

# FORMTRAN

Los Angeles County  
Department of Health Services



**Los Angeles County  
Department of  
Health Services**

- 2nd largest public health system in the United States
- Serves 10 million residents

**Industry**  
Government  
Healthcare

**Challenge**

- Scan thousands of STD forms every month
- Handle different forms from 14 clinics
- Save data entry time while maintaining 100% accuracy

**Strategy**

- Formtran and LA County personnel work together to create expandable, networked forms processing system

**Results**

- 90% faster than manual entry
- Faster reporting internally and to external agencies such as CDC (Center for Disease Control)
- New forms can be defined without interrupting production scanning

## FORMTRAN

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**Organization Profile**

The Los Angeles Department of Health Services (LADHS) is the second largest public health system in the nation providing direct patient care and public health services to nearly 10 million county residents. The system is a major source of medical care for the more than 2.5 million residents without health insurance and provides the vast majority of all uncompensated medical care in the county. DHS has an annual budget of \$2.9 billion and employs 23,000 individuals. The STD division is charged with Epidemiological surveillance of STDs in Los Angeles County.

**Challenge:  
A sexually healthy Los Angeles County**

When the Sexually Transmitted Disease (STD) Program started tracking every case of an STD in the county, county administrators knew the sheer amount of data they planned to collect would require an automated solution to manage more than 40 new cases of STDs reported at the county’s 14 public clinics each day. Each clinic prepares a two-page form per patient – meaning the department must input as many as 2,000 pages or more each month.



“Each clinic submits a form about each new case daily, but some have special projects and each of those has its own forms as well,” says Peter He, Epidemiology Analyst.

**Strategy:  
Formtran and LADHS design expandable OCR system**

Formtran worked with LADHS staff to architect a forms processing system that would meet current and future requirements.

- Read all field types including handprinted fields, machine printed fields, check boxes and bar codes
- A networked system where multiple people could work on multiple projects at the same time
- Easily add software modules to handle increased volume

LADHS also worked with Formtran to fine-tune its form and create rules in order to maximize recognition despite the complexity of recognizing handwritten forms. “Accuracy is really important,” says He. “In fact, it is the most important thing of all.”

Once forms are scanned into the system, the analyst transfers the data into a SAS system for data analysis, and then stores it in a shared database that tracks the data for use in research projects. The format also allows the county to readily report the statistics to state and federal Centers for Disease Control and Prevention (CDC) bureaus.

**Results:  
Fast and Fabulous**

- Automating forms processing cuts data entry time by 90 percent compared with manually entering data, says He. “We use about one-tenth the time with the system from Formtran,” he adds.
- Consistent data is achieved through use of validation rules
- Faster reporting internally and to external agencies such as CDC (Center for Disease Control)

**Reason for Visit (check all that apply)**

- Check-up (asymptomatic)
- Symptoms present
- Positive test, done elsewhere (specify) .....
- Referral PHI / PHN / Other (specify) .....
- Contact to STD (specify) .....
- Immunization
- Emergency contraception
- Other .....

Sex partner in clinic today?  No  Yes

**Gender and Pregnancy Status (check all that apply)**

- |   |   |
|---|---|
| Patient gender  | Gender(s) of sex partner(s)<br>(Last 12 mths) |
| <input type="checkbox"/> Male   | <input type="checkbox"/> Males                |
| <input type="checkbox"/> Female   | <input type="checkbox"/> Females              |
| <input type="checkbox"/> Transgender (M to F)                           | <input type="checkbox"/> Transgender (M to F) |
| <input type="checkbox"/> Transgender (F to M)                           | <input type="checkbox"/> Transgender (F to M) |
| <input type="checkbox"/> Other .....                                    | <input type="checkbox"/> Unknown              |
| <input type="checkbox"/> Pregnant # wks .....                           | <input type="checkbox"/> Pregnant # wks ..... |
| Prenatal care? <input type="checkbox"/> No <input type="checkbox"/> Yes |   |

**STD History**

- |  |  |
|--|--|
| <b>Ever</b>                                    | <b>Past 24 mths</b>                          |
| <input type="checkbox"/> Hepatitis A           | <input type="checkbox"/> Gonorrhea           |
| <input type="checkbox"/> Hepatitis B           | <input type="checkbox"/> Chlamydia           |
| <input type="checkbox"/> Hepatitis C           | <input type="checkbox"/> NSU                 |
| <input type="checkbox"/> Genital herpes        | <input type="checkbox"/> Trichomonas         |
| <input type="checkbox"/> PID When? .....       | <input type="checkbox"/> Bacterial vaginosis |
| <input type="checkbox"/> Syphilis When? .....  | <input type="checkbox"/> Ano-genital warts   |
| → Last RPR date .....                          | <input type="checkbox"/> None                |
| → Rx .....                                     |  |
| <input type="checkbox"/> Other (specify) ..... |  |
| <input type="checkbox"/> None                  |  |

**\*HIV Testing\***

Last HIV test \_\_\_/\_\_\_  Never  Refused to answer

Result:  Neg  Indeterminate  Unknown  
 Pos → HIV care?  No  Yes

**Hepatitis Vaccination History**

Never  Unknown  Hep A/B combo:  1  2  3

Hep A doses:  1  2 Hep B doses:  1  2  3

**Outcome code (provider to check all applicable boxes)**

Symptoms or signs of STD present:  No  Yes

**Treatment:**

Rx for confirmed diagnosis:  CT  GC  Syph.

Presumptive Rx:  CT  GC  Syph.  HSV  
(unconfirmed diagnosis)

Epi Rx:  CT  GC  Syph.  Trich  
(contact with confirmed case)

Rx of STD or condition diagnosed in clinic:  
 Trich  BV  Yeast  Warts  Lice  Scabies  PID  UTI  
 Other (specify): .....

Emergency contraception  
 No Rx

.....MD/NP

**Sexual Practices**

Last sexual contact \_\_\_\_\_ Days / Wks / Mths / Yrs Ago  Never

**No. partners last 12 mths:**

Total  0  1  2-3  4-5  6-10  >10

**No. partners last 90 days:**

Total  0  1  2-3  4-5  6-10  >10

New  0  1  2-3  4-5  6-10  >10

**Sex while traveling last 90 days:**

No  Yes → Where: .....

**Type of sexual contact in last 90 days:**  Refused to answer

	Condom use			%
	Always	Never	Sometimes	
<input type="checkbox"/> Vaginal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
<input type="checkbox"/> Anal, receptive (partner's penis in anus)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
<input type="checkbox"/> Anal, insertive (penis in partner's anus)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
<input type="checkbox"/> Give oral (mouth to partner's genitals)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
<input type="checkbox"/> Get oral (partner's mouth to genitals)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
<input type="checkbox"/> Rimming (mouth to partner's anus)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**\*Patient Risk\***

- |   |                          |                             |
|---|--------------------------|-----------------------------|
|   | <b>Ever</b>              | <b>2 yrs/<br/>last test</b> |
| Share needles   | <input type="checkbox"/> | <input type="checkbox"/>    |
| Sex for drugs/money                                     | <input type="checkbox"/> | <input type="checkbox"/>    |
| Incarcerated  | <input type="checkbox"/> | <input type="checkbox"/>    |
| Anonymous sex   | <input type="checkbox"/> | <input type="checkbox"/>    |
| Tattoos/piercings                                       | <input type="checkbox"/> | <input type="checkbox"/>    |
| <input type="checkbox"/> Blood transfusion risk** ..... |                          |                             |
| <input type="checkbox"/> Other risk for HIV** .....     |                          |                             |
| <input type="checkbox"/> None of above                  |                          |                             |

\*\*See notes & specify risk

**\*Sex Partner Risk\***

- |  |                          |                             |
|--|--------------------------|-----------------------------|
|  | <b>Ever</b>              | <b>2 yrs/<br/>last test</b> |
| Injects drugs                          | <input type="checkbox"/> | <input type="checkbox"/>    |
| Has HIV/AIDS                           | <input type="checkbox"/> | <input type="checkbox"/>    |
| Sex for drugs or \$                    | <input type="checkbox"/> | <input type="checkbox"/>    |
| MSM or MSM/W                           | <input type="checkbox"/> | <input type="checkbox"/>    |
| <input type="checkbox"/> None of above |                          |                             |

**\*Drug Use Since Last HIV Test or 2 Yrs\***

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> No alcohol or drugs | <input type="checkbox"/> Inject drugs           | <input type="checkbox"/> Use before sex        |
| <input type="checkbox"/> Alcohol             | <input type="checkbox"/> Marijuana              | <input type="checkbox"/> Heroin                |
| <input type="checkbox"/> Methamphetamine     | <input type="checkbox"/> Cocaine                | <input type="checkbox"/> Ecstasy               |
| <input type="checkbox"/> Nitrates/poppers    | <input type="checkbox"/> Ketamine               | <input type="checkbox"/> Viagra/Cialis/Levitra |
| <input type="checkbox"/> Hormones/steroids   | <input type="checkbox"/> Other (specify): ..... |  |

Intimate partner violence screening: At risk?  Yes  No

**Intake interview:**

HIV test:  Accepted  Declined  Not indicated

HIV pretest counseled  Risk reduction counseled

By: ..... .PHI/RN/LVN/CW

Presumptive contact interview:

By: ..... .PHI/PHN/RN

Continued on progress note

**Patient identification**