

Developing, Implementing, and Evaluating a Hepatitis A & B Vaccination Program:

A Partnership between Public Health & a Methadone Maintenance Treatment Program

**Paul McLaughlin, M.A.
Executive Director, Hartford Dispensary &**

**Andrea Lombard, RN, BSN, MPH
Connecticut Department of Public Health**

Capitol Hyatt, Washington, D. C.

December 8, 2005

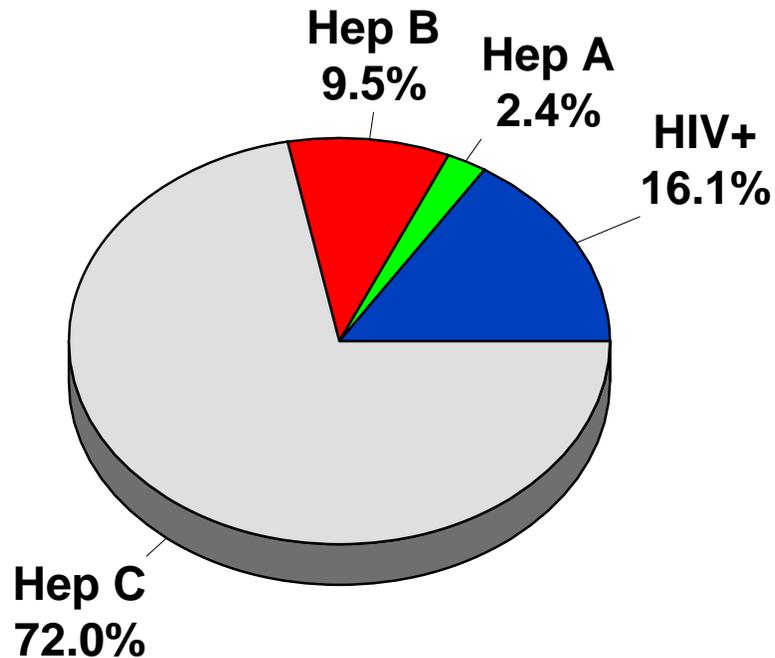
Background and Overview

- ❧ **Hartford Dispensary (HD) is a private not-for-profit community based organization that currently specializes in out patient methadone maintenance services (MMTP). Currently the agency operates eight (8) clinic sites that serve over 4,100 patients.**
- ❧ **The majority of patients are injection drug users (I.D.U.s) who are at high risk for infectious diseases including: HIV/AIDS, tuberculosis, stds, hepatitis A, B & C.**
- ❧ **In 2001, both the Connecticut Department of Public Health (DPH) and HD were interested in expanding their ability to locate and provide hepatitis A & B vaccinations to high-risk I.D.U.s. The agencies collaborated to develop a clinic based vaccination program.**
- ❧ **Between May of 2002 and April 2005, HD developed and implemented an on-site hepatitis A & B vaccination protocol, provided staff training, educated patients and monitored program delivery outcomes. The protocol was initially implemented at two (2) urban MMTP clinics in Hartford, Connecticut.**
- ❧ **The results of the vaccination program support the use of medication assisted treatment outpatient clinics for the delivery of hepatitis A & B vaccination services as well as a platform for implementing other public health interventions.**

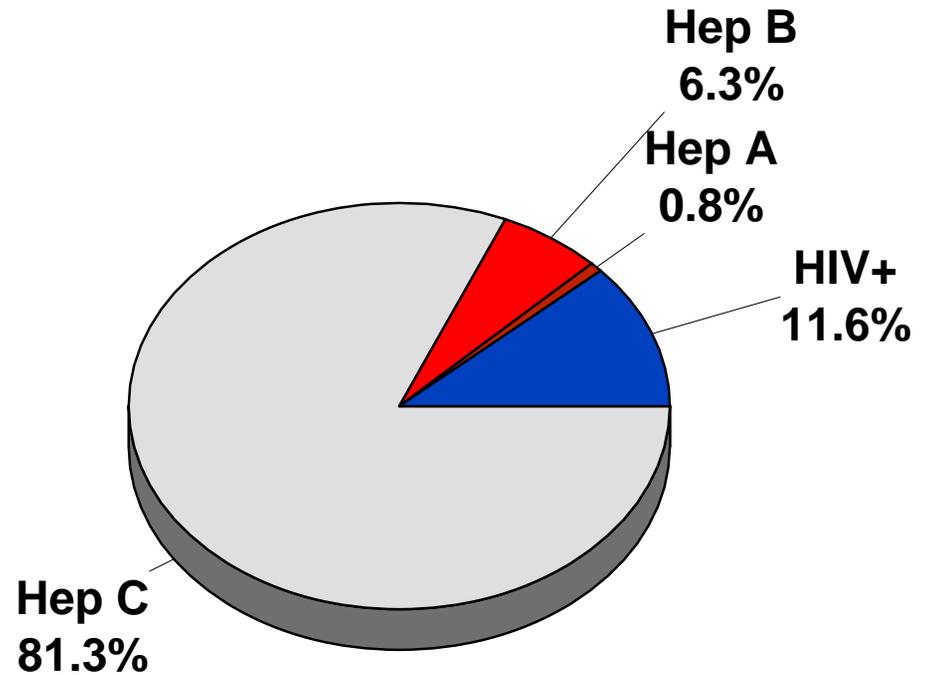
Patients Testing Positive for hepatitis C

Hartford Dispensary
Infectious Disease Data by Clinic: July 2005

Henderson-Johnson Clinic



Doctors Clinic



Total Patients Tested: 819

Total Patients Tested: 661

Steps used to Develop a Vaccination Protocol

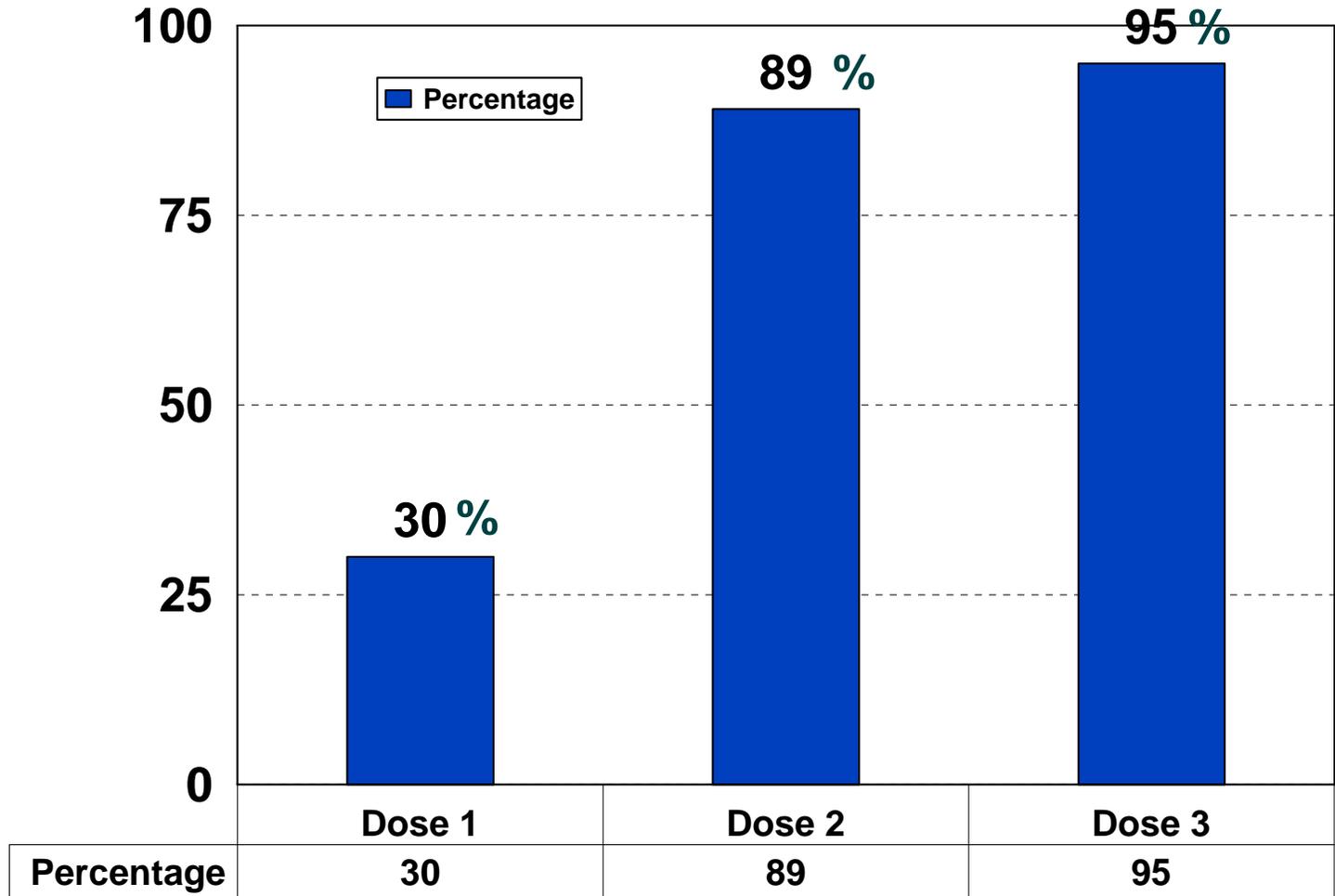
- ❧ In the summer of 2000, HD, in collaboration with (Home Access) Shering-Plough Pharmaceutical Company tested approximately 1,000 patients for the hepatitis C antibody. 57% of patients tested were antibody positive for hepatitis C. As a result HD began to offer hepatitis C screening for all patients.
- ❧ DPH established had established a statewide hepatitis advisory group during this period.
- ❧ A HD/DPH partnership was formed to examine the efficacy of delivering hepatitis A & B vaccination services within a MMTP.
- ❧ In response, HD:
 - ❧ Retained the services of a physician who is a gastroenterologist and addictionologist.
 - ❧ Received free hepatitis A & B vaccine (Twinrix) from the DPH.
 - ❧ Established vaccination services using current staff to include: nurses, clinicians, infectious disease staff and physicians.
 - ❧ Began data collection to monitor vaccination delivery outcomes.

Vaccination Program Implementation

- ❧ Hepatitis A & B vaccination “Twinrix” was chosen based on DPH recommendation, vaccination effectiveness, and DPH experience with Twinrix. The protocol is a series of three (3) inoculations: initial, 30 day, 6-month.
- ❧ A vaccination criteria was established due to limited availability of vaccine, the need to maximize vaccination safety and to ensure delivery of vaccine to appropriate patients. Twinrix vaccinations may be contraindicated for patients due to health issues.
 - ❧ 2002-First Year Criteria: Methadone maintenance patients who were hepatitis C positive and hepatitis B negative.
 - ❧ 2003-Second Year Criteria: All patients who are not hepatitis B positive.
- ❧ A critical component to the success of the project was hepatitis A, B & C training provided to clinical staff.
- ❧ Patients receiving hepatitis A & B vaccinations receive continuous education and ongoing support to motivate them to complete the full vaccination series.
- ❧ Clinical services realigned to allow nursing, physicians, and counselors to provide support for vaccination service delivery.
- ❧ Contracted with Board Certified infectious disease physician to provide oversight for the vaccination program.

Effectiveness of Twinrix Vaccination

The Twinrix vaccination protocol is a series of three (3) inoculations: initial, 30 day, 6-month. Clinical effectiveness is summarized below.



Source: Andre FF. "Summary of Safety and Efficacy Data on Yeast-Derived hepatitis B Vaccine." American Journal of Medicine. 1989, 87:145-205.

Hepatitis A & B Vaccination Protocol Completion Rates

1st to 2nd Dose

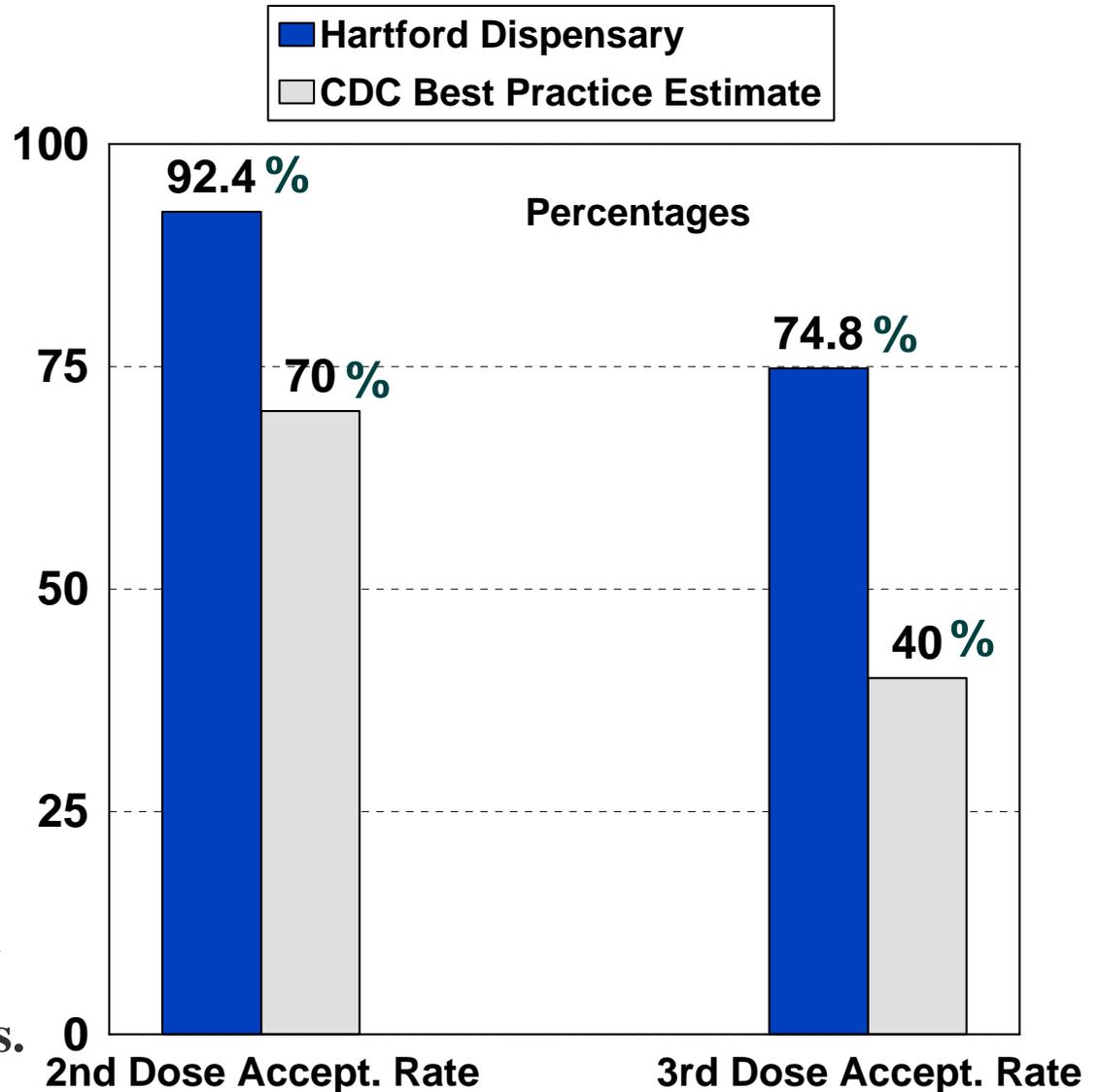
Completion rate of **92.4%** compared to a CDC Best Practice estimate of **70%**.

2nd to 3rd Dose

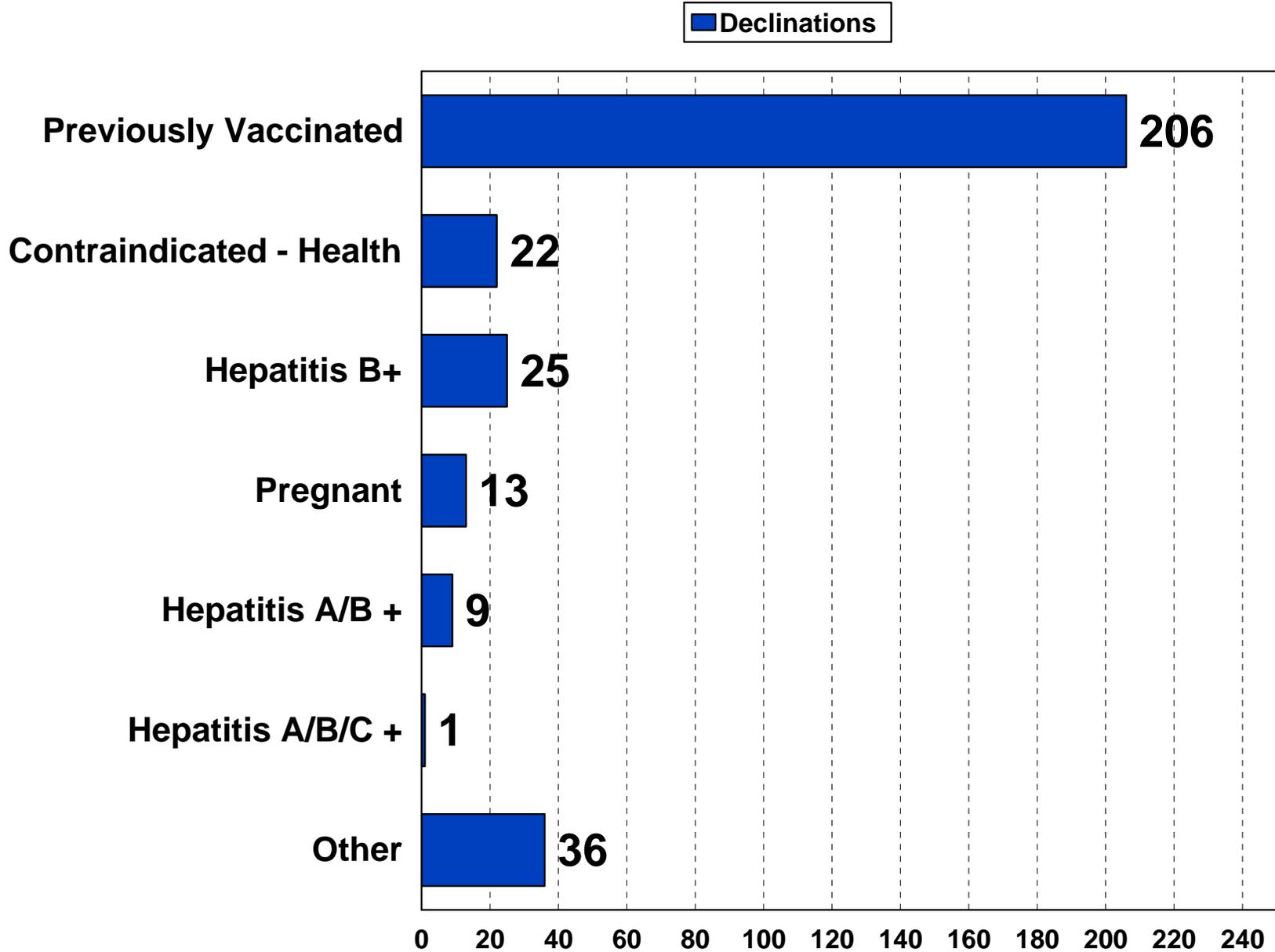
Completion rate was **74.8** compared to a CDC Best Practice estimate of **40 %**.

1st to 3rd Dose

Of 2068 patients who began the vaccination series, 1429 or **69%** completed the series.



Survey Data of Patients Declining Vaccinations as of April 2005

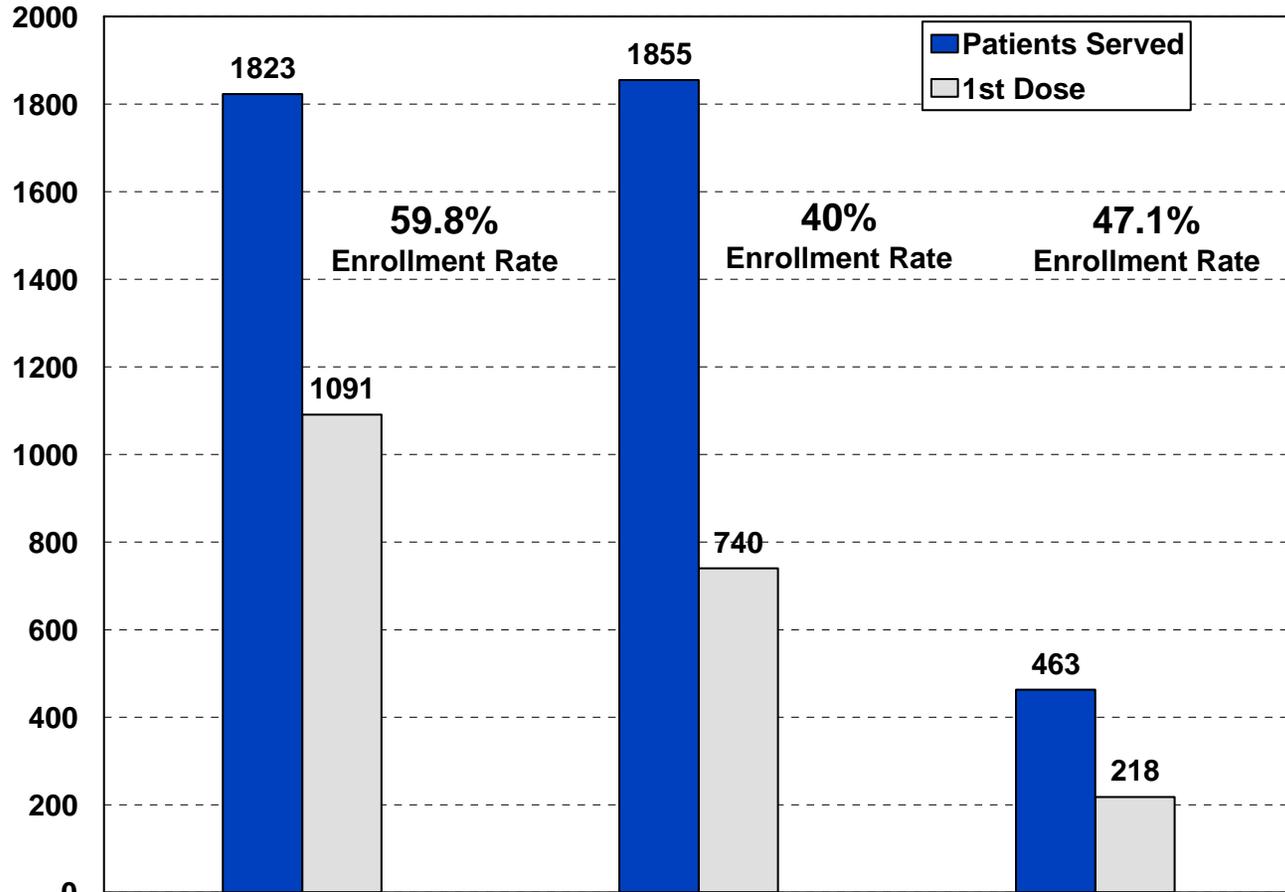


Combined Clinic

Vaccination Series Enrollment Rates by Ethnicity

May 2002 – April 2005

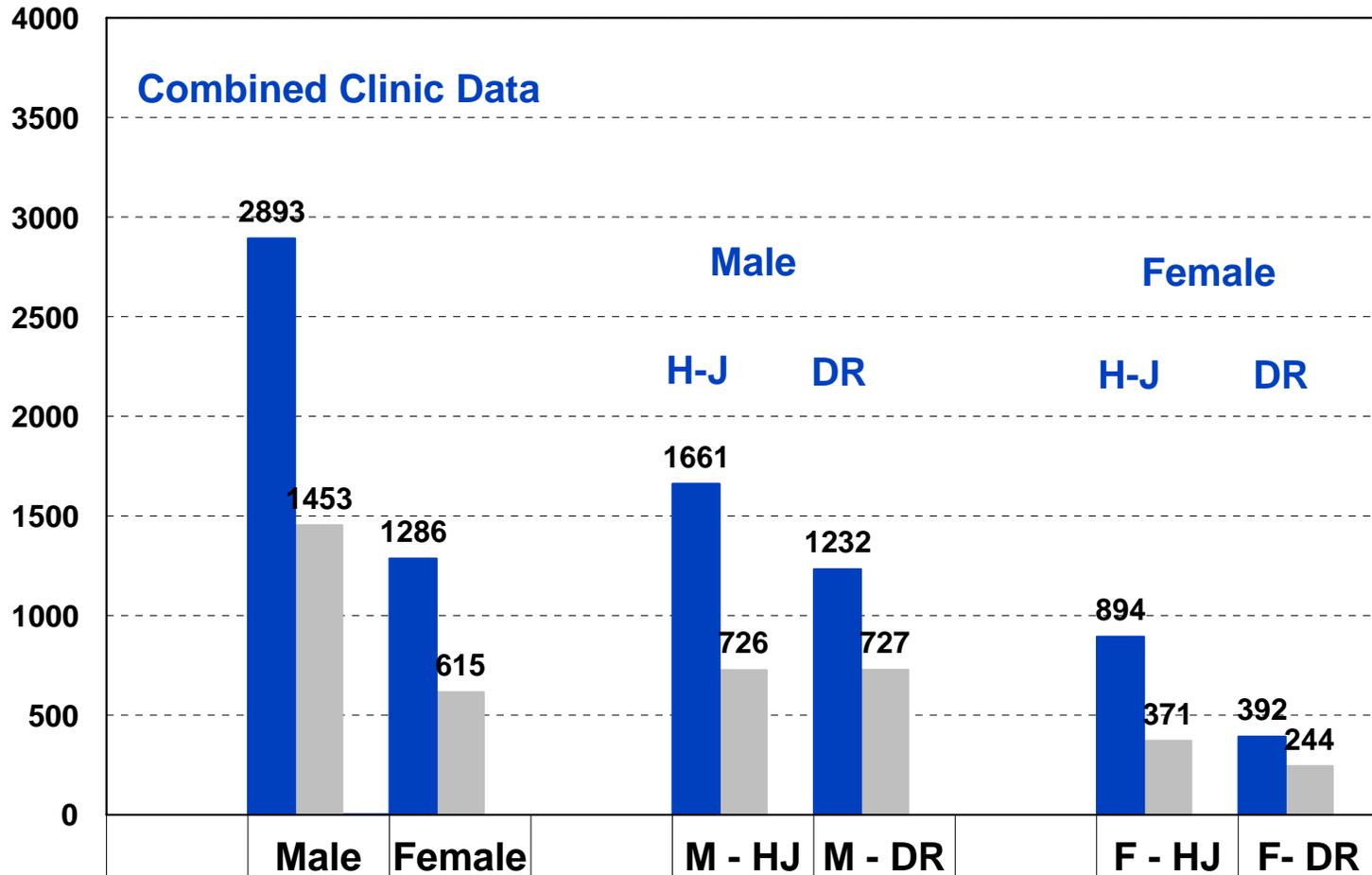
Doctors Clinic and Henderson-Johnson Clinic Combined



Patients Served	1823	1855	463
1st Dose	1091	740	218

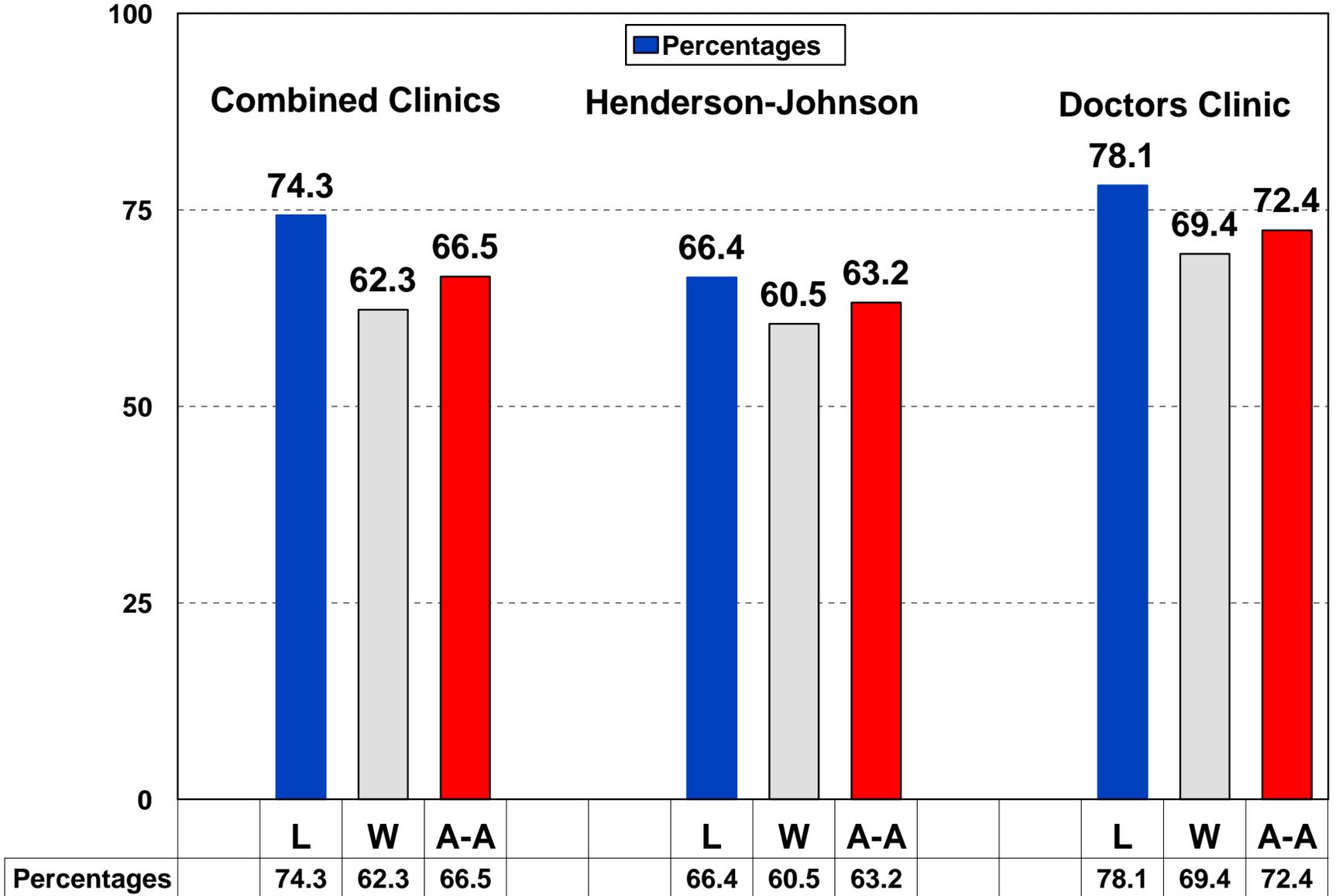
Vaccination Series Completion Rates of Enrolled Patients by Gender

■ Patients Served ■ Completing ■ Percentage



	Male	Female		M - HJ	M - DR		F - HJ	F - DR
Patients Served	2893	1286		1661	1232		894	392
Completing	1453	615		726	727		371	244
Percentage	50.2%	47.8%		43.7%	41.5%		59%	62.2%

Vaccination Series Completion Rates of Enrolled Patients by Ethnicity



Vaccination Program Conclusion

Outpatient MMTPs are traditionally very successful in retaining high risk intravenous drug users, thereby making these programs ideal settings for the delivery of hepatitis A & B vaccinations.

The results of the vaccination program at the two (2) Hartford Dispensary clinics demonstrate the effectiveness of MMTP clinics in delivering vaccination services.

Lessons Learned

- ❧ Using a collaborative project team approach with the Department of Public Health and a community based treatment program allowed the implementation of a critical public health initiative.
- ❧ Results of this project indicate that gender and ethnicity do not pose barriers to participation.
- ❧ A designated clinician coordinating the vaccination services is very helpful in enhancing patient participation.
- ❧ The primary barrier to implementing a hepatitis A & B vaccination program within a MMTP is the cost associated with laboratory testing and medication.

Estimated Cost of the Vaccination Program

Costs Associated with Vaccination Program

- As part of our collaboration with the DPH, HD received free vaccinations.
- In Connecticut, the retail cost of the Twinrix vaccine is \$72.50 per unit of medication. DPH received a CDC discount resulting in a cost of \$36.25 per unit. The projected cost of medication for a patient who completed the protocol was \$108.75.
- As we provided 5407 individual inoculations, the monetary value of the CDC discounted vaccinations administered over the three (3) year period is \$196,003.

Laboratory Costs

- The cost in Connecticut per hepatitis C antibody screening test is \$15.

Services Delivery/Labor Costs

- A benefit associated with delivering services in a MMTP, are available medical staff resources. It is estimated that the actual cost for staff to provide such services - nursing, physician, clinical and support staff – would be between \$75,000-\$100,000.
- The process of notifying a patient that they are positive for hepatitis C involves: education, assessment, referrals, and follow-up. This requires approximately one hour of time per patient. This represents the largest cost as a new service component.