

Evaluating HIV Care Quality in Publicly-funded Massachusetts Clinical Sites

JSI Clinical Quality Management Team

May 2010

*For the Massachusetts Department of Public Health
and
The Boston Public Health Commission*



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Today's presentation

- Overview of the program
- A little background in quality
- Compare change over time of selected quality indicators for patients (all patients and those diagnosed since 2003)
- Present site-specific performance measures



So why bother with quality?

- When care is given as it is supposed to be, patients do better
- Gaps in quality can mean development of resistance, disease progression or death for people with HIV
- When systems work, care is more efficient and effective, so both patients and staff do better
 - More resources for effective care
- Long term success depends on functional systems and quality care



Quality and Outcomes

- Multiple examples where quality predicts outcomes
 - Adherence support
 - PCP prophylaxis
 - Missed visits
 - Early management of treatment failure



So what are we talking about??



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Quality of Care

- “Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge”

Institute of Medicine, 1990

- "Doing the right thing right, right away"
(Deming, 1982)



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Clinical Quality Management (QM) in Massachusetts

- Since 1998, JSI has been conducting a QM program to assist DPH and BPHC-supported clinics in evaluating and improving care.
- Sites actively participated in planning process, including selection of areas of importance and data elements
- Database using coded identifiers created for the project and ongoing work
- 5 “rounds” of chart review now complete, providing data for up to 10 years (1999-2008); includes
 - cohort enrolled since 1998
 - patients diagnosed since 2003



Data Collection and Analyses

- Focused on clinical care measures of emphasized by HRSA/Ryan White program, including prevention, screening, treatment, and prophylaxis
- Used accepted national criteria for antiretroviral treatment and care from guidelines in effect at the time
- Able to compare clinics to each other and determine performance improvements over time
- Limitations: Because analyses are based on data available from the medical records, differences in record keeping between clinics and providers affect findings and treatment given elsewhere can be missed



Quality of Care Indicators

- Screening and vaccination (cervical cancer and anal Pap, TB, hepatitis, pneumococcal disease, influenza, hepatitis)
- HIV Treatment (antiretroviral medications, adherence, prophylaxis, viral load & CD4 tests)
- Outcomes (CD4 count >200, viral suppression, engagement in care)
- Other (frequency of medical visits, hospitalizations, Hepatitis C treatment)



Patient Samples Presented:

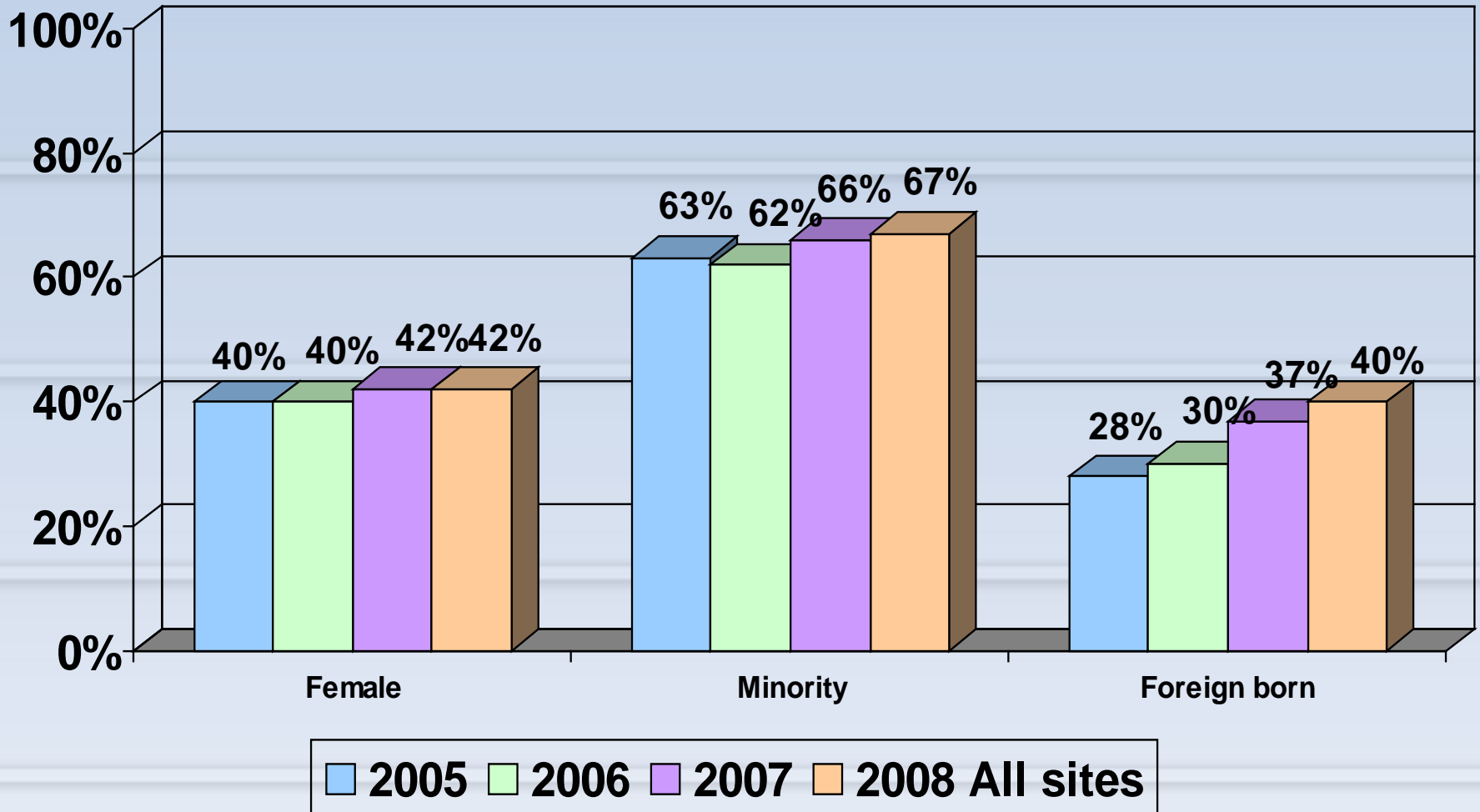
- Included in full analysis if:
 - Two or more medical visits* in calendar year
 - Alive through the calendar year
- Comparing performance by year, site to all sites, and to HRSA/IHI proposed goals (when available)
- All Patients at all sites
 - 2007 N=970
 - 2008 N=971
- Patients diagnosed since 2003 at all sites:
 - 2005 N=262
 - 2006 N=403
 - 2007 N=434
 - 2008 N=472

*by a prescribing provider (MD, NP, PA, DO)

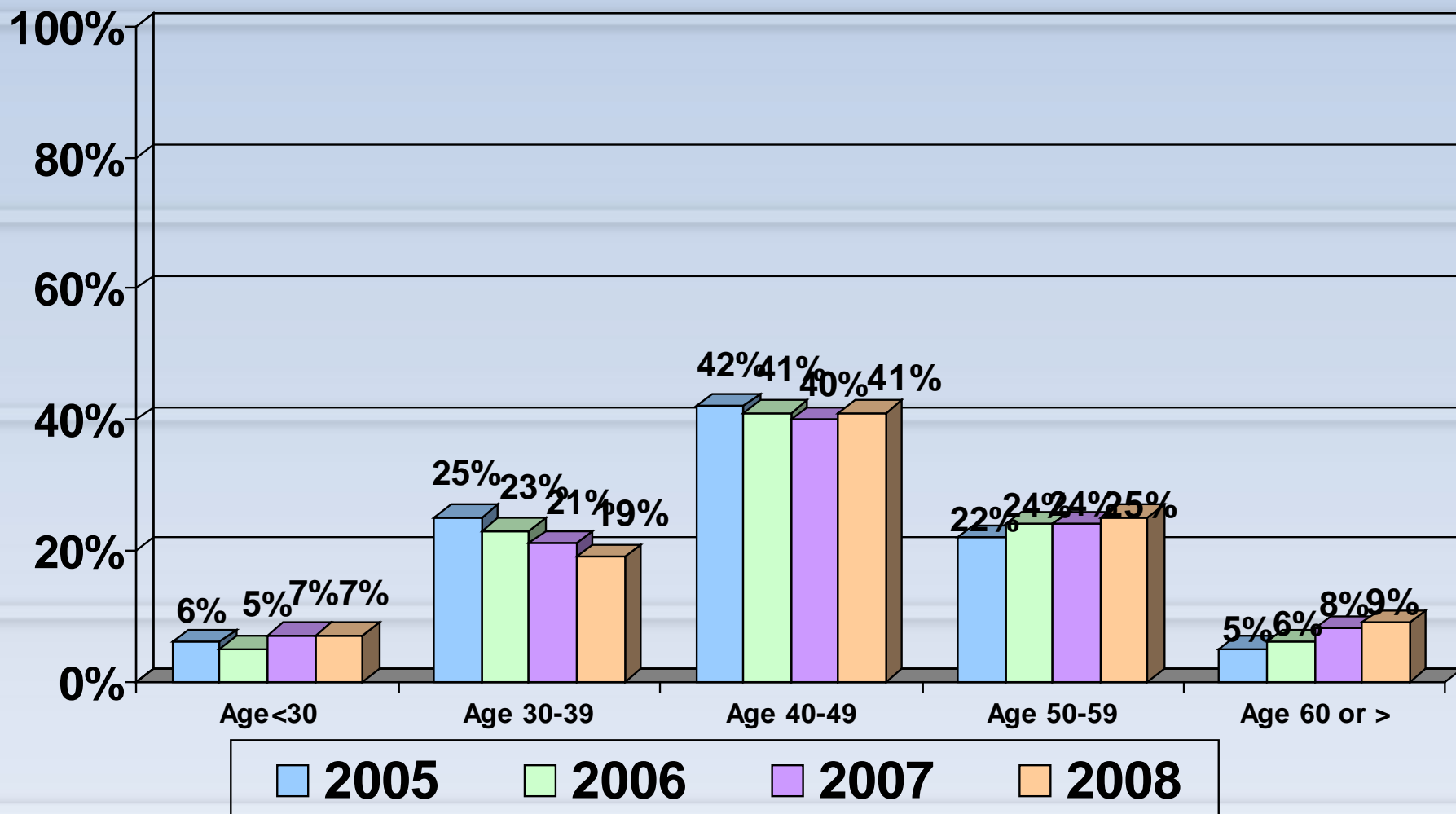


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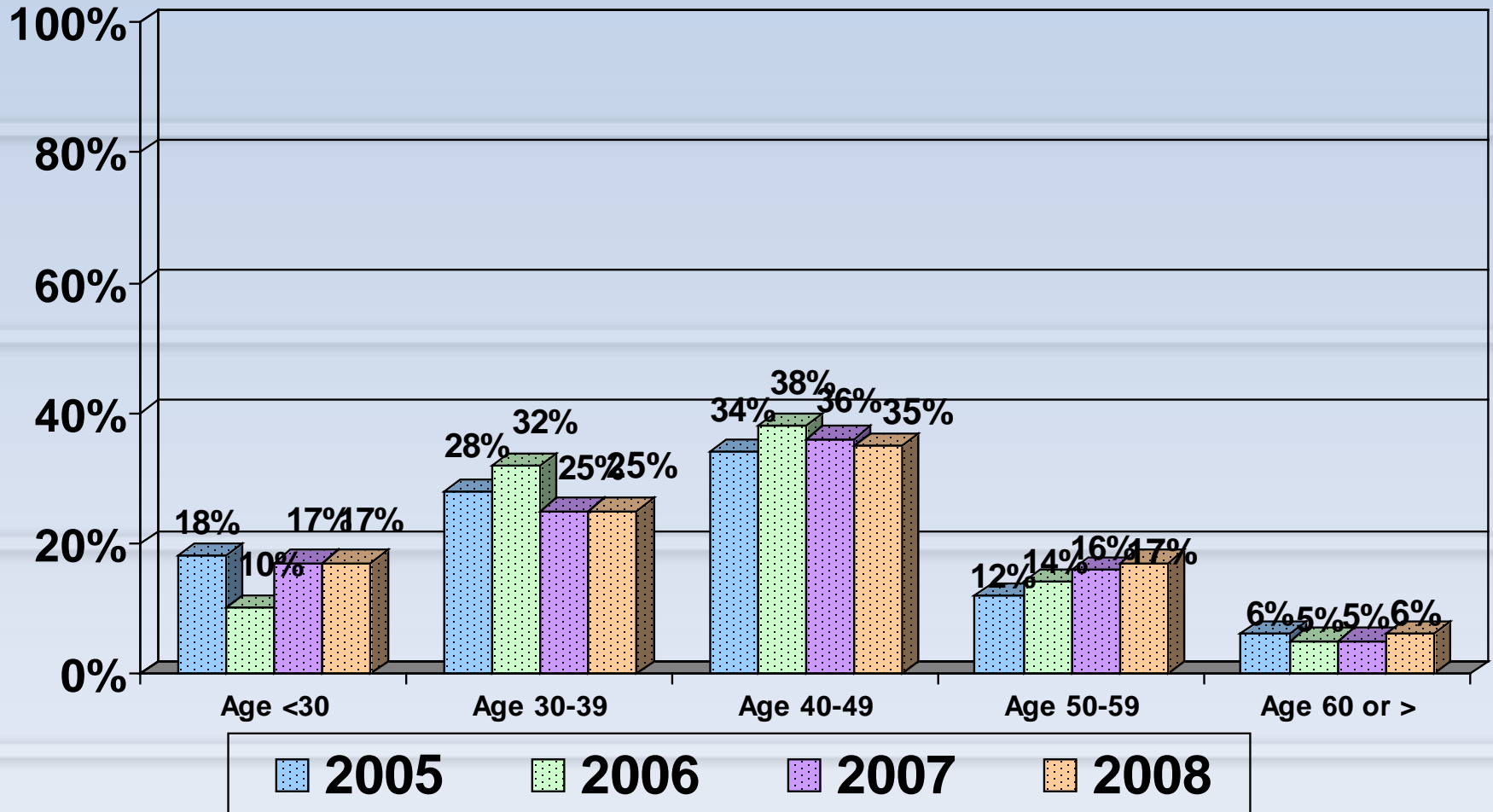
Demographics: All pts



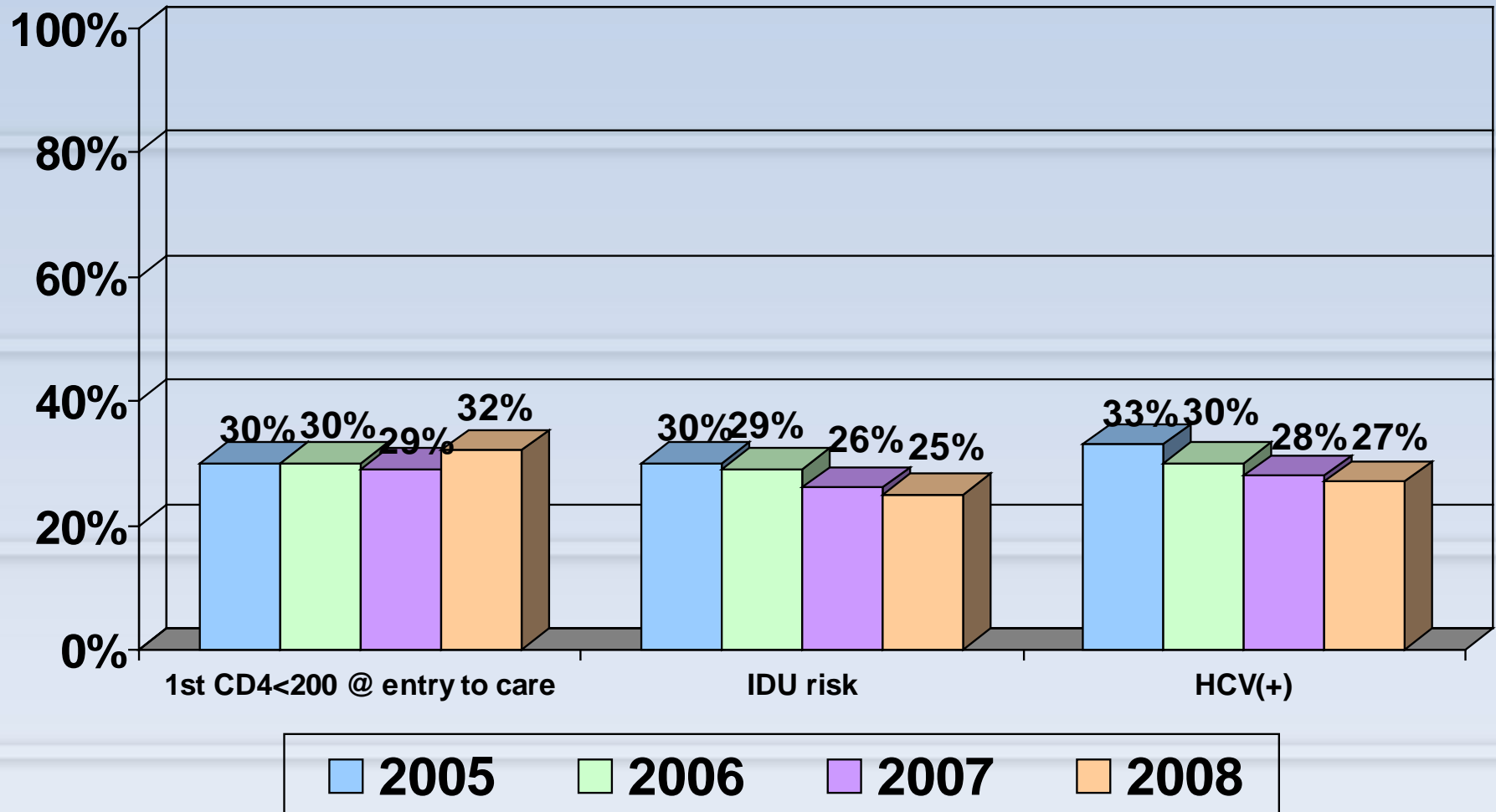
Demographics: All Patients



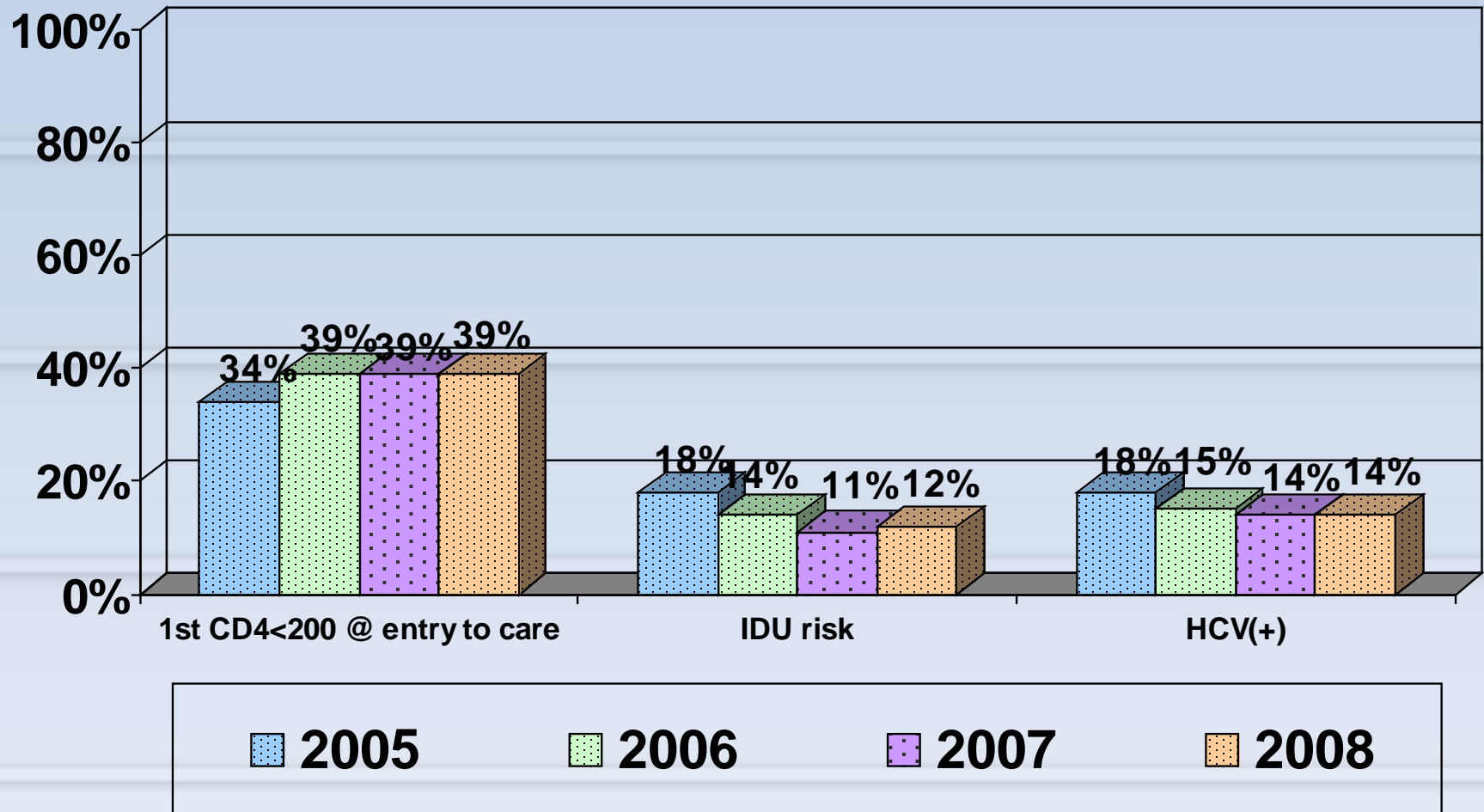
Demographics: Patients diagnosed since 2003



Demographics: All pts



Demographics: Patients diagnosed since 2003

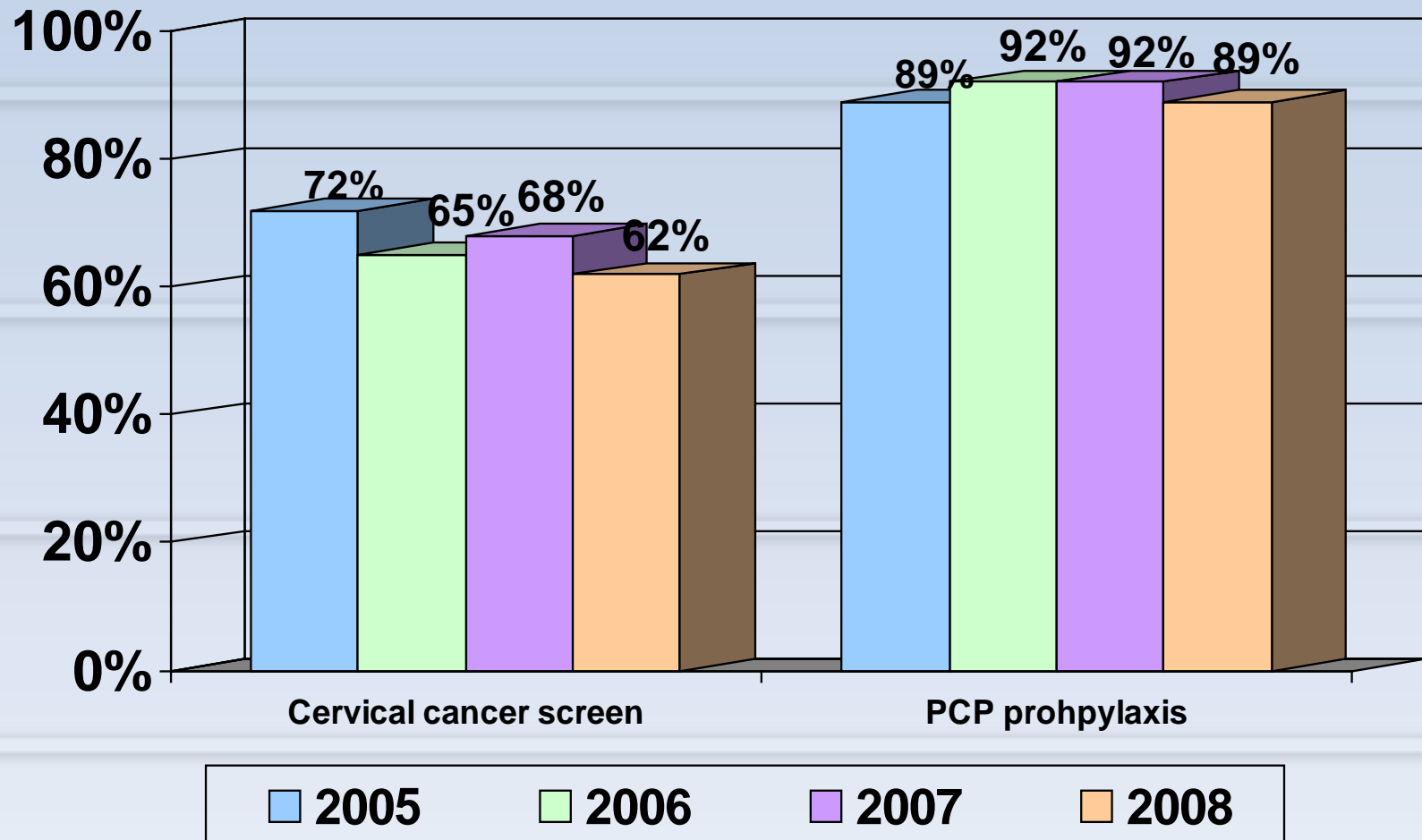


Prevention and Screening

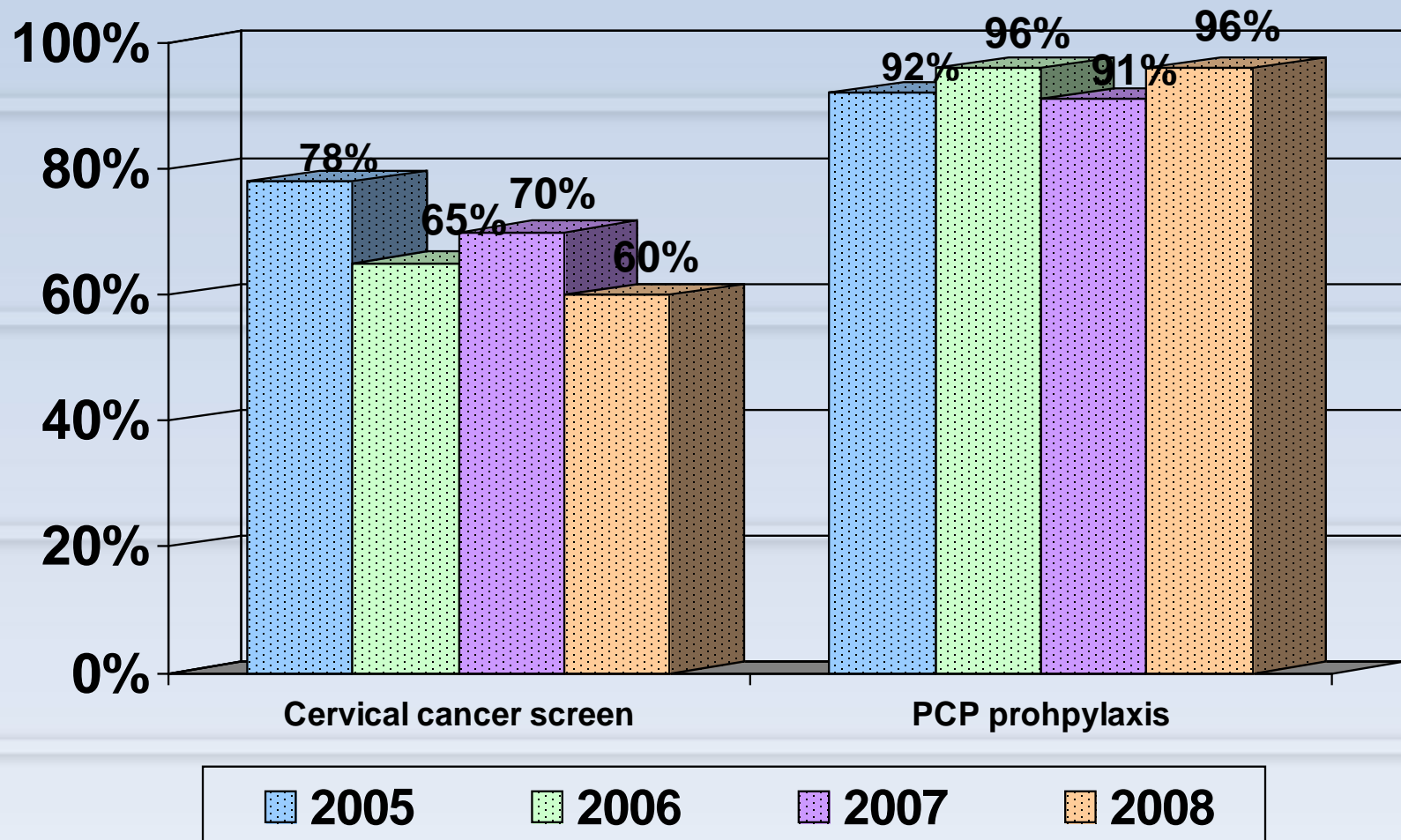


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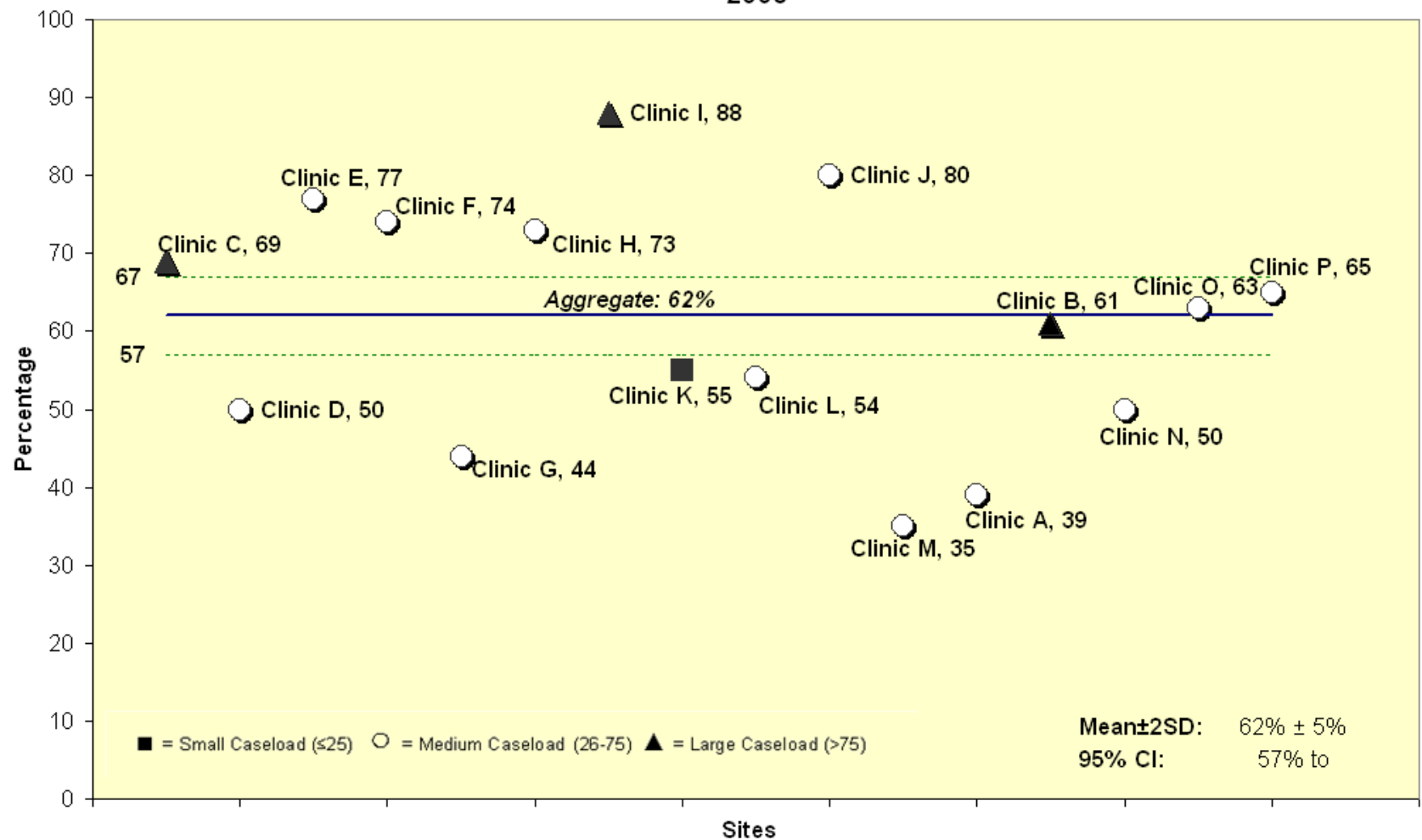
Preventive Quality Measures: All Patients



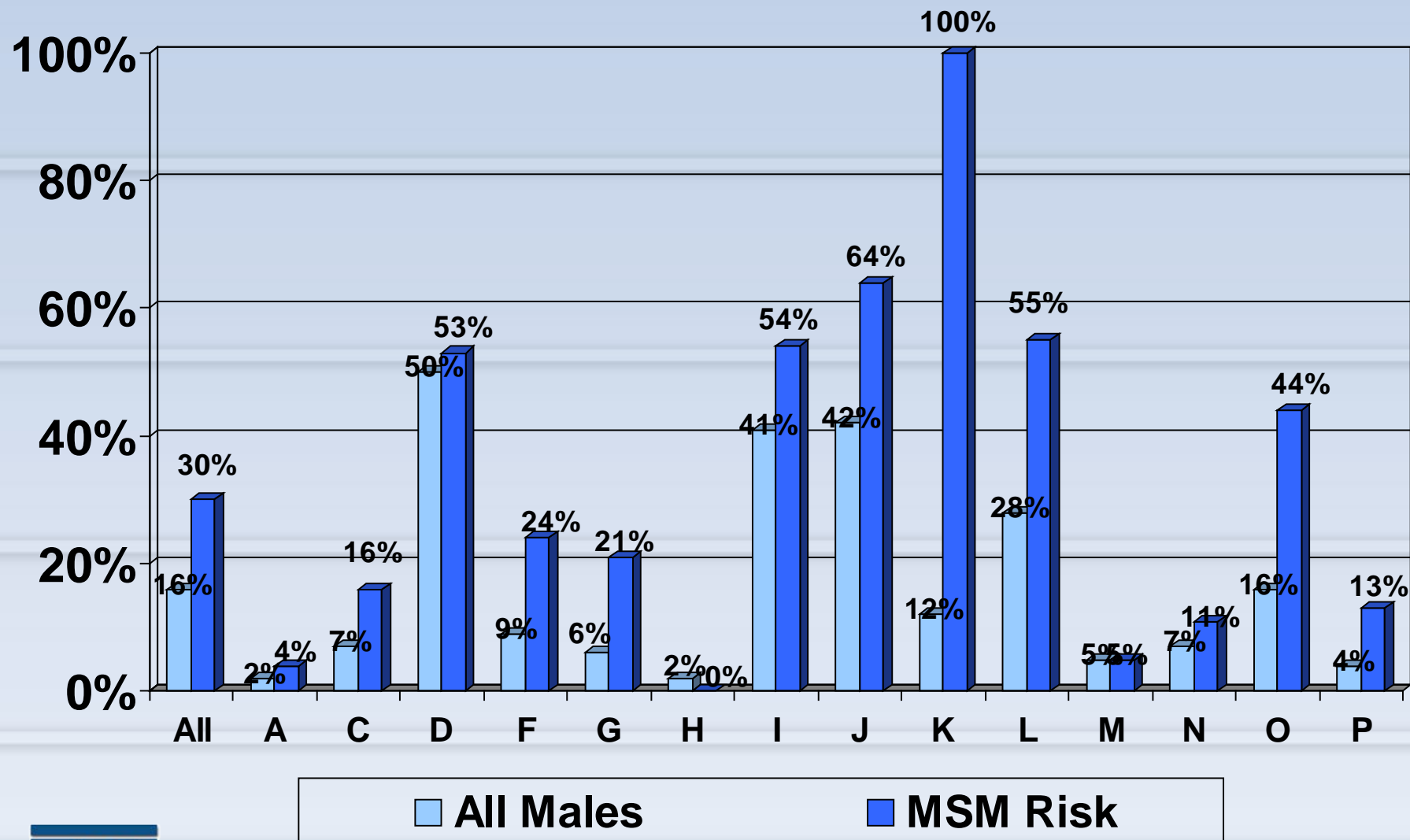
Preventive Quality Measures: Diagnosed since 2003



Percentage of Patients Receiving Cervical Cancer Screening Aggregate & Site Specific 2008



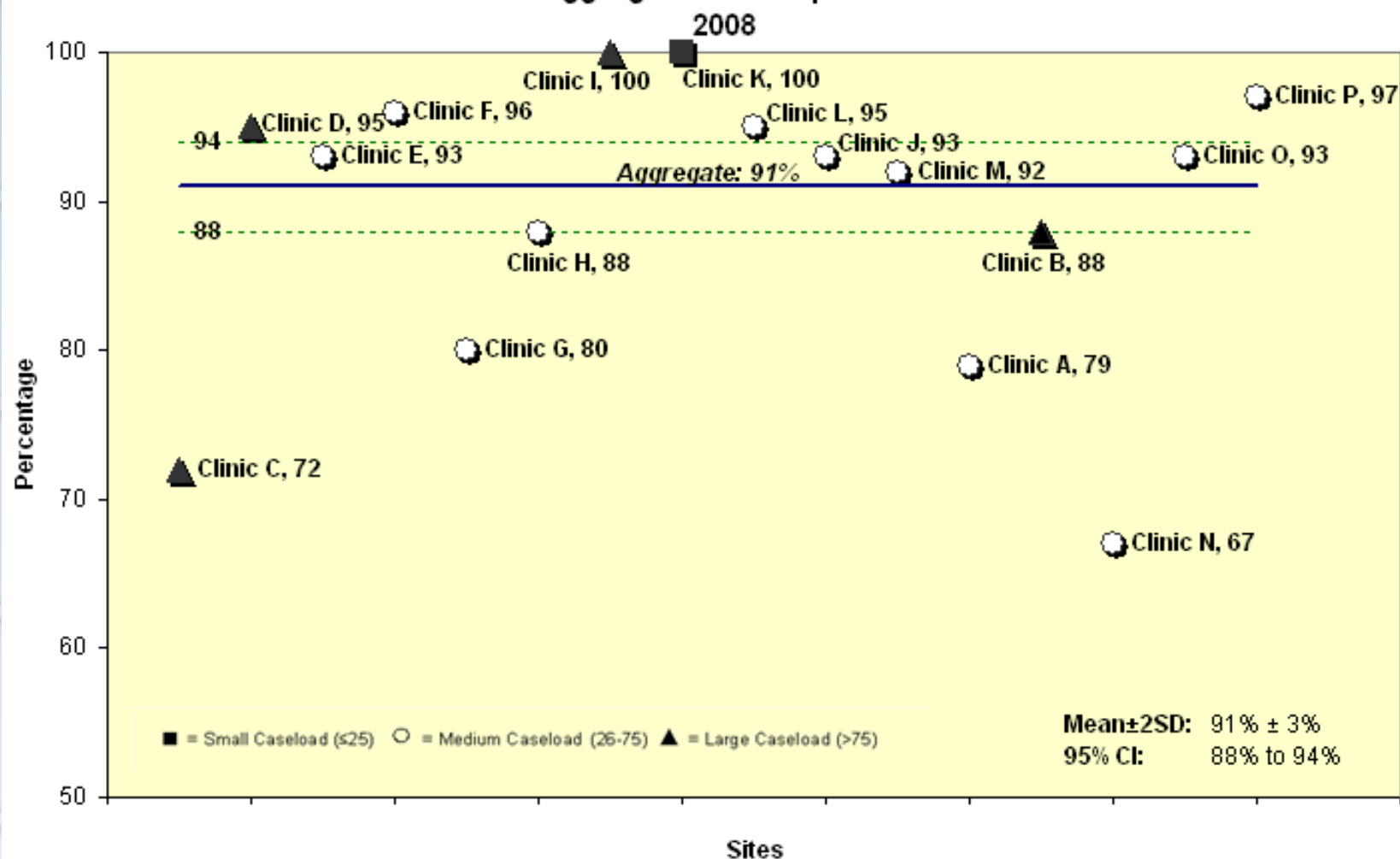
Preventive Quality Measures: Anal PAP Screening Ever: Males



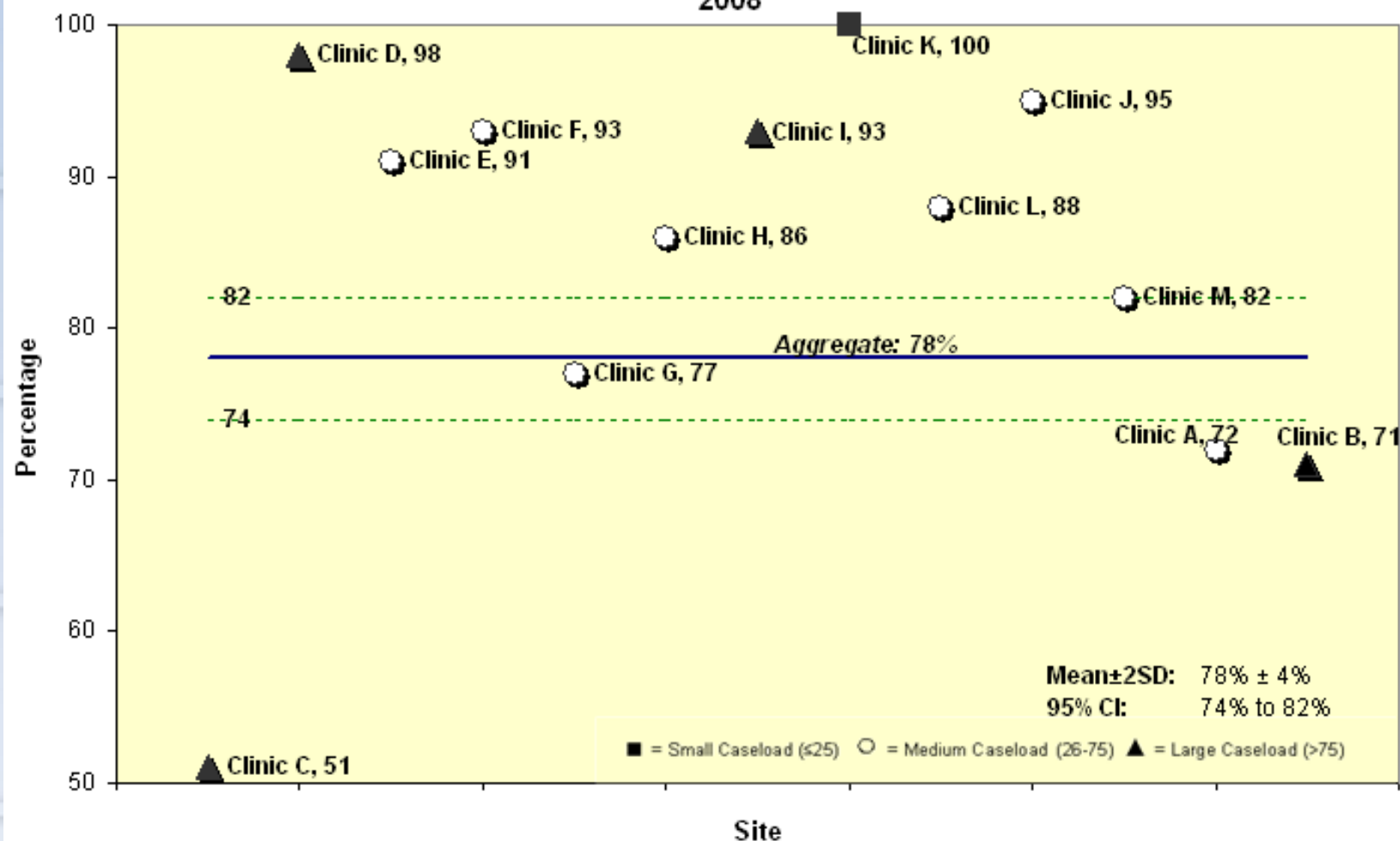
Preventive Quality Measures: All Patients



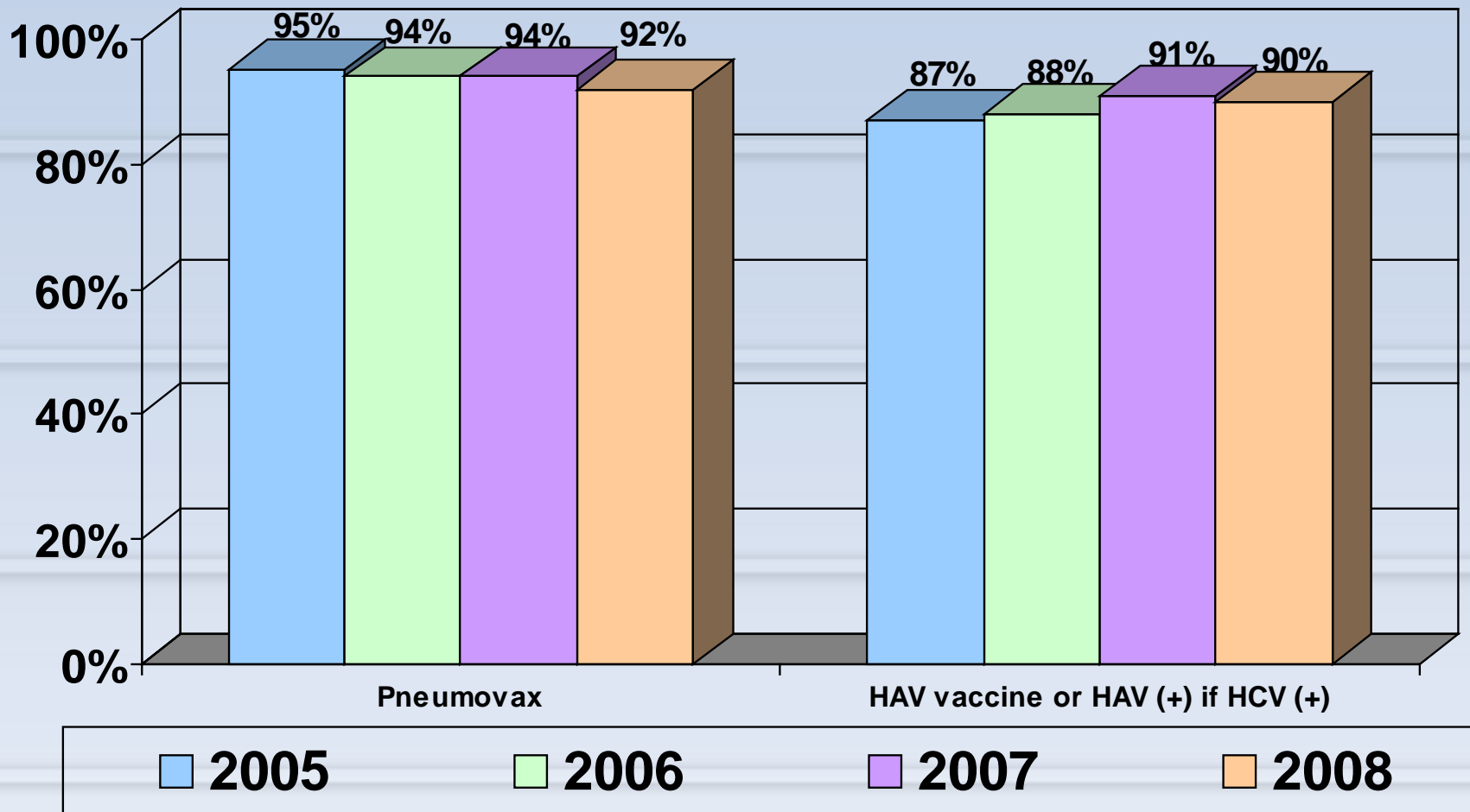
Percentage of Patients with any Hepatitis B Vaccine (among HBV -) Aggregate & Site Specific



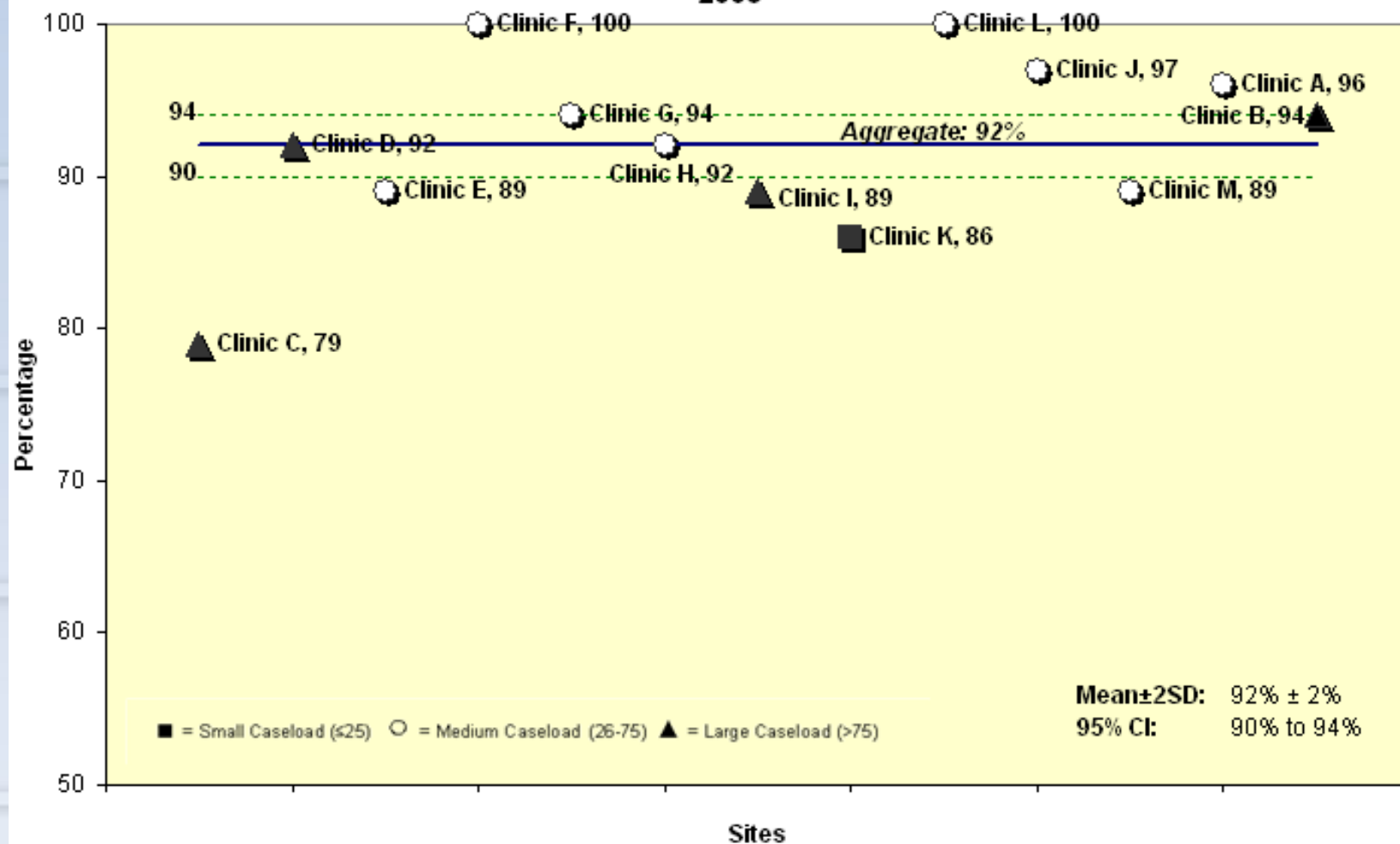
Percentage of Patients with any Hepatitis A Vaccine (among HAV-)
Aggregate & Site Specific
2008



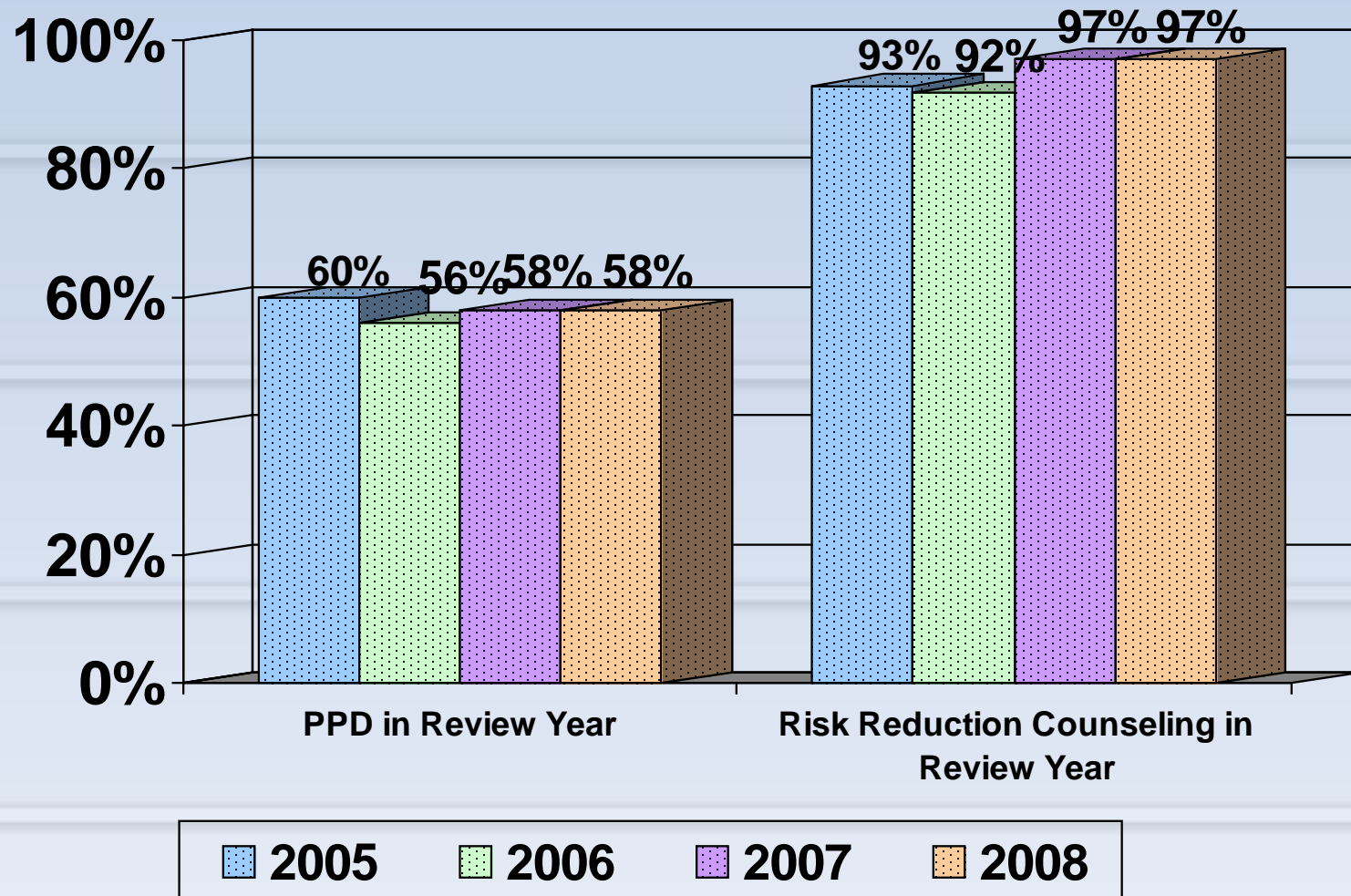
Preventive Quality Measures: All Patients



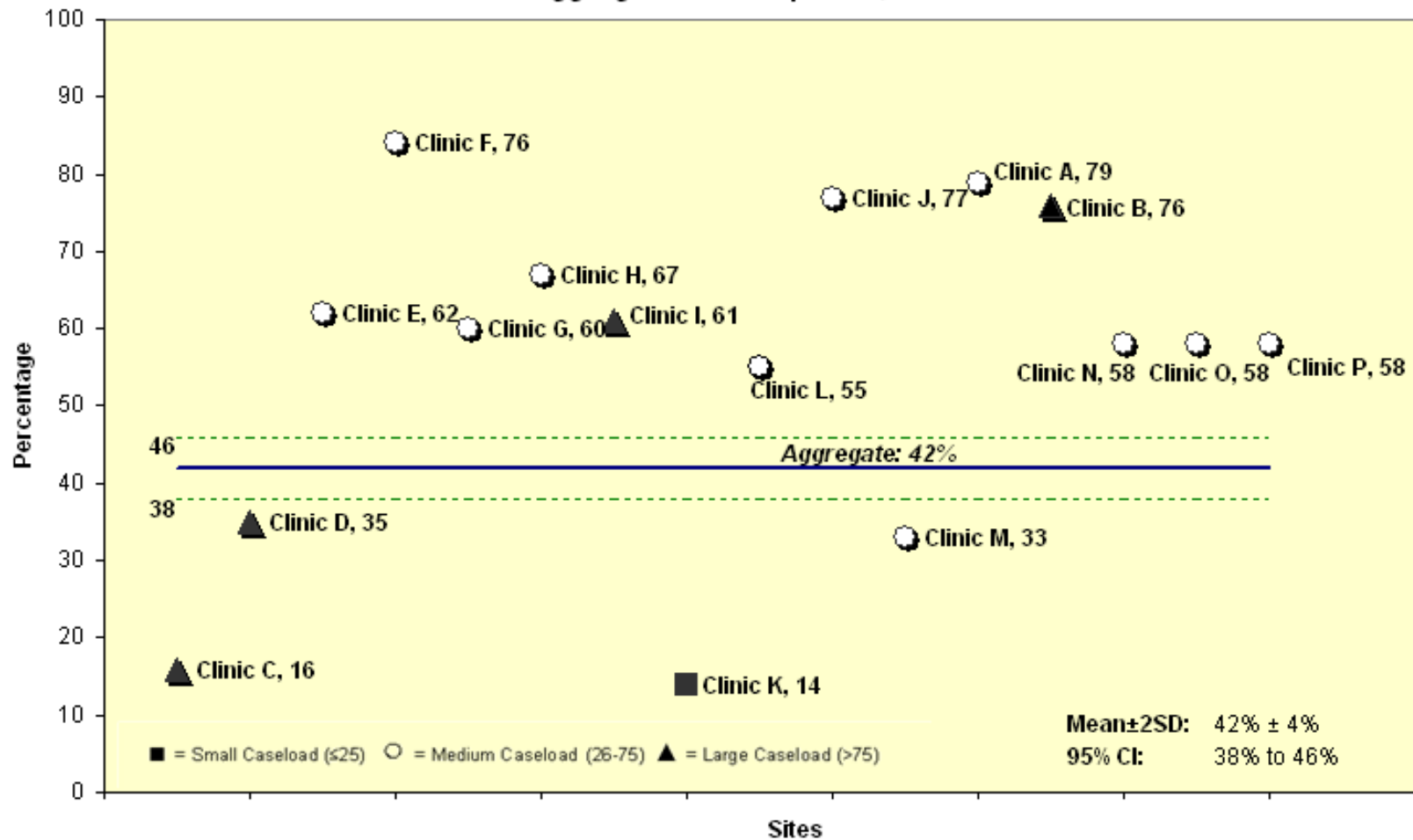
Percentage of Patients with Documented Pneumococcal Vaccination Aggregate & Site Specific 2008



Preventive Quality Measures: Diagnosed since 2003



Percentage of Patients with PPD Screen in Review Year Aggregate & Site Specific, 2008

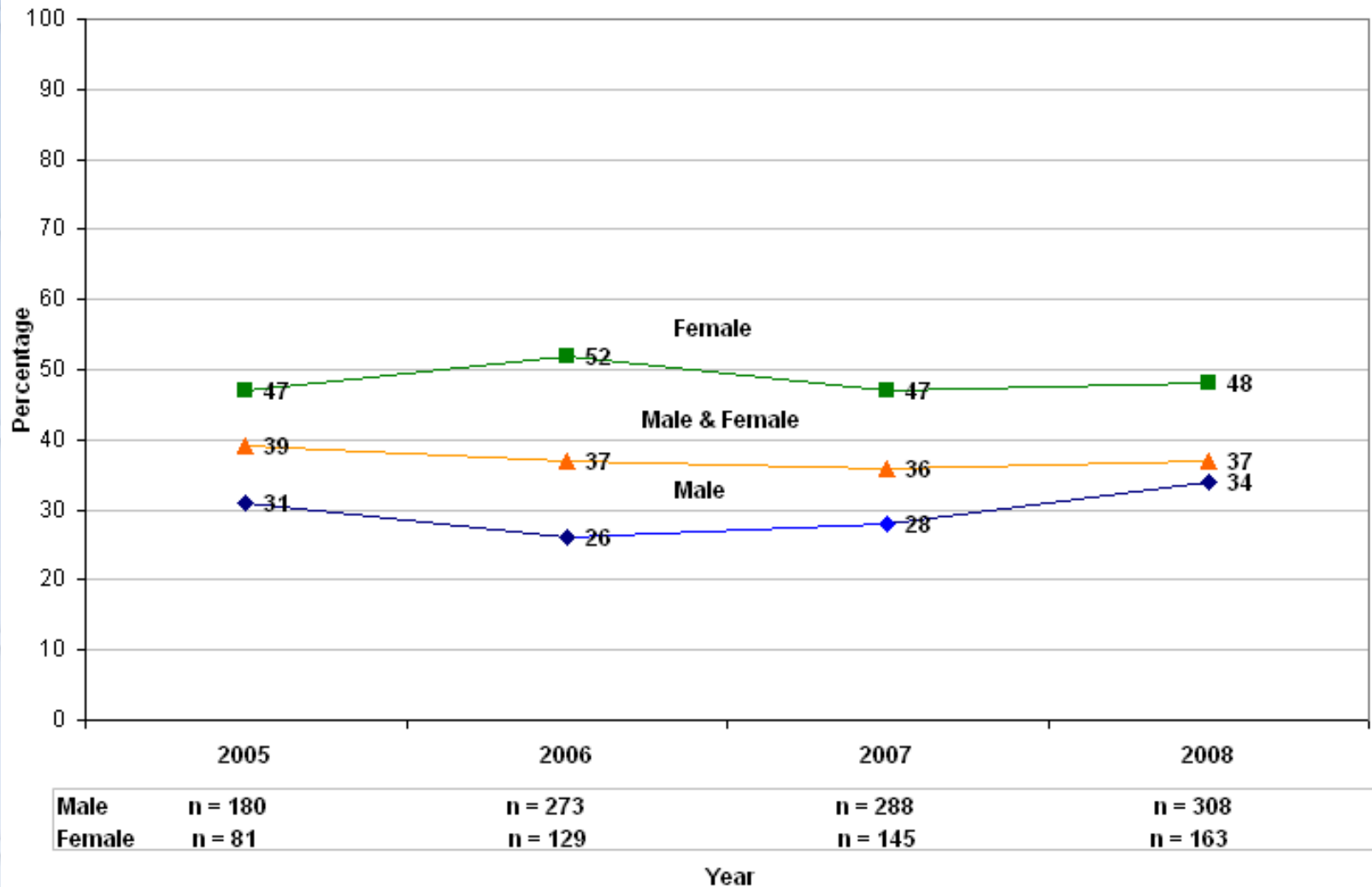


Only patients diagnosed since 2003



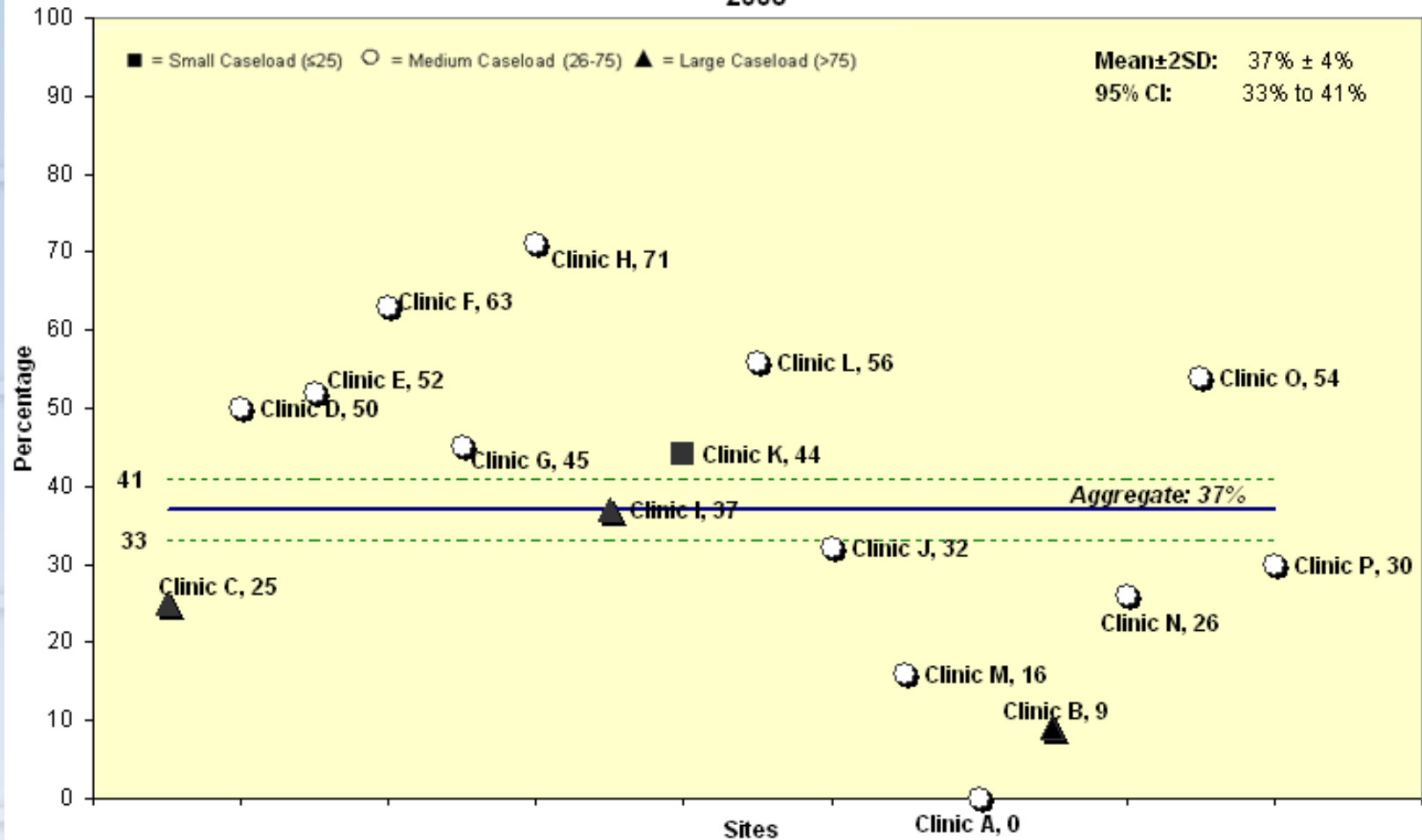
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Percentage of patients with Chlamydia Screening 2005-2008



Only patients diagnosed since 2003
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Percentage of Patients with Chlamydia Screening Aggregate & Site Specific 2008

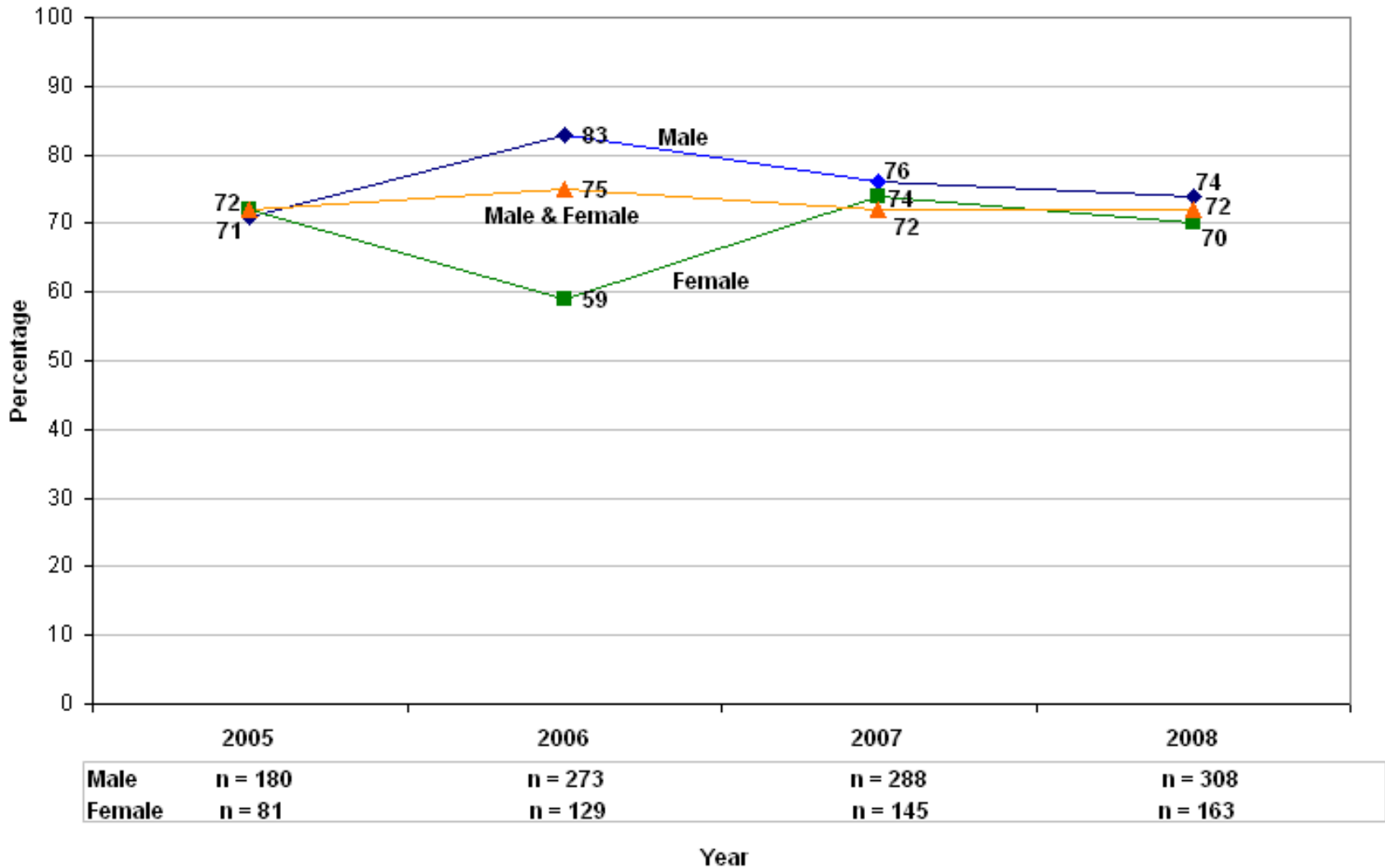


Only patients diagnosed since 2003



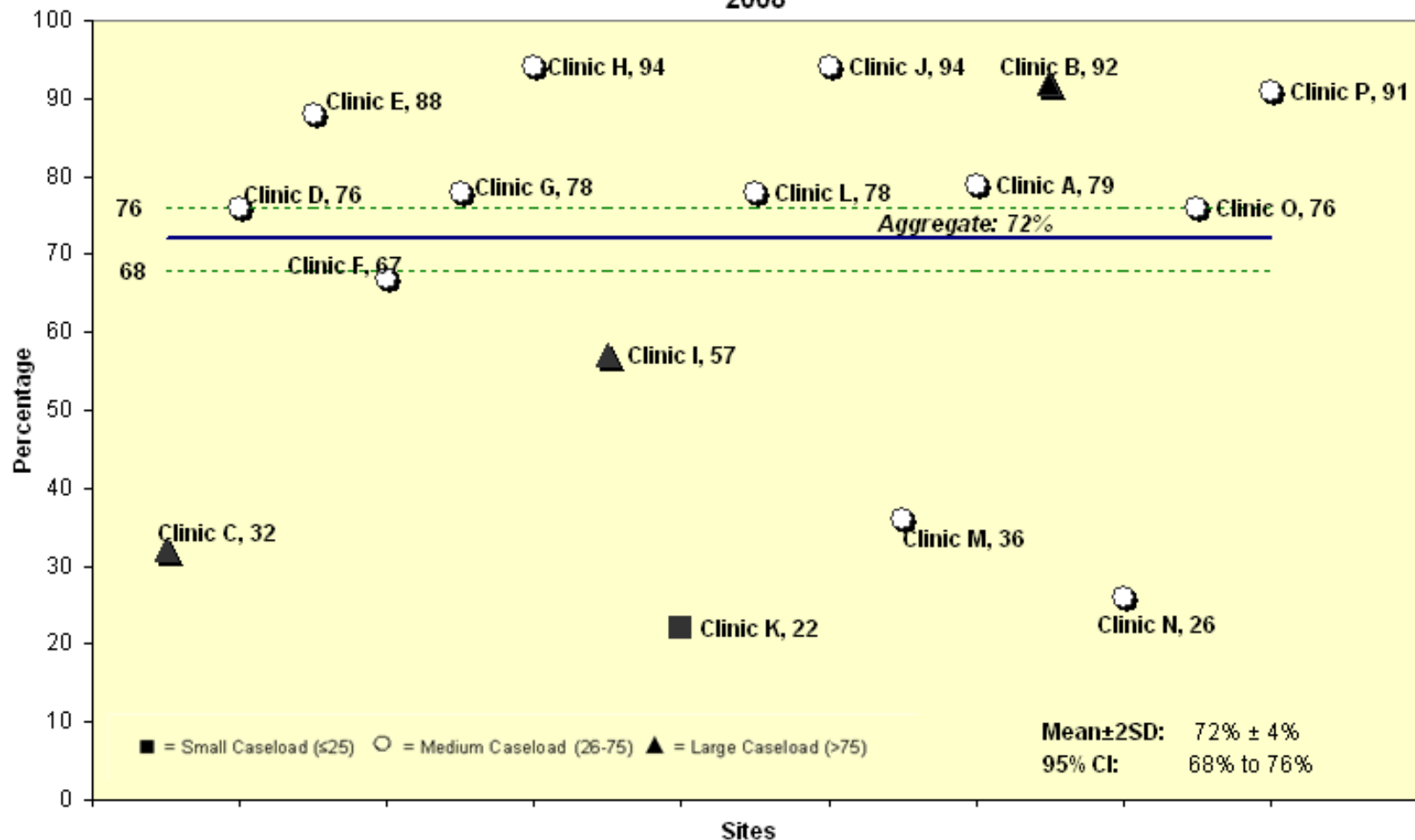
Research & Training Institute, Inc.

Percentage of patients with Syphilis Screening 2005-2008



Only patients diagnosed since 2003
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Percentage of Patients with Syphilis Screening Aggregate & Site Specific 2008



Only patients diagnosed since 2003
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Dental Care

- HRSA/HAB Group 2 indicator
 - Percent of clients with HIV infection who received an oral exam by a dentist at least once during the measurement year.
- Collected any documentation (including referral) on diagnosed since 2003
 - 27% in 2008
 - Range: 5%-73%

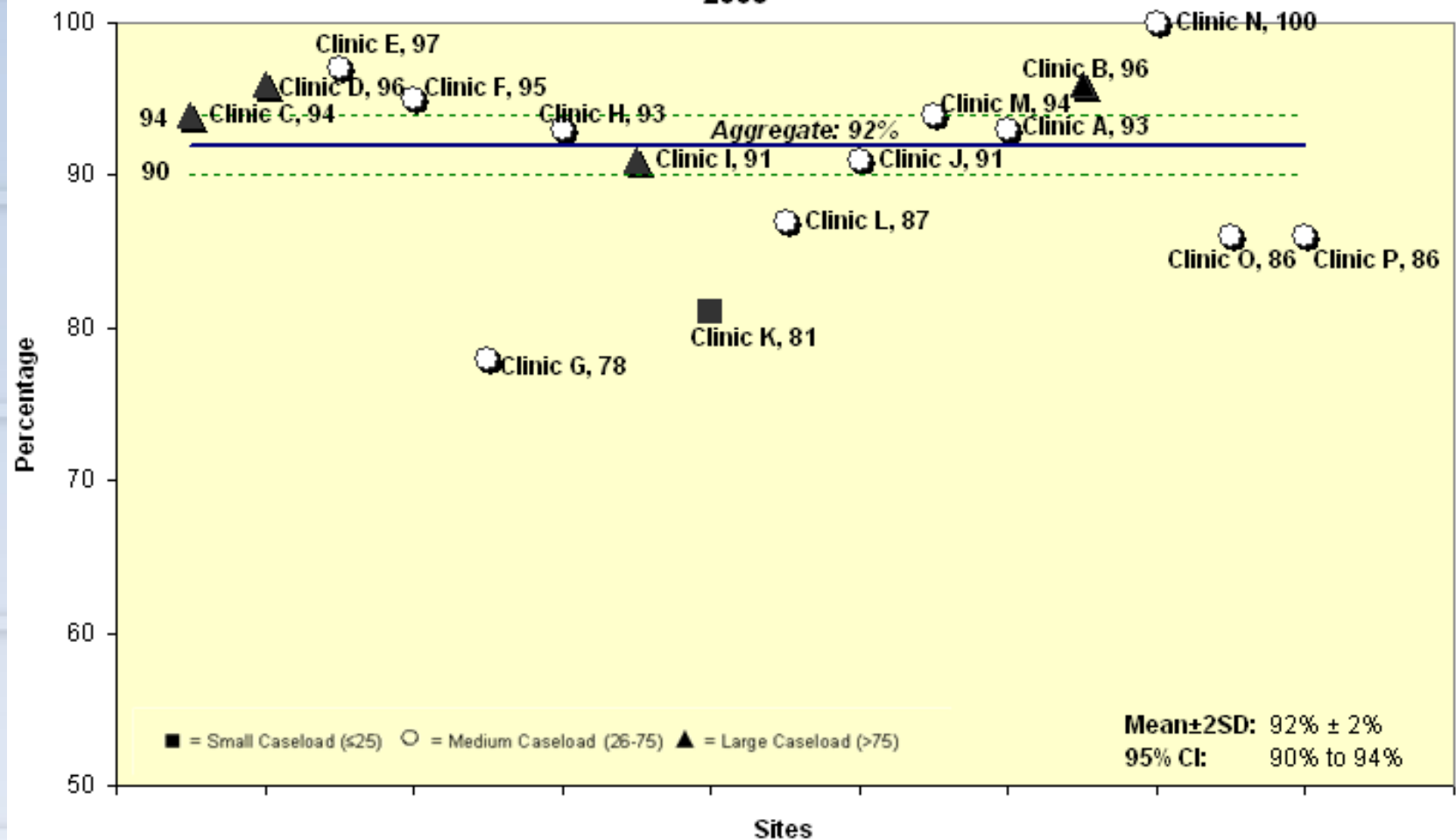


ART Monitoring and Treatment

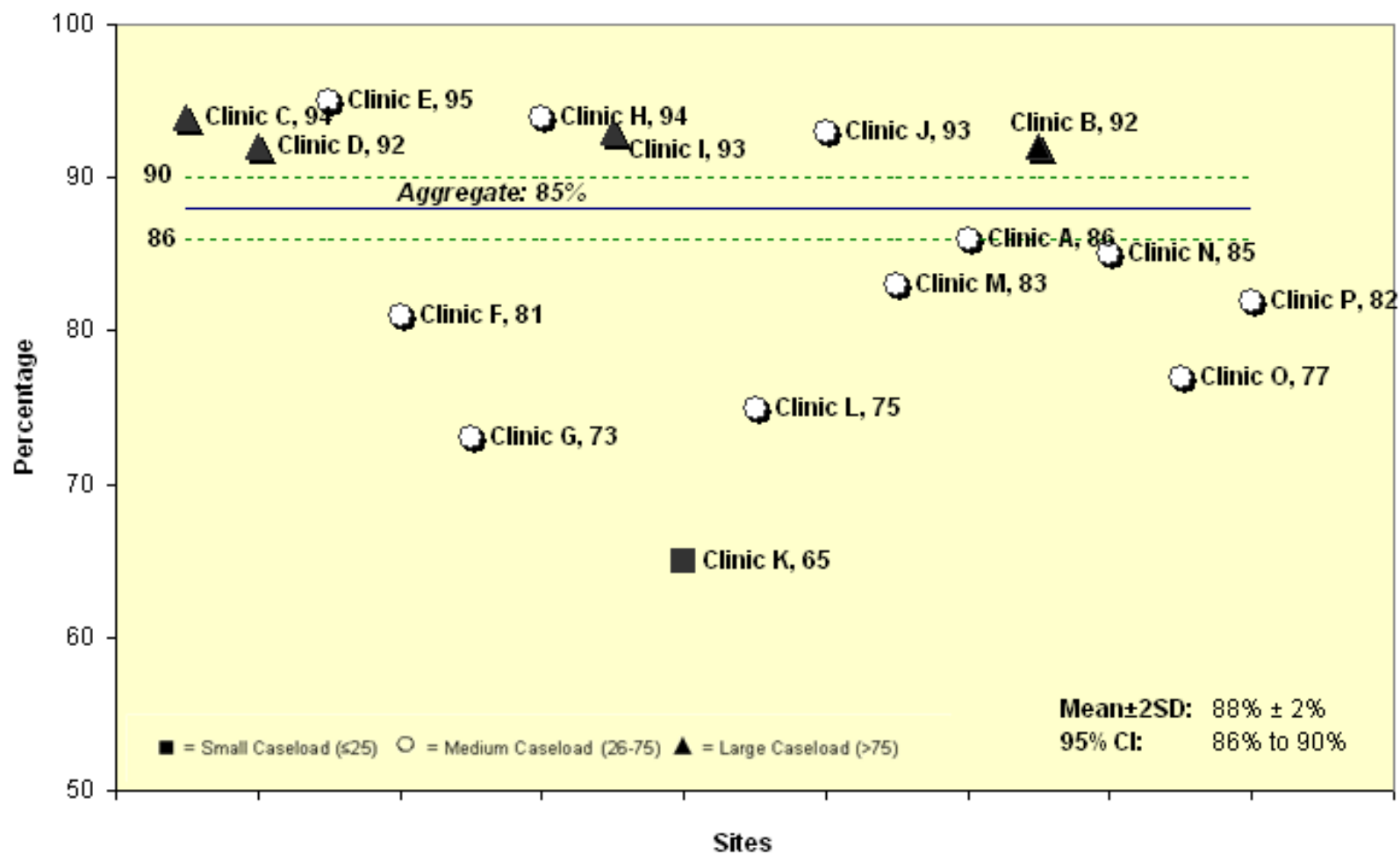


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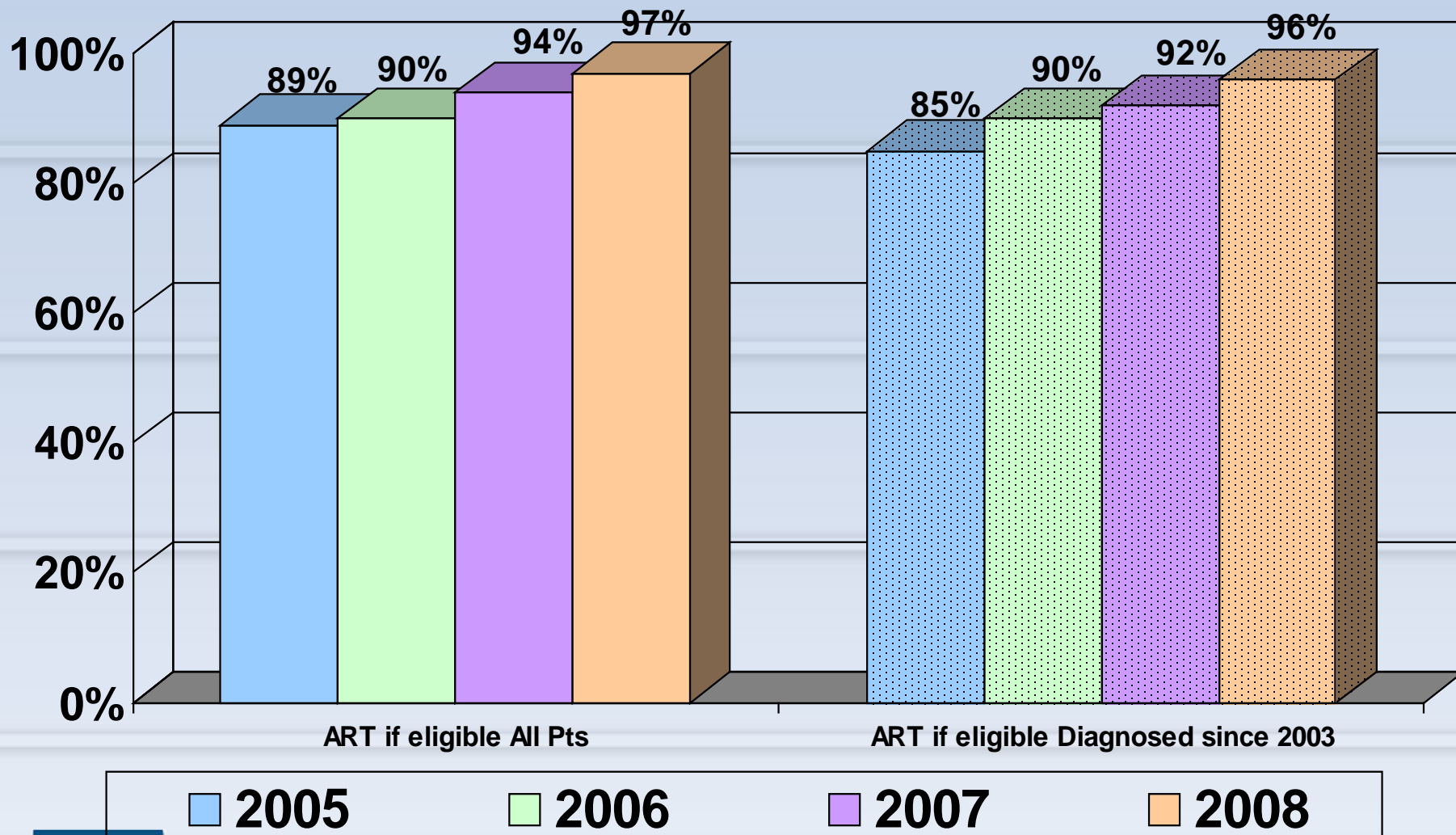
**Patients with Visits in 2 or more 4-month periods
Aggregate & Site Specific
2008**



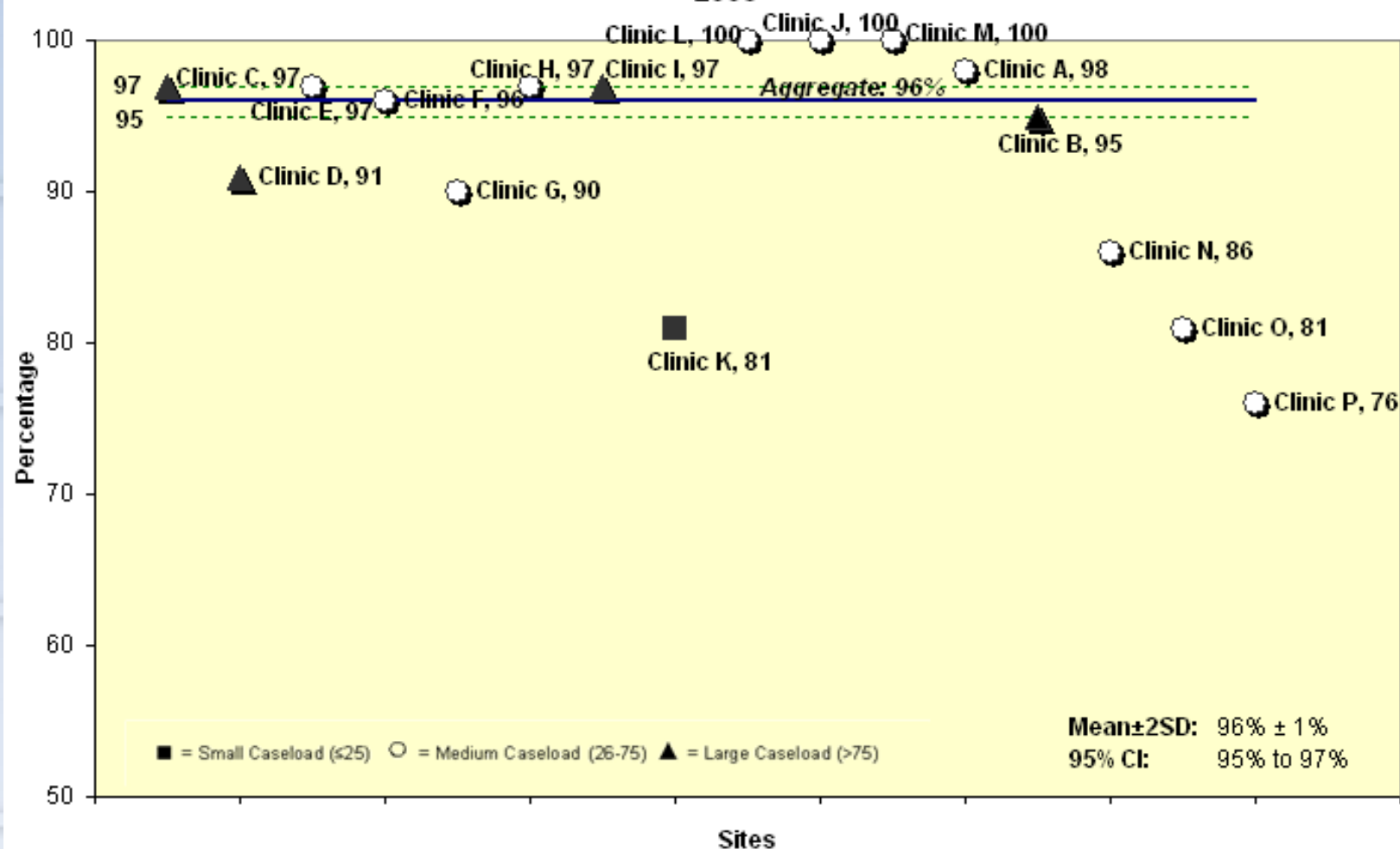
Percentage of Patients with 2 or more CD4 (≥ 3 months apart)
Aggregate & Site Specific
2008



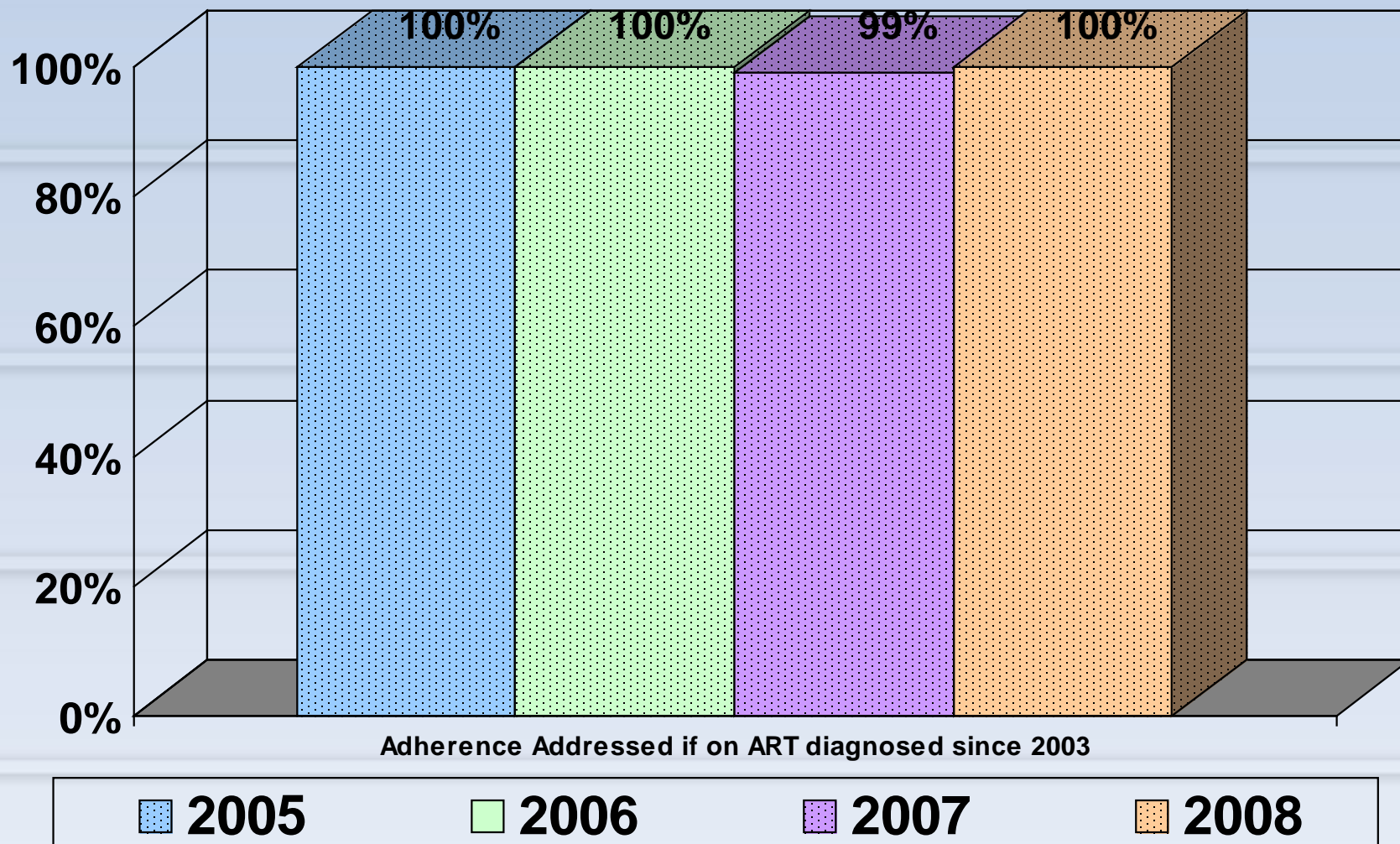
HIV Treatment Quality Measures:



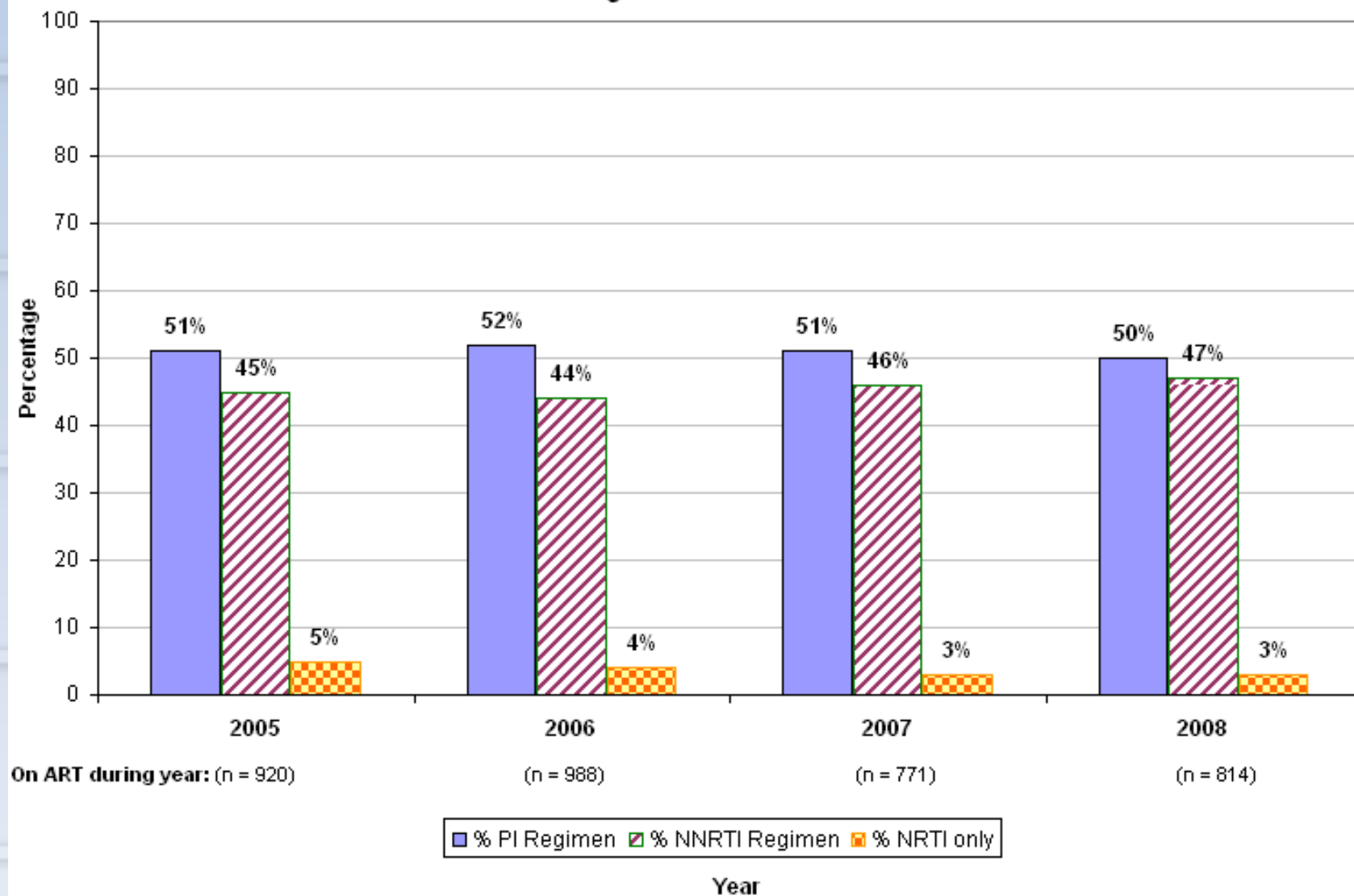
Percentage of Patients on ART (among eligible)
Aggregate & Site Specific
2008



HIV Treatment Quality Measures: Diagnosed since 2003



ART Regimens from 2005-2008



CLINICAL OUTCOMES

Viral load suppression

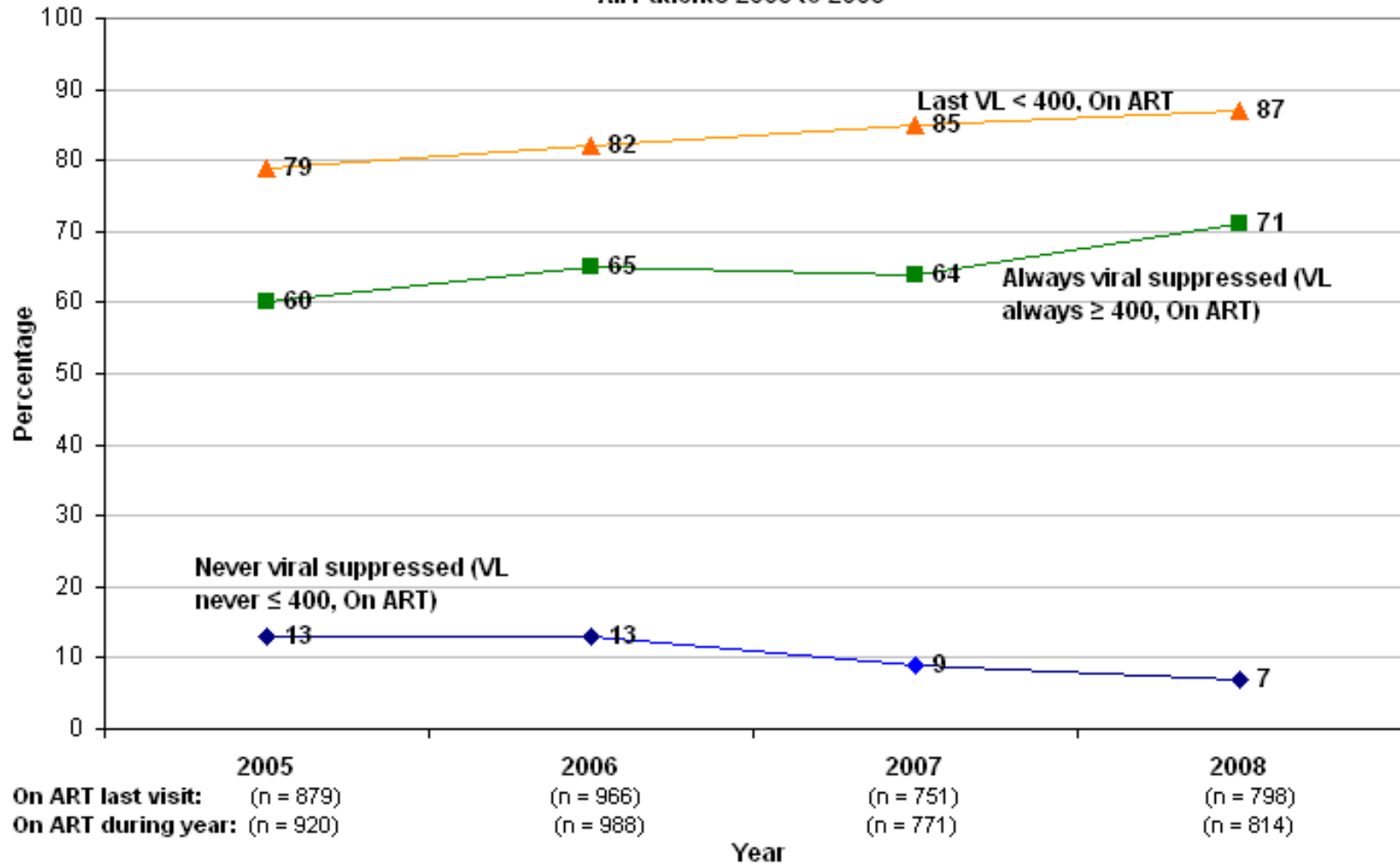
CD4 counts

Engagement in Care

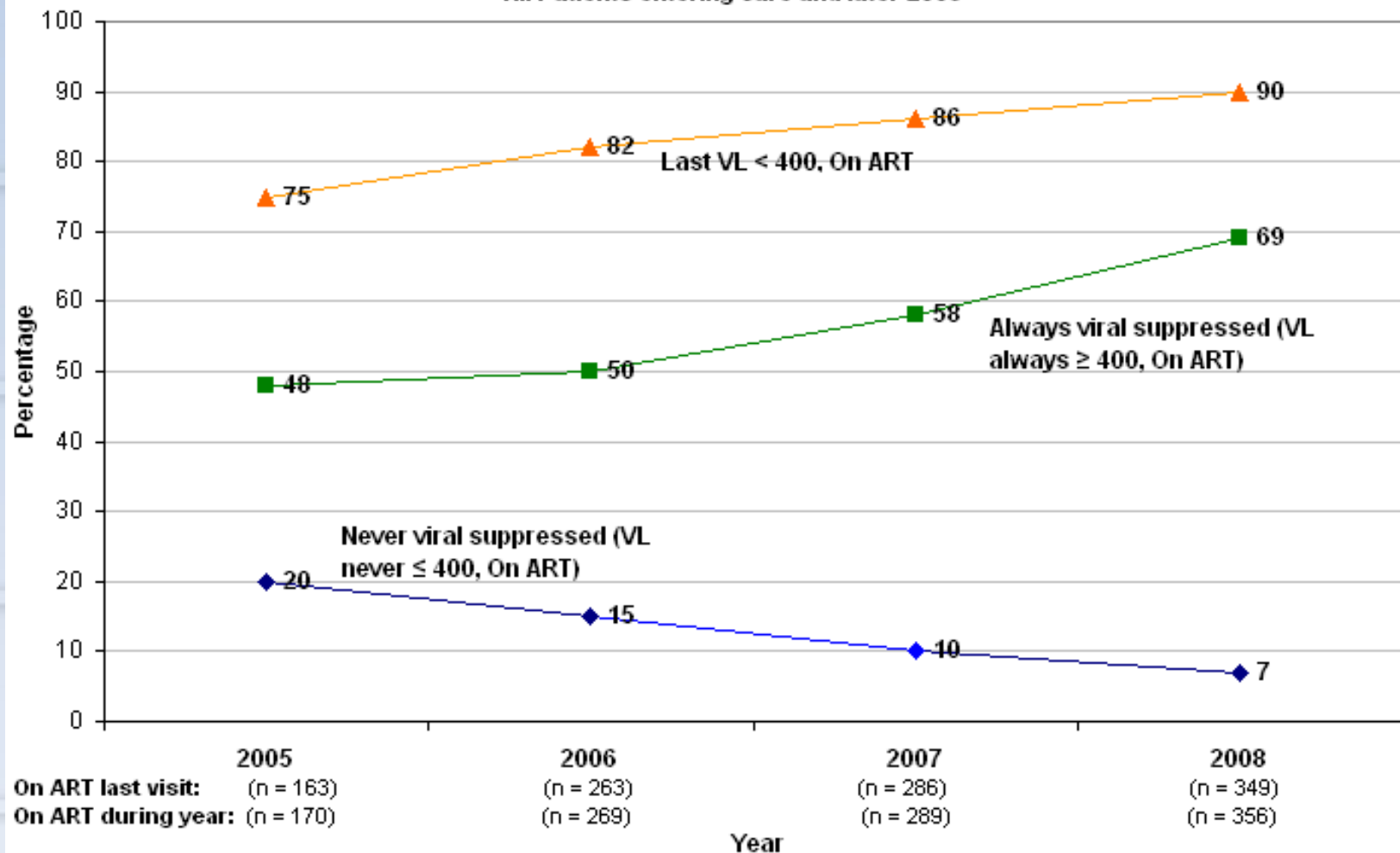
Hospitalization



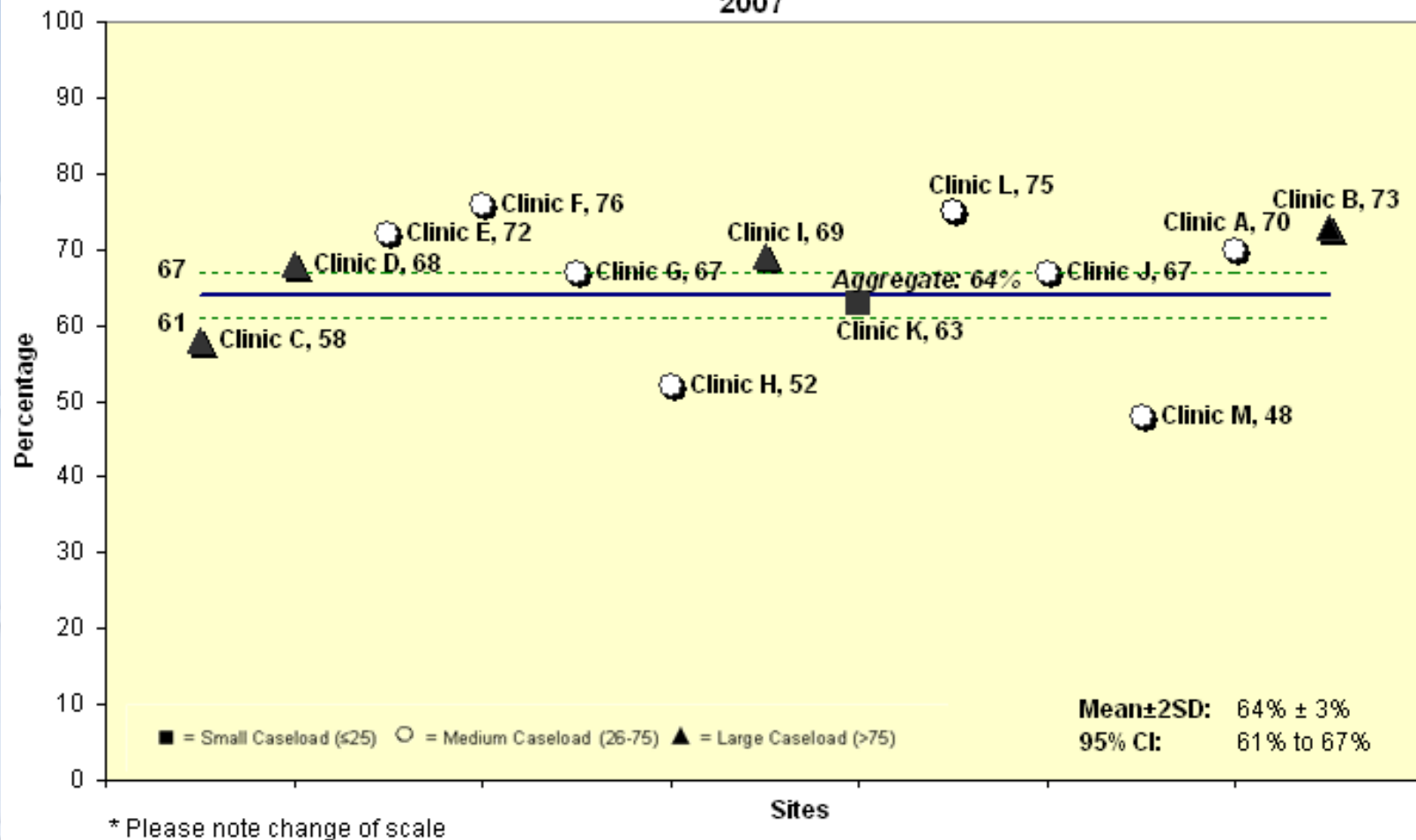
All Sites
Percentage of Patients with Last Viral Load ≤ 400 (On ART at last visit)
Percentage of Patients with Viral Suppression (On ART at anytime during year)
All Patients 2005 to 2008



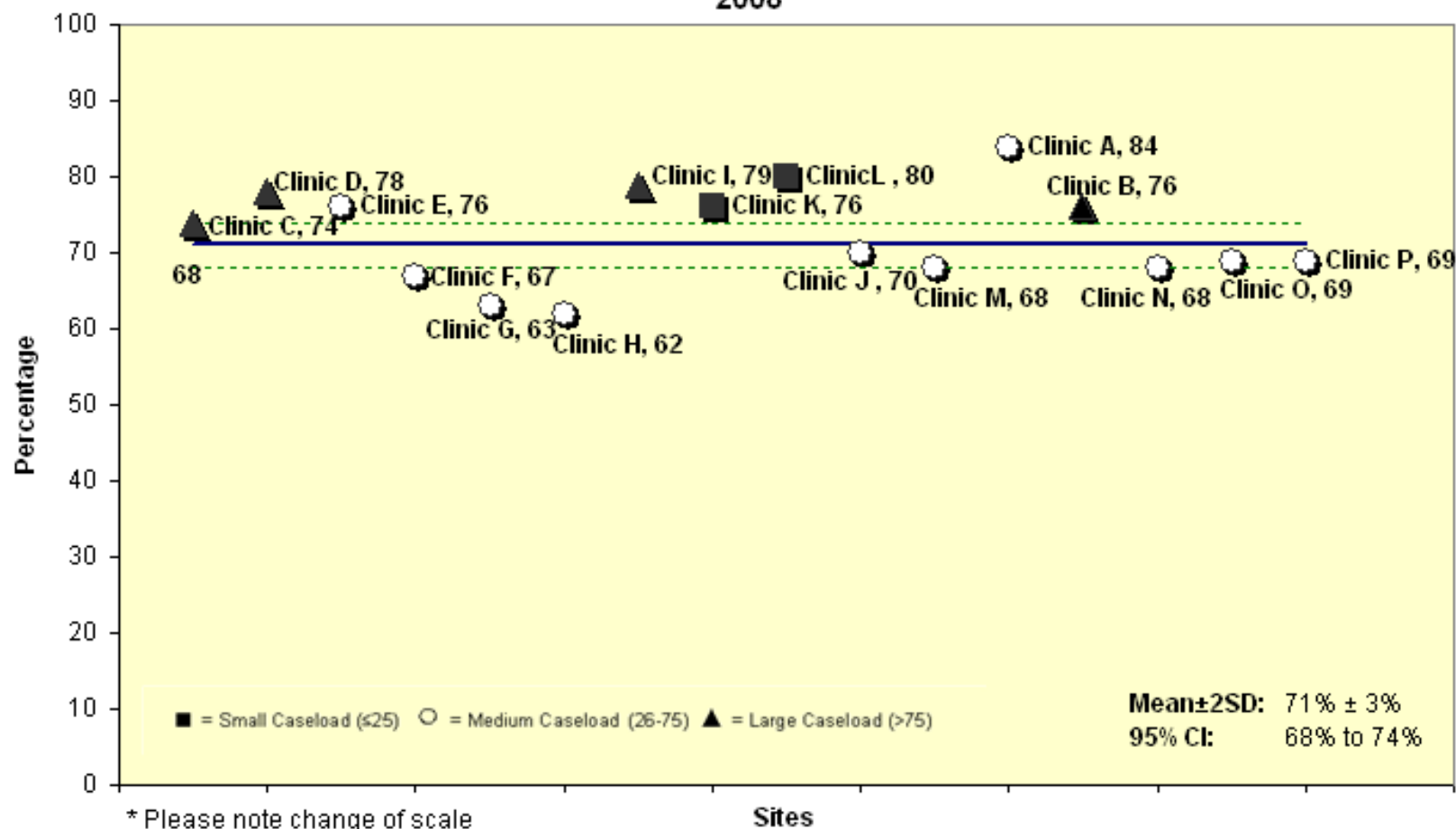
All Sites
Percentage of Patients with Last Viral Load ≤ 400 (On ART at last visit)
Percentage of Patients with Viral Suppression (On ART at anytime during year)
All Patients entering care and later 2003



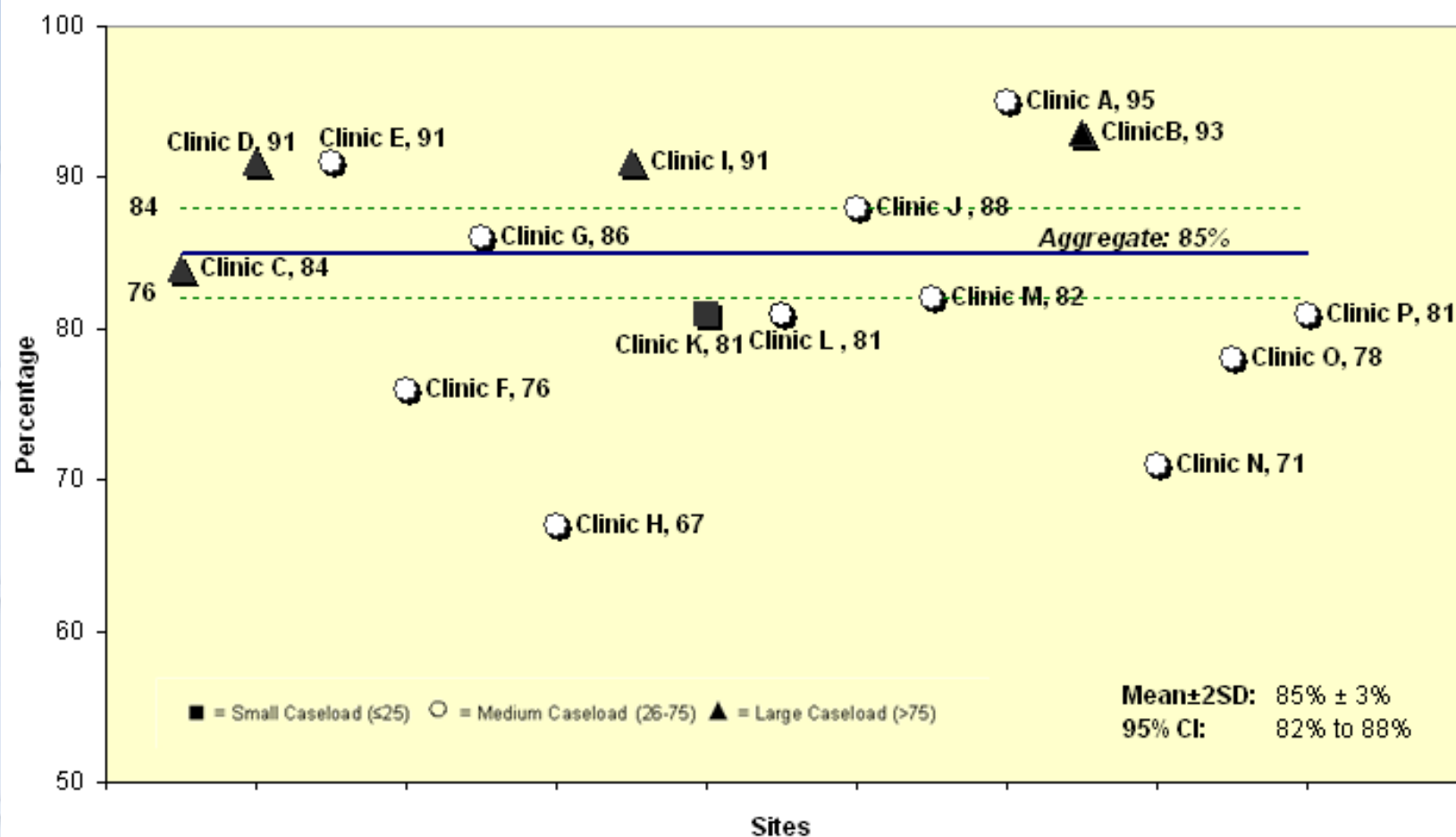
Patients who always had Viral Suppression ($VL \leq 400$) throughout year *
Aggregate & Site-Specific
2007



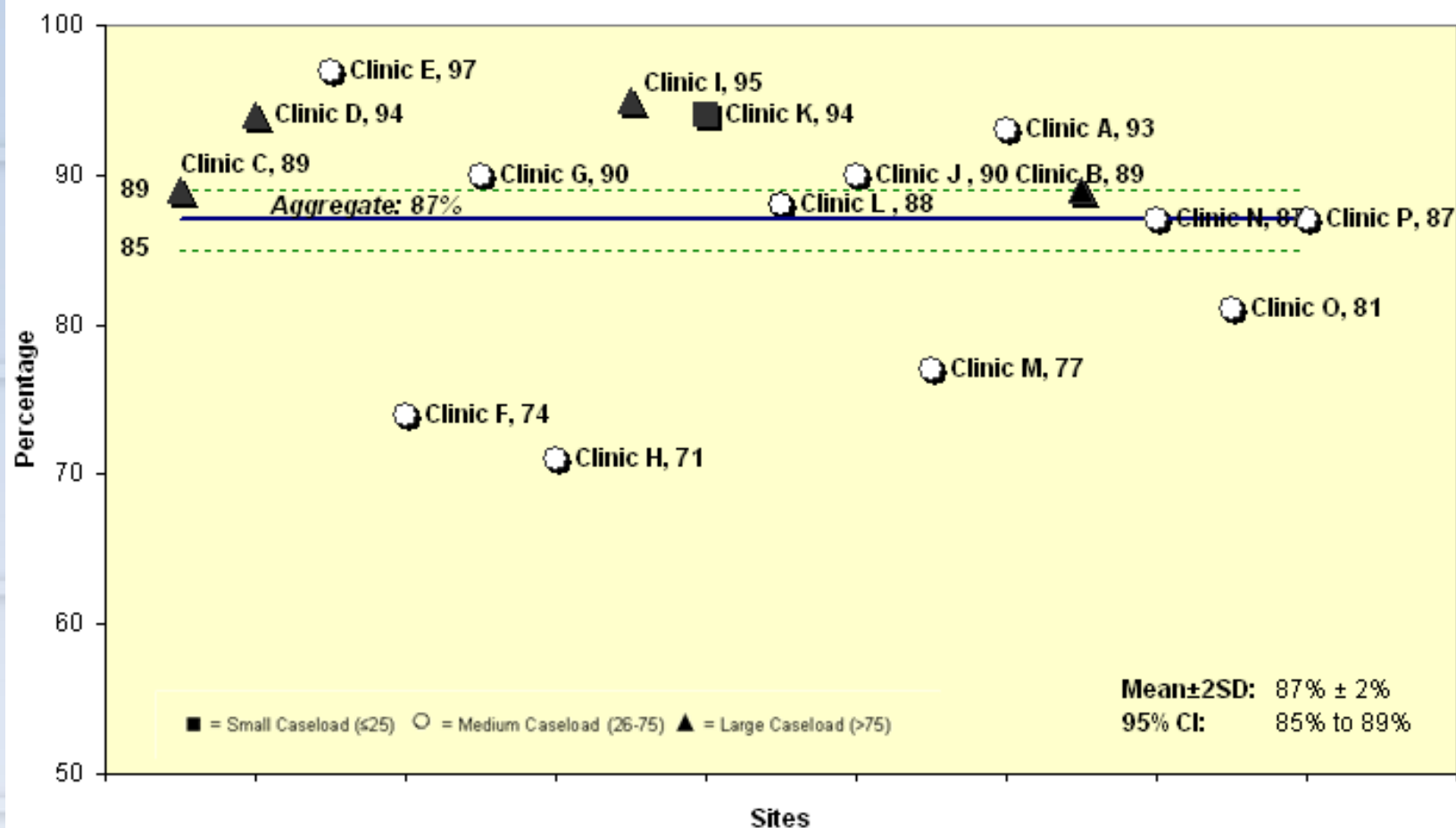
Patients who always had Viral Suppression ($VL \leq 400$) throughout year *
Aggregate & Site-Specific
2008



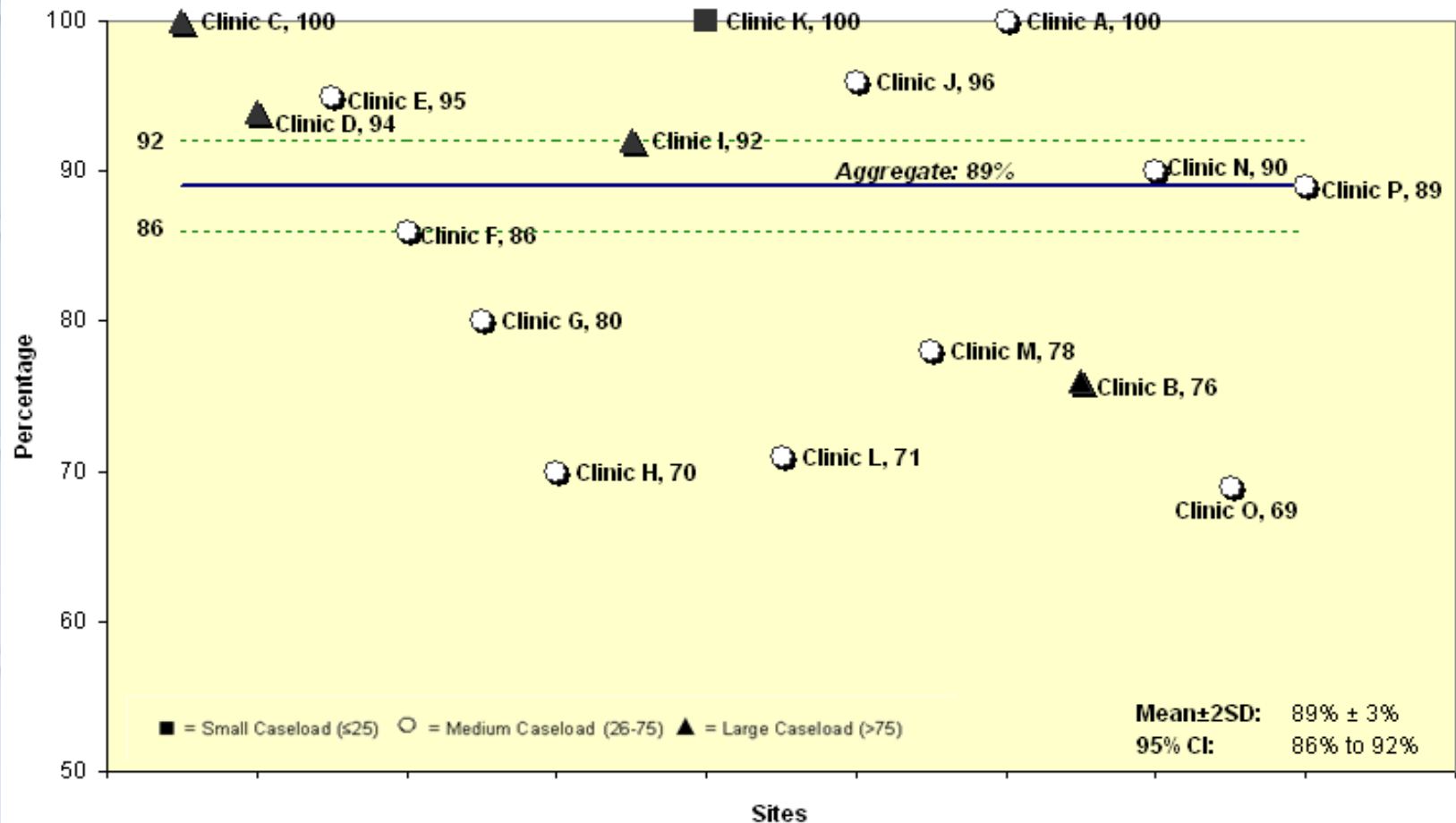
Percentage of Patients with last VL \leq 400 (on ART at last visit)
Aggregate & Site Specific
2007



**Percentage of Patients with last VL \leq 400 (on ART at last visit)
Aggregate & Site Specific
2008**



Percentage of patients diagnosed since 2003 with last VL \leq 400
(on ART at last visit)
Aggregate & Site Specific, 2008

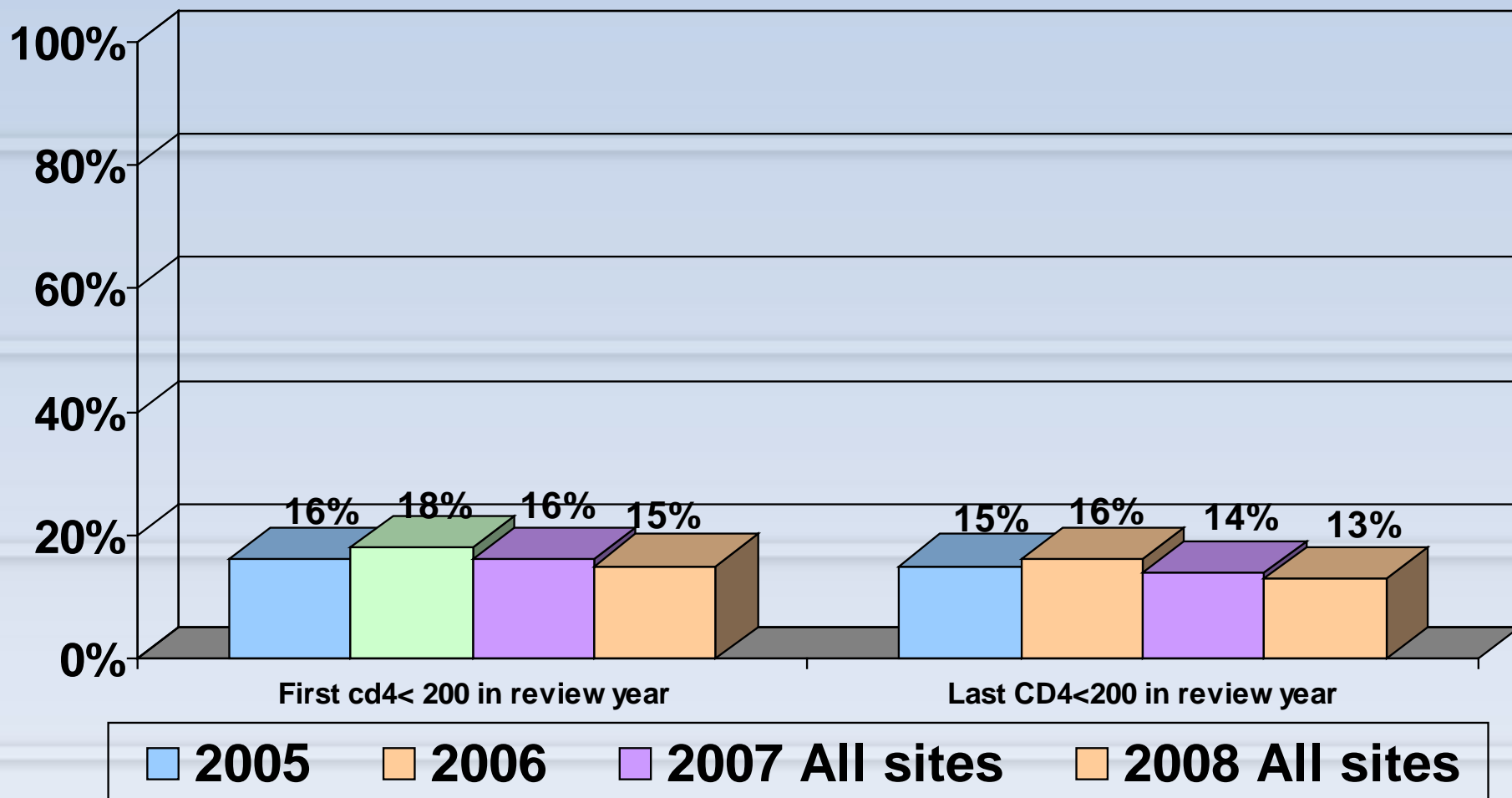


Only patients diagnosed since 2003

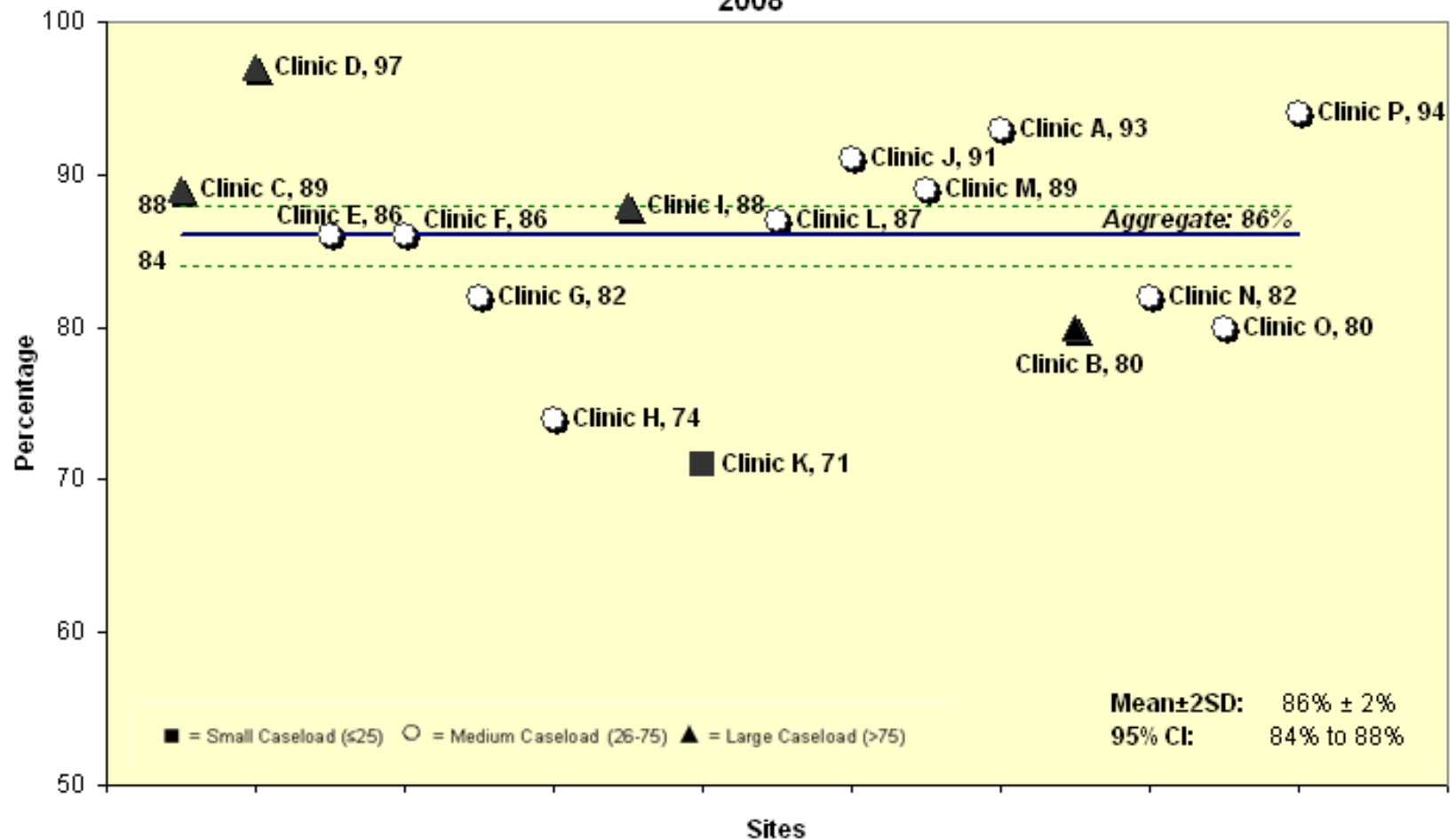


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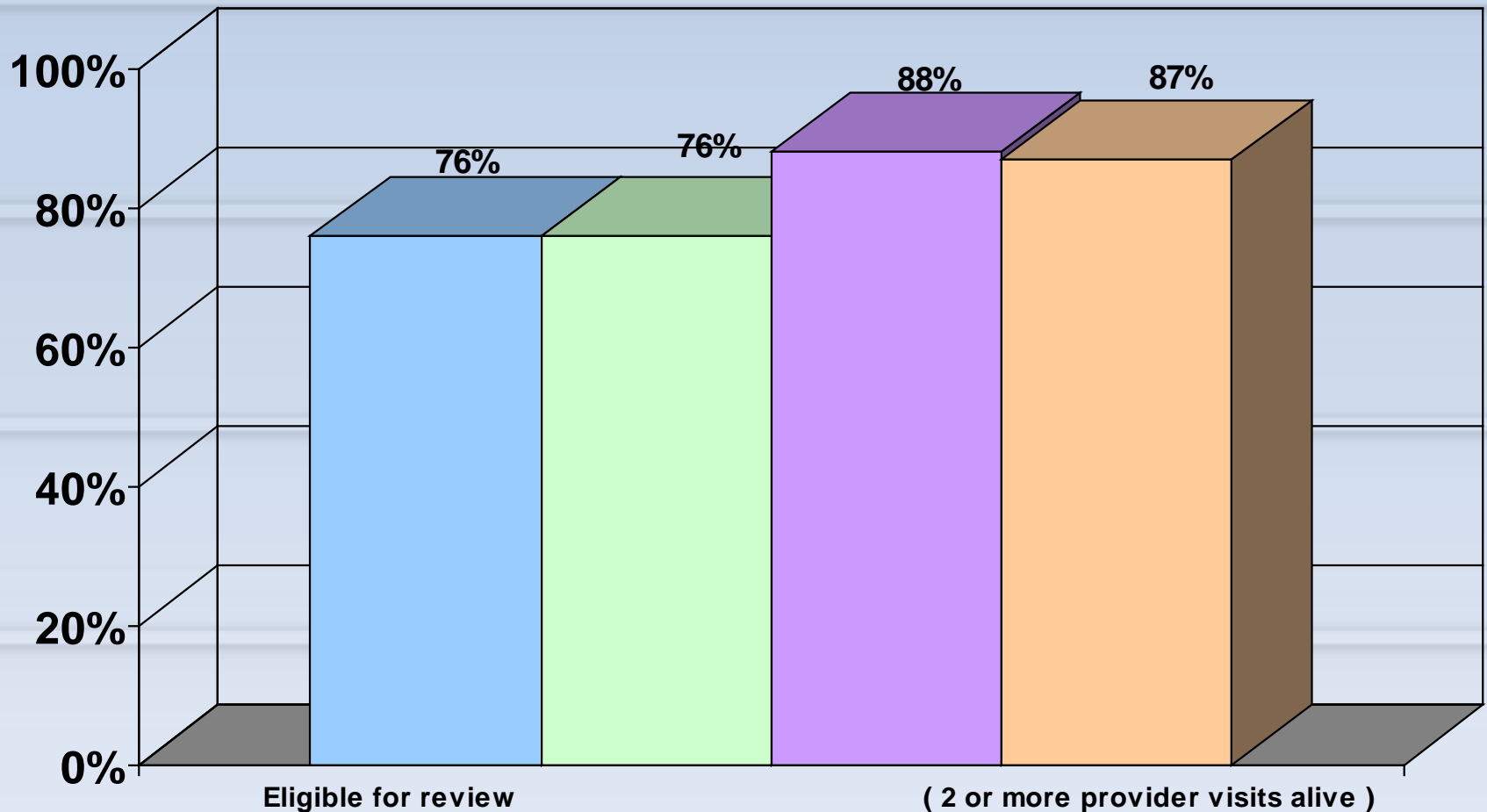
Quality Outcome Measures: All Patients



Percentage of Patients with last CD4>200
Aggregate & Site Specific
2008



Outcome: Engagement in care (identified for chart review and ≥ 2 visits)



■ 2005 All Pts ■ 2006 All Pts ■ 2007 All Pts ■ 2008 All Pts



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Hospitalizations



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Hospitalization Overview

- Overall rates of all-cause hospitalization have been stable at 13-15% per year
- Typically have been higher in women and US born patients, but no racial or ethnic differences
- Due to concerns about ascertainment bias (non-hospital clinics having missing data), we are not presenting individual clinic rates
- Compared discharge codes from a parallel analysis of 2007 statewide hospital discharge data for >5600 admissions coded for HIV infection or AIDS



Inpatient Diagnosis Codes for Patients with HIV:
Administrative discharge data compared to chart review---
2007

**Principal &
First Listed
Secondary
Diagnosis Code
N=5,679
% (n)**

**Chart review
Patients
N=299**

AIDS-Opportunistic Infection Diagnoses

9.2% (522)

8.0% (24)

Diagnoses by ICD9 Major Categories

**Principal
% (n)**

**1 of 2 Primary
Reasons**

Infectious And Parasitic Diseases

57.9% (3288)

31.6% (77)

Neoplasms

4.1% (234)

1.2% (3)

Endocrine, Nutritional And Metabolic Diseases, And Immunity
Disorders

6.8% (385)

1.6% (4)

Diseases Of The Blood And Blood-Forming Organs

2.9% (164)

2.0% (5)

Mental Disorders

16.1% (914)

11.1% (27)

Diseases Of The Nervous System And Sense Organs

2.8% (161)

7.4% (18)

Diseases Of The Circulatory System

10.0% (569)

7.4% (18)

Diseases Of The Respiratory System

17.5% (993)

23.4% (57)

Diseases Of The Digestive System

11.6% (656)

10.2% (25)

Diseases Of The Genitourinary System

6.6% (375)

5.7% (14)

Complications of Pregnancy, Childbirth, and the Puerperium

2.3% (129)

3.3% (8)

Diseases Of The Skin And Subcutaneous Tissue

6.3% (359)

8.6% (21)

Diseases Of The Musculoskeletal System And Connective Tissue

4.0% (228)

5.7% (14)

Symptoms, Signs, And Ill-Defined Conditions

8.9% (504)

11.9% (29)

Injury And Poisoning

8.1% (462)

2.9% (7)

Supplementary Classification Of Factors Influencing Health Status
And Contact With Health Services#

8.5% (483)

3.3% (8)



Includes V08 code for "asymptomatic HIV infection"
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Conclusions

- Care has in general remained at high quality or improved
 - Adherence, hepatitis, on ART
- Viral suppression has improved in last 4 years
- Some measures are good overall but there is significant variability between sites
 - HIV monitoring



Conclusions

- Some areas remain a challenge across many sites
 - Cervical cancer screening, TB, STI screening, dental care (HAB Group 2)
- Others represent changing practices
 - Anal Paps



Acknowledgements

- The clinical site staff
- BPHC: Michael Goldrosen and staff
- MDPH: Debbie Eisenberg and staff
- JSI QM team
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 - Joe Musolino
 - Laurie Kunches
 - Jacqueline Steiner
 - Allison Power



Questions



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