

# The Impact of HCV Rapid Testing on Individuals Knowledge of their HCV Status

## Colleen A. Flanigan<sup>1</sup>, Kirsten A. Rowe<sup>1</sup>, Serene A. Mastrianni <sup>1</sup>New York State Department of Health, AIDS Institute

## Background

- An estimated 3.2 million people are living with the hepatitis C virus (HCV) in the United States. More than half of the people living with hepatitis C do not know their status. Screening for HCV antibodies (anti-HCV) is a simple and inexpensive first step in identifying someone's HCV status. An HCV screening test cannot diagnose someone with HCV. The presence of HCV antibodies on a screening test could mean that person: 1) was infected and cleared the virus spontaneously; 2) was infected and successfully treated/cured; 3) is acutely infected; or 4) is chronically infected. Someone ever infected with HCV will have antibodies for a lifetime.
- HCV screening has traditionally been available through a blood draw (venipuncture). A sample of blood is obtained and sent to a lab for processing. The results often take up to three weeks and many clients never receive their results and thus, are not linked to care.
- A second test must be performed to diagnosis someone with active HCV infection. This test is an HCV PCR test. HCV PCR tests detect the presence or absence of the hepatitis C virus. This test is often expensive, must be performed in a lab and therefore, specimen collection is not always available on-site where the HCV antibody testing is conducted.
- In 2010, the first HCV rapid antibody test- OraQuick<sup>®</sup> HCV Rapid Antibody Test was approved allowing for the sample of blood to be obtained through a fingerstick with results available in 20 minutes. This test is approved as a point of care test which allows for immediate linkage to care.

### **Objectives**

The purpose of this project was to determine the impact: 1) of rapid testing on the number of people that know their HCV status, and 2) on the acceptance and follow through with referrals to diagnostic testing, care and treatment.

#### **Methods**

Eleven sites across NYS were selected to perform HCV rapid antibody testing. Sites were selected based on their proximity to a New York State Department of Health (NYSDOH) funded HCV care and treatment provider. Sites included needle exchange programs, AIDS service organizations, community health centers and hospital based clinics. Each person screened received appropriate counseling messages based on screening test results and risk behaviors identified. Individuals with reactive tests either had HCV diagnostic testing performed on-site or were given a referral appointment for diagnostic testing. Client level data, including basic demographics, HCV risk, testing history, other testing conducted, rapid test result and referral outcome was reported to the NYSDOH (Figure 1).

Demographik	c and Risk	Factor Que	ations:		on Form				
Date of Visit		/	A87			Ves	No	Un-	Refere
Gender	0	0		•	IDU ever			0	0
		0	Con groups	THE REAL PROPERTY.	MEM				
Base	Area Sold	Alex		•	Sex with IDU				
	0	0	Other	<b>Bellevil</b>	Sex with HCV4				
	Sieth	100			Sex with multip	in an	-		
Ethnicity	Napatio	Non-Maparie		Reflection of the second se	partners Texasferices or	i kati	- Band	Real I	18.81
Past 12 Mo. Insurance	C) Printe		E Nova	Circlester,	organ transplan before 1992			•	0
	D Cound	n/physician at	this regardless	ion -	Hemodialysis				
	D Cound	n/physician at	other organic	ation/disis	<b>Clotting factor</b>				•
Referred by:	O Bitenti O Princel/	end materials family			Tattoe or Body Parsing (non-		0	0	0
	Head about it on my own     Other target(s)								
Testing Histo Does the dieu	E Otier (s ary: Centrember	profy)	ested for H	CV in the p	Occupational blood exposure		0 %	0 0 X	0 int Sure
Teating Histo Does the dieu If yes, a Does the dieu	D Other (s ary: t reconstruction date of last t t reconstruction	penity) ever being to est / ever being to	ented for H	CV in the p I / map	Occupational Mood exposure sat: D Yes est result: D Positive ast: D Yes		C) Co Singuir Co	0 0 0 0 0 0 0	Cl int Sure interven int Sure
Teating Histo Does the client If year Does the client If year	El Coler (s aryc date of last t date of last t date of last t	rener being to ent / enter being to best performe	ented for H / ented for H di	CV in the p If yes, i IV in the p	Occupational Mood exposure est escult © Positive anti © Yes © Rapid 7		Ci Sogair So Fadico	0 0 N 0 N 0 N	D int Sure informan int Sure int Sure
Teating Histo Does the clien If yes, Does the clien If yes, Other Teating	El Other (s aryc at remanifes date of has s a remanifes type of HEV g Conduct	entr being to entr being to entr /_ entr being to test performe ad During T	ented for H 	CV in the y If yes, t IV in the p	Occupational blood exposure nati D Yes est result D Positive anti D Yes D Rapid T	0 03 03 Feat 01	D Go Seguir Go Fuelito		int State indension int State int State
Teating Histo Dors the clien If yes, Does the clien If yes, Other Teating	D Other (s oryc date of hart t date of hart t date of hart t geographic filler g Conduct D HIV	errer being b enti	eated for H / eated for H di <b>his Visit:</b>	CV in the p If yes, t IV in the p	Occupational blood exposure mat: D Yes est result: D Positive ant: D Yes D Reputits A		D Sogair So Feation Sopariti		int State indension int State int State int State
Teating Histo Does the diew If yes, Does the diew If yes, Other Teating OraQuick <sup>®</sup> H	D Other (s org: a remember date of hat s type of HEV g Conduct D HEV CV Rapid	ever being to ever being to ever being to test performe ad During T D TD Test Result	and for H / and for H di his Visit: D:	CV in the p II yes, t IV in the p	Occupational blood exposure nati O Yes est result O Positive anti O Yes O Rapid 7		D Sogair So Fostico Reputiti		D int Sare interests int Sare int Sare int Sare
Teating Histo Does the clien If yes, Does the clien If yes, Other Teating OraQuick <sup>®</sup> H Method of coli	Coher(s) ory: a remember date of last tremember georetative georetative D HIV <u>CV Rapid</u> inctions	ever being o est / ever being o test performe ed During T 0 10 Test Result Oval faid	ented for H / ented for H d: his Visit: 0: E: 0: Finger	CV in the p If yes, t IV in the p STD Stick	Occupational blood exposure nat: D Yes est result: D Positive ant: D Yes D Rapid 7 D Hopetitis A		0 So Sogair So Facilia		int Sure interests int Sure int Sure int Sure
Teating Hists Does the clien If yes, Does the clien If yes, Other Teatiny OraQuick <sup>®</sup> H Method of coll Test result	C Other (s anyc date of last t date	rener being o rener being o rener being o text performe ad During T O TD Text Result Oval fluid Resulte	ented for H 	CV in the p IV in the p STD Stick	Occupational blood exposure nat: 0 Yes est result: 0 Yes 0 Rapid 7 0 Hepatitis A 0 Blood Draw/R	Contraction of the second seco	a Seguir Seguir Seguir Seguir		int Sure intervens int Sure int Sure
Teating Hists Does the cliens If yes, Does the cliens If yes, Other Teating OraQuick <sup>®</sup> H Method of coll Test results Results receive	Conter (s ory: a remember date of last of a remember date of last of	r ever being to rest/_ r ever being to test performe ad During T D TD Test Result Oval fluid Resulte	ented for H 	CV in the p IV in the p ITD Stick excite	Occupational blood exposure nat: O Yes est escult: O Positiv ast: O Yes O Reputits A O Hood Draw/R O Invaid= 1 O No, why set	C C C C C C C C C C C C C C C C C C C	D Seguir So Facilito Republic		D int Sure inknown int Sure int Sure
Teating Hists Does the clien If yes, Does the clien If yes, Other Teating OraQuick <sup>®</sup> H Method of coli Test results Results receive PCR Teating	Conter (s or): a reconsuber date of last i a reconsuber ippe of HEV g Conduct in HEV CV Rapid lections: 0 a al by client (Reactive	enter being b enti/ enter being b text performe ed During T D Th Test Result Ovel field Resulte Tests Only!	ented for H 	CV in the p IV yes, t IV in the p STD Stick sective	Occupational blood exposure est esult © Yes © Republic A © Blood Deave/R © Blood Deave/R © Blood Deave/R	C C C C C C C C C C C C C C C C C C C	to Seguir So Peetito Seputit		int Sure interven int Sure int Sure
Teating Hists Does the cliens If yes, Does the cliens If yes, Other Teating OraQuick <sup>®</sup> H Method of coli Test results Results receive PCR Teating Did client reta	Conter (p or) a reconsider a reconsider a reconsider (per of HEV C Rapid (conduct HEV CV Rapid (conduct (	enter being to enter being to enter(	ented for H / ented for H d. his Visit: D Finger D Yes P Yes	CV in die p If yes, t IV in die p STID Stick sactive	Occupational blood exposure est esult © Yes © Republic A © Blood Deave/R © Blood Deave/R © Blood Deave/R © Blood Deave/R	C C C C C C C C C C C C C C C C C C C	Co Seguir Co Peedito Reputiti		int Sure interven int Sure int Sure int Sure lone
Teating Hists Does the clien If yes, Does the clien If yes, Other Teating OraQuick <sup>®</sup> H Method of coli Test results Results receive PCIR Teating Did client sets Referral infor	Coder (s or): a reconsuber date of last it a reconsuber type of HEV g Conduct BHV CV Rapid lections: 0 ad by client (Reactive are for PCR reconsulton (R	enter being to enter being to enter/ enter being to text performe ed During T T To Th Test Results Oral field Results Tests Only text results best results	ented for H	CV in die p IV in die p ITV in die p ITD Stick excire	Occupational blood exposure nat: O Yes est escult: O Positiv ast: O Yes O Reputits A O Blood Draw/P O Invalid* D O No, why not O No. Test a	C C C C C C C C C C C C C C C C C C C	0 Nogair Colini Separiti Noticire		int Sure interents int Sure int Sure int Sure int Sure int Sure
Teating Hists Does the clien If yes, Does the clien If yes, Other Teating OraQuick <sup>®</sup> H Method of coli Test result Results receive PCIR Teating Did client sets Referral infor Referral made	Coder (s or): a reconsuber date of last it a reconsuber type of HEV g Conduct BHV CV Rapid lections: 0 ad by client (Reactive are for PCR mution (R to)	rener being b rener being b rener being b text performe ad During T D TD Test Results Ovel field Results Tests Only best results leactive Test	ented for H	CV in die p IV in die p ITV in die p ITD Stick excite	Occupational blood exposure nat: O Yes est esult: O Yes O Republic A O Blood Draw/P O Invalid* D O No, why not O No. Test a	C C C C C C C C C C C C C C C C C C C	D do Separit Separit Separit		ID Int State Internet Int State Int State Int State
Teating Hists Does the clien If yes, Does the clien If yes, Other Teating OraQuick <sup>®</sup> H Method of coli Test result Results receive PCR Teating Did client return Referral infor Referral made Status of referr	Conter (e or): a reconsuber date of last it a reconsuber it r	rener being b reni/ rener being b test performe ad During T D TD Test Result Oral faid Result Coal faid Result Tests Only test results bective Test Regt	ented for H	CV in the p IV in the p ITD Stick teactive	Occupational blood exposure nat: O Yes et esult: O Yes O Reputits A O Honol Draw/R O Invalid* D O No. Test a O No. Test a	C C C C C C C C C C C C C C C C C C C	D do Conditio Condition Reputition Positione		ID Int State Internet Int State Int State Int State

#### Figure 1: Data Collection Form

#### **Results**

During the six month project period, 1,894 rapid HCV screening tests were conducted. The majority of the clients tested indicated they were male (65.1%), between the ages of 25-34 (25.9%), Black (47.2%) and Non-Hispanic (68.1%) (Table 1).

#### Table 1: Client Demographics

Gender:		N	%
	Male	1223	65.1%
	Female	647	34.4%
	Transgender	10	0.5%
Age:		Ν	%
	Age 18 to 24	349	18.8%
	Age 25 to 34	479	25.9%
	Age 35 to 44	367	19.8%
	Age 45 to 54	417	22.5%
	Age 55 to 64	183	9.9%
	Age 65 or older	57	3.1%
Race:		Ν	%
	Black	872	47.2%
	White	638	34.6%
	Asian/Pacific Islander	24	1.3%
	American Indian/Alaskan	8	0.4%
	Other	317	17.2%
	Refused	1	0.1%
Ethnicity:		Ν	%
	Non-Hispanic	1248	68.1%
	Hispanic	579	31.6%
	Refused	6	0.3%

#### **HCV Rapid Test Results**

Of the 1,894 rapid screening tests conducted, 144 (7.6%) were reactive, 1,746 (92.2%) were non-reactive and 4 (0.2%) were invalid. All tests (100%) were conducted using the fingerstick specimen collection method. Overall, 99.3% received their test results, 100% of clients with reactive tests received their results. In all instances when the client did not receive the test result it was because they left the agency before the result was available.

#### **HIV and HCV Testing History**

Only 26.5% of the clients reported being tested for HCV in the past, while the majority (89.8%) has been tested for HIV in the past (Figures 2 and 3).

#### Figure 2: Does Client Remember Ever Being Tested for HCV in the Past?



#### Figure 3: Does Client Remember Ever Being Tested for HIV in the Past?



In addition to having HCV rapid testing, 66.4% of clients also received HIV testing and 41.7% of clients received STD screening while significantly fewer clients received HBV screening (0.7%), HAV screening (0.6%), or TB screening (0.5%) (Figure 4).

Kept referral a for PCR testing Missed referra for PCR testing **Refused PCR testing** 



#### **Other Testing Conducted During Visit**



#### Figure 4: Other Testing Conducted During Visit\*

#### **HCV Diagnostic Testing**

Of the sites referring for HCV diagnostic testing (n=9), 39.0% of the clients kept their referral appointment, 37.1% missed their appointment, and 23.8% refused testing (Table 2). Of these sites performing HCV diagnostic testing on-site (n=2), 47.4% of the clients returned for their results, 28.9% did not return, and 23.7% refused PCR testing (Table 3).

#### Table 2: HCV Diagnostic Testing by Referral

	Ν	%
pointment	41	39.0%
appointment	39	37.1%
sting	25	22.00/

abla 2.	HCV Diagnostic	Tacting	On Site
able 5.	nev Diagnostie	resung	UII-Sile

	Ν	%
Returned for PCR test	18	47.4%
Did not return for PCR test results	11	28.9%
Refused PCR testing	9	23.7%

#### **Conclusions**

HCV rapid testing technology is effective in ensuring people get screened for HCV and receive their screening results. However, more work needs to be done to motivate and educate those with reactive antibody tests to ensure they are properly diagnosed with HCV and linked to care. Anecdotally, we heard from test sites that clients were refusing the HCV PCR test because: 1) they already knew their HCV status, 2) they had no way of paying for the PCR test, and 3) they did not want HCV treatment.

Adequate infrastructure similar to what is and has been available for HIV screening will improve access to free HCV screening and more people knowing their HCV status.

Integrating HCV screening at locations already offering HIV and STD testing, will not only be more convenient for clients, but may also increase the number of clients tested for each. More works needs to be done to better understand why clients refuse the HCV PCR test and additional education and interventions are needed to make clients aware of the importance of that second test.

#### **Acknowledgements**

We would like to acknowledge OraSure Technologies, Inc for donating the OraQuick HCV Rapid Antibody Test Kits and Controls for this project. We would also like to acknowledge the eleven participating test sites: Anthony L. Jordan Health Center, AIDS Care, AIDS Council of Northeastern NY, ARCS, Citiwide Harm Reduction, FROSTD, Harlem United, Hudson River Health Care, New York Harm Reduction Educators, Mt. Sinai Internal Medicine and St. Ann's Corner of Harm Reduction.