



MARION COUNTY
PUBLIC
HEALTH
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VISUAL CASE ANALYSIS

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July 2022

National Coalition of STD Directors

Financial Disclosures:

No financial interests or relationships to disclose.

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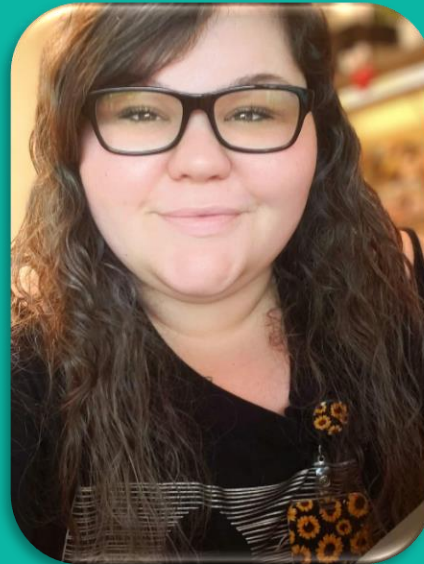
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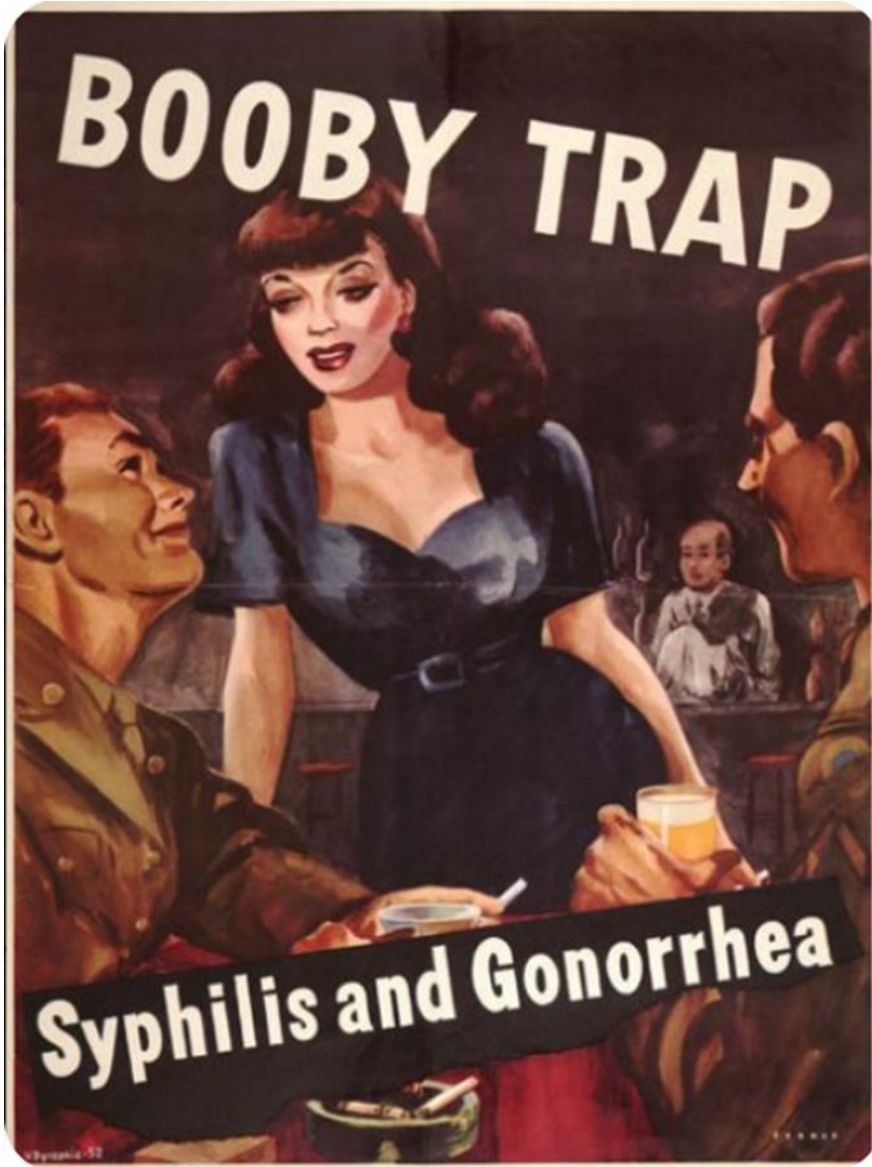


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A Brief History of Partner Services

- Known in the 1930s as contact tracing
- First used for syphilis
- Later used for gonorrhea, HIV, chlamydia and other zoonotic, vector borne, and foodborne disease

1930s

Most recent history, with the 2008 MMWR recommendations, the Centers for Disease Control and Prevention (CDC) refers to this public health activity as "partner services" for all diseases.

2008

1980s

- Partner services was also known as "partner notification" in the 1980s.
- Partner services for HIV used the terminology "HIV Partner Counseling and Referral Services (PCRS)."

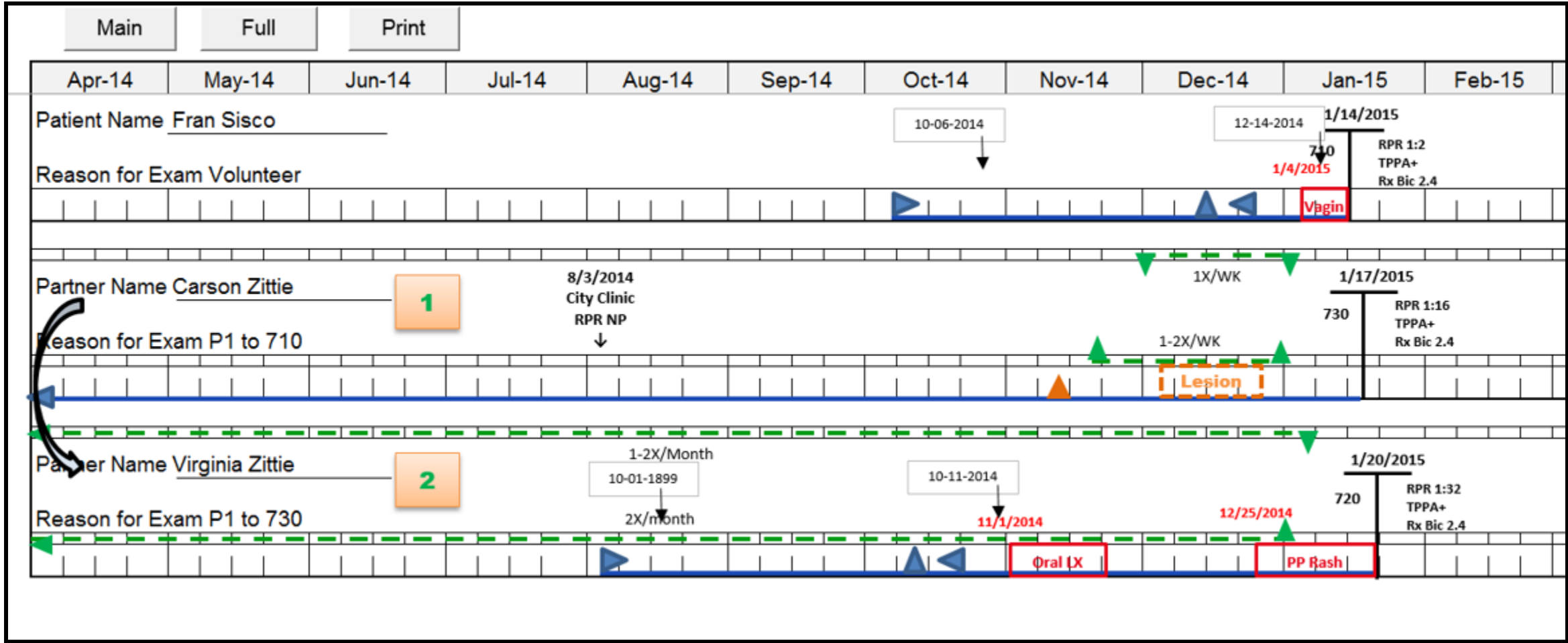
A Brief Note on Original Interviews

- Public Health Theoretical Models of Behavior
 - Health Belief Model
 - Theory of Reasoned Action and Planned Behavior
 - Transtheoretical Model
- Narrative Listening
 - Story Telling
 - Active Listening
 - Critical Thought

A Brief Note on Partner Elicitation

- Name First Methodology

Foundation	NAME	MADEUP PATIENT NAME
Number of partners: 3	EXPOSURE	FSE: 1/1/2018 LSE: 3/14/2022 Freq: 2-3x per week Type: Vaginal, Oral
Behaviors: oral (G/R), vaginal, anal (I/R)	LOCATING	Indianapolis, IN 555-4356 (cell) Apartment building – live together Works at Great Harvest Bread Company on Salisbury St Uses Facebook and Instagram Met thru friends
Settings: homes, hotels, bars, outside	CLUSTERING	Best friend – has sex with same partner
	DESCRIPTION	White, 6ft, blonde, male Brown eyes, haircut is very short Diamond earrings, always wears a cross necklace Has a tattoo on L forearm of eagle Drives a red Subaru



Visual Case Analysis

What is Visual Case Analysis?

- Epidemiological Tool for Partner Service Providers
 - Analyze
 - Disease Intervention
 - Disease Transmission
 - Plan of Action
- Visual Framework

Key Components of Visual Case Analysis

- Minimum, average, and maximum durations of symptoms or incubation period
- Basic Assumptions
- Criteria for Related Cases
- Ghosting and the Hierarchy

Key Components of Visual Case Analysis

- Minimum, average, and maximum durations of symptoms or incubation period
 - The incubation period is the timeframe in which someone will develop a chancre once they have been exposed to a chancre (for example: the minimum someone could develop a primary chancre after exposure to a primary chancre would be 10 days).
 - The latency period is the timeframe the patient may take to go from primary symptoms to secondary symptoms (for example: after a primary chancre heals without treatment, the patient may experience a period of time where no syphilis signs or symptoms are occurring; this on average last four weeks, and then the patient will develop secondary symptoms).

	Incubation Period	Primary Syphilis	Latency Period	Secondary Syphilis
Minimum duration	10 days	1 week	0 weeks	2 weeks
Average duration	21 days	3 weeks	4 weeks	4 weeks
Maximum duration	90 days	5 weeks	10 weeks	6 weeks
Total maximum duration periods	3 months	1 month and 1 week	2 months and 2 weeks	1 month and 2 weeks

Key Components of Visual Case Analysis

- Minimum, average, and maximum durations of symptoms or incubation period can translate into interview periods

For primary syphilis, we begin our interview period *prior* to the onset of primary symptoms. We want to maximize the timeframe in which we are looking for partners to ensure we are capturing partners who may have been exposed to a primary chancre that was unnoticed by the infected patient. Our goal is to interrupt the chain of transmission to treat partners before they develop symptoms.

- **Maximum duration of the Incubation Period** + **Maximum duration of an untreated primary chancre** = Interview period for primary syphilis
- **3 months** + **1 month** + **1 week** = **4 months and 1 week**
- The interview period for primary syphilis begins 4 months and 1 week *prior* to the onset of the primary chancre.

For secondary syphilis, we adhere to the same rules as before. We want to maximize the timeframe in which we are looking for partners to ensure we are capturing partners who may have been exposed to a primary chancre or any infectious secondary symptom that went unnoticed by the infected patient. Our goal is to interrupt the chain of transmission to treat partners before they develop symptoms.

- **Maximum duration of the Incubation Period** + **Maximum duration of an untreated primary chancre** + **Maximum duration of a latency period** + **Maximum duration of untreated secondary symptoms** = Interview period for secondary syphilis
- **3 months** + **1 month** + **1 week** + **2 months** + **2 weeks** + **1 month** + **2 weeks** = **8 months and 1 week**
- The interview period for secondary syphilis begins 8 months and 1 week *prior* to the onset of the secondary symptoms (body rash, palmar/plantar rash, mucous patches, *C. lata*, alopecia)

Key Components of Visual Case Analysis

Criteria for Related Cases

- Must be infectious
- Must be compatible
- Must be reasonable

Basic Assumptions

- Syphilis is acquired by someone with a primary chancre
- The incubation period was 3 weeks
- The chancre lasted 3 weeks
- The latency period lasted 4 weeks

Key Components of Visual Case Analysis

Ghosting

- Technique to find source/spread relationships
- Uses natural history of syphilis (averages)
- Targeted disease intervention

Ghosting Hierarchy

- Existing primary chancre
- Historical primary chancre
- Ghosted primary chancre
- Secondary symptom

What is Source/Spread Analysis?

- Narrative of disease transmission
 - Source: an infected person who transmitted disease to an uninfected person
 - Spread: an uninfected person who acquired disease from an infected person
- Creates the “how” and “why,” while documenting “who,” “what,” “when,” and “where.”

What is Source/Spread Analysis?

Johnny (infected) has sex with Heather (uninfected). Heather develops a chancre a month later.

Johnny is the source, Heather is the spread in this scenario.

Samuel (infected) has sex with Johnny (uninfected). Johnny develops a chancre a month later.

Samuel is the source, Johnny is the spread in this scenario.

What is Source/Spread Analysis?

Key pieces of a source/spread analysis narrative

1. Identify critical period for OP
2. Then put hypotheses of partners that fall within critical period
3. Identify who is the source for the OP's infection
4. Identify who are spreads of the OP's infection
5. Justify this using ghosting/VCA/Interview/partner outcomes and update as needed
6. Upload final VCA to case investigation and update SO/SP as needed

What is Source/Spread Analysis?

1. The critical period for OP is 90 days before 3/5/2020: 12/5/2019 thru date of treatment 3/10/2020.
2. OP's partner Heather and Samuel fall within this 3-month period.
3. The OP presented with a penile chancre x3 days on 3/8/2020 (onset 3/5/20). Pt was exhibiting no other s/s of syphilis. Pt has no negative testing that can shorten the critical or interview periods; was treated on 3/10/2020. P1 Heather tested positive on 4/3/2020 with an RPR of 1:32, +EIA, received preventive treatment, with vaginal chancre present. P1 Samuel tested positive on 2/15/2020 with an RPR of 1:64, +EIA, and a rectal chancre for 7 days at the time of exam, received treatment on 2/17/2020.
4. Based on the sexual exposure dates of the P1s to OP, DIS believes the source of OP's infection is Samuel. The VCA shows that P1 Samuel had a chancre present at the time P1 and OP reported having sex. OP then developed a chancre within the expected timeframe, and he claims to have had sex with his P1 Heather during the timeframe the chancre was present. Based on the VCA, and Heather's symptoms and testing results, Heather is a spread from Johnny's infection.

— INFECTIOUS SYPHILIS EPIDEMIOLOGIC ANALYSIS CHART —

	6 (LY)	7 (LY)	8 (LY)	9 (LY)	10 (LY)	11 (LY)	12 (LY)	1 (CY)	2 (CY)	3 (CY)	4 (CY)	5 (CY)	
Patient	Johnny Smith								NR RPR		03/08/2020		Source-Spread Analysis: 710 RPR 1:32 +EIA BIC 2.4mu x1
Initial Reason for Exam:	Self-Referral								10/02/2019				
	1	7	14	21	28								
HISTORY													
Partner:													
MEDICAL HISTORY													
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VCA Pocket Assistant

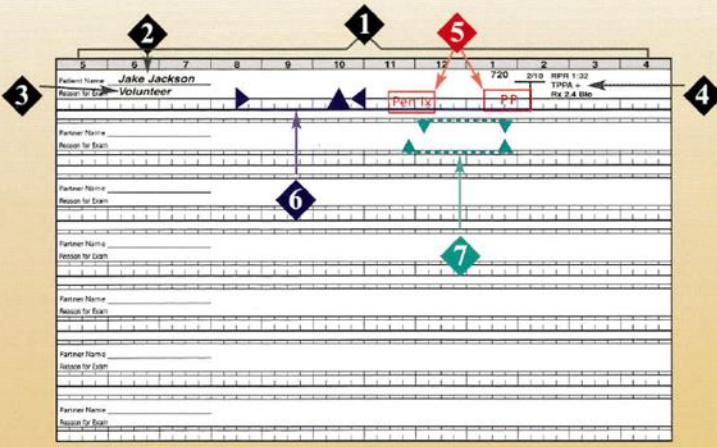


Durations

Minimum Duration

Average Duration

Maximum Duration



Plotting the Facts

- ❖ 1 Months of the year
- ❖ 2 Name of the patient
- ❖ 3 Reason for exam
- ❖ 4 Medical history
- ❖ 5 Symptoms
- ❖ 6 Critical period
- ❖ 7 Exposure dates

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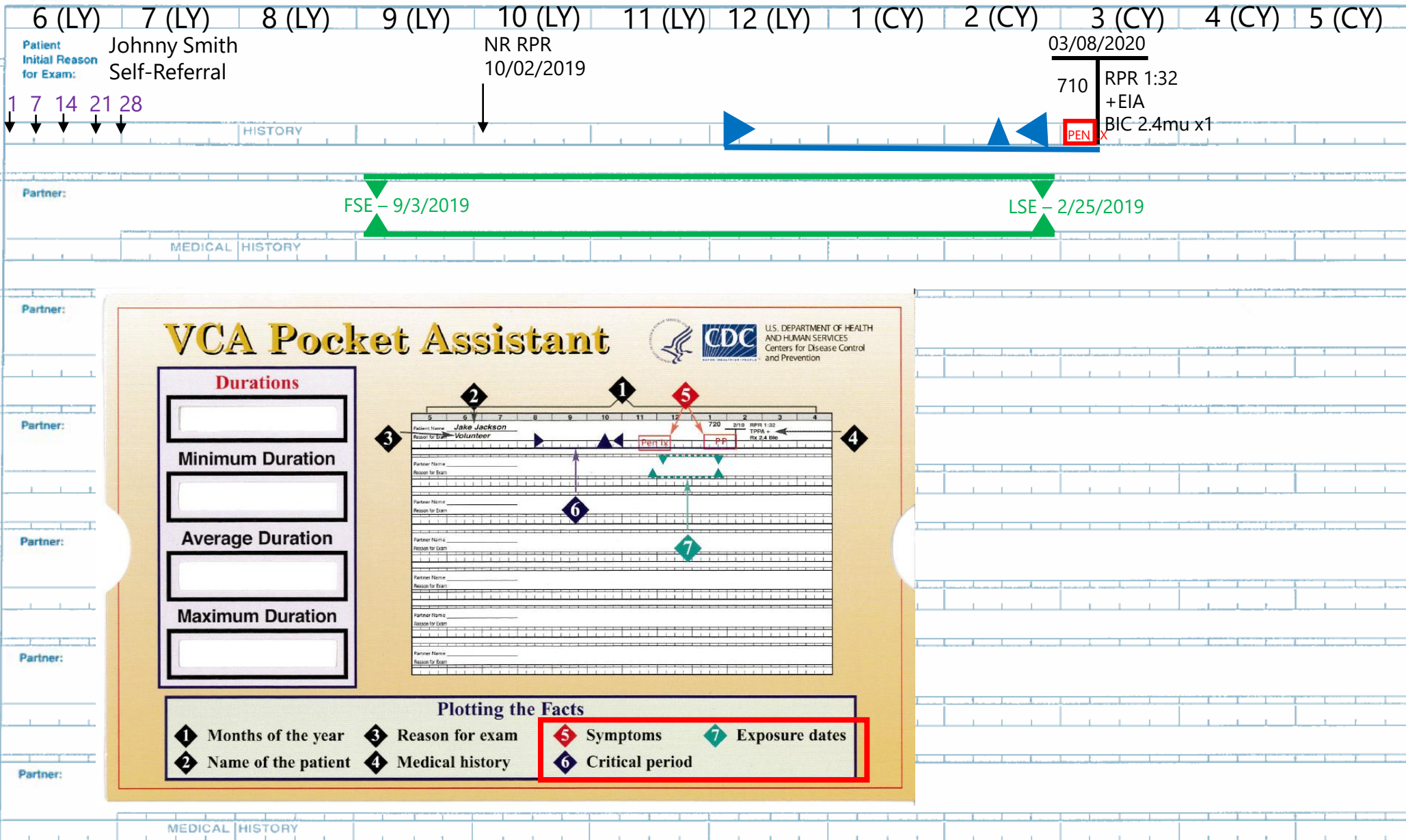
EXPOSURE INFORMATION:

MEDICAL HISTORY:

Source Documents:

1. Patient Medical Records
2. Interview Record (CDC 73.54)

— INFECTIOUS SYPHILIS EPIDEMIOLOGIC ANALYSIS CHART —



Source-Spread Analysis:

VCA Pocket Assistant

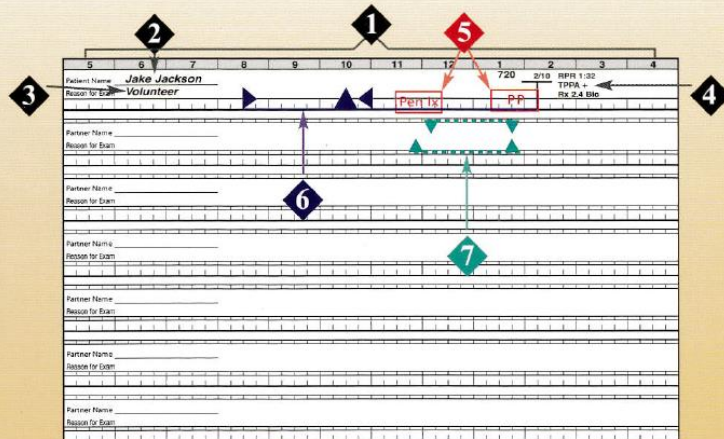


Durations

Minimum Duration

Average Duration

Maximum Duration



- Plotting the Facts**
- 1 Months of the year
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 - 6 Critical period
 - 7 Exposure dates

Template Legend:

EXPOSURE INFORMATION:

MEDICAL HISTORY:

Source: 1. Patient Medical Records
Documents: 2. Interview Record (CDC 73.54)

Let's Practice!

You will need...

- VCA Chart (blank)
- VCA Pocket Assistant
- Colored pens or pencils: black, red, green, orange, blue
- VCA Exercises



THANK YOU!

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