Assessing electronic messaging for gonorrhea and chlamydia result notification and partner services, Durham, North Carolina

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NCSD Annual Meeting

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Untreated Chlamydia (CT) and Gonorrhea (GC) can lead to severe health problems
CT and GC are the most reported diseases in the US

Volume leads to barriers for control in STD clinics:

- Limited staff time to call & notify all positive patients
- Difficulty reaching patients over the phone
- Limited capacity to provide Partner Notification for GC/CT
Potential Solution...Electronic Notification!

- In 2017, 92% of 18-29 year olds owned a smartphone\(^1\)
  - 72% of African Americans; 75% of Latinos

- Increases uptake of sexual health services and STD testing\(^2\)

- Improves timeliness of result notification for patients testing positive for an STD\(^3,4\)

- May be an effective tool for partner notification\(^5\)

Project Aim:

- Implement text message/e-mail communication among patients testing for GC/CT to improve:
  - Result notification outcomes
  - Partner notification and treatment
  - Rescreening rates 3 months after diagnosis

- Durham County Department of Public Health STI Clinic
  - ~490 patient visits per month; 65-75 test positive for GC/CT per month
  - Pre-evaluation clinic protocol:
    - GC/CT positive patients called with results (negatives not notified)
    - No formal partner notification services provided
    - No rescreening reminders
Electronic Notification

- Chexout is a software that automatically notifies patients via text message or e-mail when results are ready to view on their online patient portal.

- Durham Clinic staff worked with Chexout programmers to tailor messaging and services within the patient portal.
Chexout was rolled out in Durham in March 2018

- Patient Demographics
- Lab Orders
- Lab Results
Result Notification

**If negative:**
Your Lab results are available. Follow link [https://secureportal.chexout.com/patient/login](https://secureportal.chexout.com/patient/login) to view your results. Questions? 800-473-1888

**If positive, presumptively treated:**
Your Lab results are available. Follow link [https://secureportal.chexout.com/patient/login](https://secureportal.chexout.com/patient/login) to view your results. Questions? 800-473-1888

**If positive, Untreated:**
Your lab results are available: [https://sp.chexout.com/p/](https://sp.chexout.com/p/). To schedule an appointment call 919-560-8819. For Tech Support call 800-473-1888
Result Notification

If negative:

Your Lab results are available. Follow link https://secureportal.chexout.com/patient/login to view your results. Questions? 800-473-1888

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia - Cervix</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Testing Facility

Durham County Department of Public Health
414 E Main Street
Durham, NC 27701-3720
919-560-7600

Test Date: 07/24/2018
Location: Main Office

Post Test Information
Negative means that no infection was detected. http://dccpublichealth.org/services/std-hiv-testing/gonorrhea-and-chlamydia-3627
Result Notification

If positive, presumptively treated:

Your Lab results are available. Follow link https://secureportal.chexout.com/patient/login to view your results. Questions? 800-473-1888

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrea - Rectum</td>
<td>Positive - Presumptively Treated</td>
</tr>
</tbody>
</table>

Post Test Information

1) You were given medicine during your clinic visit that will treat your infection(s). You will NOT need to return for more medicine. Questions? Call the clinic: 919-560-8819.
2) Your partners from the past 60 days should get treated, even if they feel fine. If you can’t or don’t want to tell your partners, the Health Department can anonymously do it for you BELOW.
3) If your partners come to the Durham Health Department and say "both44" they’ll get faster service.
4) We will remind you to get retested in 3 months. Many people get infected again and don’t know it, but the infection can still harm them.
5) Click here for information about testing, treatment, and retesting options for you and your partner.
Result Notification

If positive, Untreated:

Your lab results are available: https://sp.chexout.com/p/. To schedule an appointment call 919-560-8819. For Tech Support call 800-473-1888

Test Date: 07/24/2018
Location: Main Office

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<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea - Cervix</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Post Test Information

1) You should get treated, even if you feel fine. Call 919-560-8819 to schedule a free appointment for free treatment at the Durham County Department of Public Health.
2) Your partners from the past 60 days should get treated, even if they feel fine. If you can’t or don’t want to tell your partners, the Health Department can anonymously do it for you BELOW.
3) If your partners come to the Durham Health Department and say “both4” they’ll get faster service.
4) We will remind you to get retested in 3 months. Many people get infected again and don’t know it, but the infection can still harm them.
5) Click here for information about testing, treatment, and retesting options for you and your partner.
Partner Services added to Chexout Patient Portal

1. Link to Durham County GC/CT Patient Information Page

2. Online form embedded in patient portal to enter partner information for health department staff to notify anonymously

3. Unique code word to give to partners to:

   “If your partners come to the Durham Health Department and say "both44", they'll get faster service.”

   Also links Index Patients to Partners within Chexout

http://dcpublichealth.org/services/std-hiv-testing/gonorrhea-and-chlamydia-3627
3-month Rescreening Reminder, if test positive

Balance between:

- Reminding patients to test again for an STD
- Protecting patient confidentiality
Follow-Up Survey: April-June 2018

We interviewed a 50% random sample of:

- **Patients who opted in to Chexout Services to:**
  - Acceptability of electronic notification
  - Effectiveness of partner notification and rescreening services added to Chexout

- **Patients who opted out of Chexout Services to:**
  - Reasons for declining electronic notification

General thoughts about partner notification & rescreening were asked of both samples of opt-in and opt-out patients
Durham STD Clinic Opt-In Patient Population: (March-Sept 2018)

- 1711 (80%) testers opted in to receive electronic messaging via Chexout
  - 1372 (80%) Text Messages
  - 339 (20%) E-mail
Result Notification

All 1711 opt-in patients were notified

1230/1711 (71%) viewed their results in the Chexout patient portal

190/1230 (15%) tested positive for either GC and/or CT
Patients Testing Positive for GC or CT

190 Positive Patients who Viewed Results

90 Presumptively Treated

100 Needed to return for treatment

74 Contacted clinic for treatment without staff follow-up

22 Required additional staff follow-up to schedule treatment

4 Unable to be reached by clinic staff & did not schedule treatment
Result Notification: Before vs After Chexout

<table>
<thead>
<tr>
<th></th>
<th>Before Chexout</th>
<th>After Chexout (opt-in patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative patients notified by clinic staff</td>
<td>0%</td>
<td>100% Notified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>71% Viewed Portal</td>
</tr>
<tr>
<td>Positive patients notified by clinic staff</td>
<td>83%</td>
<td>100% Notified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75% Viewed Portal</td>
</tr>
<tr>
<td>Mean (range) # of days from testing to treatment for <em>non-presumptively treated positive patients</em></td>
<td>5 (0-50)</td>
<td>2.6 (0-20)</td>
</tr>
</tbody>
</table>
Partner Notification

- 15 partners have been contacted using the online form found in the portal
- The code word is known to be used by only 2 patients
  - However, analysis is still ongoing
Rescreening Reminder

- 184 rescreening reminders have been sent to 179 unique patients who tested positive for GC or CT
  - 23 returned after receiving a rescreening reminder
Follow-up Survey: Opt-In versus Opt-Out Patients

**Opt-In Sample:**
113 Interviewed
- Median Age: 27 years
- 19% GC or CT positive
- Notification Method:
  - 79% Text
  - 21% E-mail

**Opt-Out Sample:**
30 Interviewed
- Median Age: 37 years
- 10% GC or CT positive
- Notification Method:
  - 50% Phone Call
  - 7% In person
  - 40% Never Notified
  - 3% Other
Opt-In Patients thoughts about Chexout

What do you like the most?
- Confidentiality
- Being able to check it when others weren't around
- Having “proof” to show partners
- Easy and convenient
- Fast and Quick
- Not having to play phone tag with the health dept

What do you like the least?
- Privacy/Confidentiality
- Easier to pick up the phone
- Concerned people without access to tech might be further marginalized
- Wish HIV & Syphilis Results were included
- Nothing
Reason patients opted out from Chexout result notification

- **Concerns for privacy (57%)**
  - 43% of opt-out respondents shared a cell phone
  - 37% of opt-out respondents shared an e-mail address

- **Not Tech-Savvy (30%)**

- **Do not own a cell phone or have an e-mail address (3%)**

- **Other (20%)**
Follow-up Survey: Partner Notification

Most patients said they prefer to notify partners themselves

- Opt-In Patients=89%
- Opt-Out Patients=77%

What did positive opt-in patients think about the partner code word?

- 21 tested positive
- 13 read the PN information in the Chexout portal
- 6 saw the code word
- 2 gave the code word to all sex partners
### Follow-up Survey: Rescreening Reminder

<table>
<thead>
<tr>
<th>Willing to receive 3-month rescreening reminder</th>
<th>Opt-In</th>
<th>Opt-Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>66%</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preferred Method for Reminder</th>
<th>Opt-In</th>
<th>Opt-Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Message</td>
<td>65%</td>
<td>0%</td>
</tr>
<tr>
<td>E-mail</td>
<td>24%</td>
<td>17%</td>
</tr>
<tr>
<td>Phone Call</td>
<td>1%</td>
<td>67%</td>
</tr>
<tr>
<td>In person</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>No preference</td>
<td>9%</td>
<td>16%</td>
</tr>
</tbody>
</table>
Benefits

▪ Communicates results to ALL patients
▪ Adaptable software
▪ Legal record of contact attempts for the clinic
▪ Efficient use of staff time devoted to notification

Limitations

▪ Does not eliminate staff time devoted to notification
▪ “Notification” may have slightly different meaning when done via phone versus via text/e-mail
▪ Potential uses for partner notification and rescreening reminders is unclear
Conclusions

▪ Electronic messaging capitalizes on existing technology
▪ Acceptable and efficient mode of communication for STI result notification
▪ Continued assessment of potential uses of electronic messaging related to STD care and prevention remains important
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LNU4@CDC.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.