9/1361>

Information on References

- **The Lipid Treatment Assessment Project (L-TAP) included 4888 patients from 619 outpatient clinics around the U.S. Pearson et al. Arch Intern Med. 2000 Feb 28;160(4):459-67.**

<http://archinte.ama-assn.org/cgi/content/full/160/4/459>

Risk Levels, Risk Factors

- **Risk Level:** 14% are at low risk, 39% at moderate risk, 38% at high risk, and 9% at very high risk.
- **Risk Factors:**
 - 30% have a family history of CVD, 16% already have CVD themselves.
 - 40% have diabetes, 5% have pre-diabetes, half (47%) have metabolic syndrome.
 - Half (53%) have hypertension.
 - 1 out of 4 (26%) are smokers while 15% are former smokers.
 - Half (46%) have low HDL levels while 10% have high HDL which is protective.

Warm Springs Nutrition Messages for a Healthy Heart

- Fat Change the *kind* of fat you eat from saturated to unsaturated fat
- Fiber Fruit, veggies, and whole grains daily; beans or nuts almost daily
- Fuel Portion size matters. Excess Food → Excess Fat in Blood, on Body
- Fitness Benefit from exercise even if you don't lose weight. 10 min/time, 30 minutes a day, 3-5 days/week.

Nutrition Label Reading Rules

- * % Daily Value(DV): 5% is low, 20% is high
- * "Amount per serving"--If you eat more than the 'serving' amount listed you have to multiply the nutrients. Example:
 - **Ramen noodles:** 15%DV for saturated fat but there are 2 servings per container so if you eat the whole package, as most people do, you get **30%DV** which is *High*
 - **So a package Ramen noodles actually has as much saturated fat as a cheeseburger!**

Hyperlipidemia Outcomes of Medical Nutrition Therapy (MNT) 1994-1998

- **Methods:** Outcomes were measured for a random selection of 100 dietary therapy visits (clinic code 67) for hyperlipidemia (ICD codes 272.0-272.9) between 1/1/94 and 1/1/99. After removing duplicates (32) and patients without outcome data (7), there were 61 individual patients to review. Change was measured by a comparison between the patient's baseline and most recent T.Chol/HDL ratio [prior to any drug therapy for lipids]. If T.Chol/HDL levels were not available T.Chol was used.

MNT abstract

- **Results:** 74% (45/61) improved with 58% (26/45) receiving 3 or fewer MNT visits; 20% (12/61) worsened, 5% (3/61) were unchanged, 31% (19/61) achieved a T.Chol/HDL ratio within normal limits (Female less than 4.5, Male less than 5.1). The average decrease in T.Chol/HDL ratio was 18%. [28% for those who improved]
- **Conclusion:** Nutrition therapy was effective in improving lipids for the majority of Warm Springs patients.

Hyperlipidemia Outcomes of Medical Nutrition Therapy (MNT)

1994-1998 By Sara Lee Thomas*, Jocelyn Moses. Conference Abstract 033, page 17, 11th Annual Indian Health Service Research Conference April 26-28, 1999 Albuquerque, New Mexico

Patient Outcomes, MNT ≥ 1

