The New York City (NYC) Department of Health and Mental Hygiene (Health Department) surveyed practicing New York City physicians to quantify Health Department resource use. Although the Health Department successfully reaches most physicians, and information is valued in practice, knowledge of several key resources was low. Findings suggested three recommendations for all local health departments seeking to enhance engagement with practicing physicians: (1) capitalize on physician interest, (2) engage physicians early and often, and (3) make interaction with the health department easy. Also, older physicians may require targeted outreach.

Collaborative relationships can help health departments and physicians advance shared goals of health promotion and protection.1–5 The NYC Health Department regularly interacts with physicians through communications, publications, and clinical guidance. Certain Health Department programs target specific NYC physician populations and have evaluated these efforts.6–8 However, the Health Department has not systematically assessed the effectiveness of engagement with NYC physicians overall. The current survey was conducted to quantify physician knowledge and use of Health Department resources.

Methods

From November 2009 through February 2010, a survey was conducted of physicians selected from an American Medical Association Physician Masterfile list.9 The Health Department interacts mostly with primary care physicians, approximately 30% of the NYC physician population. To ensure an adequate sample of this population, a random selection was made of 840 primary care physicians and 360 non–primary care physicians.

The questionnaire took approximately 15 minutes to complete, and an electronic version was created with Survey Monkey.10 Paper copies of the survey were mailed with a cover letter from the Commissioner of Health; a preaddressed, stamped envelope; a card for one subway or bus ride; and two optional forms: one for entrance into a lottery for one of five 1-year subscriptions to MD Consult,11 and one for future focus group participation. Physicians could participate by paper or through a provided web link. (Detailed methods and the questionnaire are included in Appendixes A, B, and C).

Respondents were eligible if they reported seeing patients at least 10 hours a week and practiced primarily in NYC. Univariate analyses described respondent demographics and practice characteristics compared with all NYC physicians.12 Bivariate analyses examined differences among respondents by demographic and practice characteristics.

Results

In all, 626 unique surveys and 105 focus group participation forms were received. Eighty-two invalid records were removed (not practicing or not in NYC) from the original sample for a response rate of 56%. There were 128 ineligible respondents, leaving 498 eligible records in the final data set. (A flowchart detailing the survey sample and response is provided in Appendix D.)

Survey respondents were more likely to be women and to work in community health centers but were comparable to all NYC physicians in terms of age and location of medical school (Table 1). Nearly half (49%) provided direct patient care at least 40 hours per week; 38% reported that most patients in their practice were uninsured or covered only through Medicaid, and 53% used electronic health records.

Most respondents (82%) reported receiving Health Department communication, but only 37% had received information specifically through the Health Alert Network (HAN);13 primary care physicians were more likely than specialists to have received any communication and the HAN specifically (Table 2). Less than one third (31%) of respondents were aware of the universal reporting form;14 primary care physicians had higher awareness than specialists. Few (14%) were aware of the Health Department on-call physicians after hours.13 Overall, 47% preferred to receive Health Department publications by e-mail, and this prefer-
ence was inversely associated with age. Younger respondents, particularly those aged $\leq 45$ years, were more likely to prefer to receive e-mail publications.

Most (61%) respondents contacted the Health Department for information in the past year, particularly those in primary care and in solo or group practices. Most respondents who used Health Department resources agreed that the information was useful in their practice: 87% of those who had contacted the Health Department for clinical guidance in the past year, 82% who had visited the website in the past year, 75% who had ever received the clinical guidelines bulletin for primary care physicians, and 70% who ever had received the HAN.

Discussion

This survey confirmed that the Health Department successfully reaches many physicians, particularly primary care providers. Findings also provided surprising insights into NYC physicians. First, physicians were receptive to engagement with the Health Department, as indicated by the high response to the survey and the reported value of Health Department resources in practice. Second, many physicians remain unaware of important Health Department resources, particularly the universal reporting form. Third, older physicians preferred to receive printed publications.

Table 1. Descriptive characteristics of physician survey sample, $n$ (%)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>NYC Health Department survey</th>
<th>NYC physician profilea</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of completed surveys</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mail</td>
<td>383 (77)</td>
<td>—</td>
<td>NA</td>
</tr>
<tr>
<td>Internet</td>
<td>57 (11)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>58 (12)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Primary practice focusb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care</td>
<td>300 (61)</td>
<td>9,435 (29)</td>
<td>NA</td>
</tr>
<tr>
<td>Specialty</td>
<td>192 (39)</td>
<td>22,930 (71)</td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$&lt;45$</td>
<td>190 (38)</td>
<td>10,357 (32)</td>
<td>0.63</td>
</tr>
<tr>
<td>45–64</td>
<td>245 (49)</td>
<td>16,830 (52)</td>
<td></td>
</tr>
<tr>
<td>$\geq 65$</td>
<td>63 (13)</td>
<td>5,178 (16)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Female</td>
<td>232 (47)</td>
<td>11,004 (34)</td>
<td>&lt;0.01</td>
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<tr>
<td>Male</td>
<td>266 (53)</td>
<td>21,361 (66)</td>
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</tr>
<tr>
<td>Location of medical school</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New York State</td>
<td>194 (39)</td>
<td>11,328 (35)</td>
<td>0.15</td>
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<tr>
<td>Other U.S.</td>
<td>112 (22)</td>
<td>8,091 (25)</td>
<td></td>
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<tr>
<td>Foreign</td>
<td>192 (38)</td>
<td>12,946 (40)</td>
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</tr>
<tr>
<td>Practice type</td>
<td></td>
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<td></td>
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<tr>
<td>Solo</td>
<td>139 (30)</td>
<td>10,033 (31)</td>
<td>0.01</td>
</tr>
<tr>
<td>Partnership or group</td>
<td>97 (21)</td>
<td>8,415 (26)</td>
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<tr>
<td>Community health center or hospital</td>
<td>227 (49)</td>
<td>13,917 (43)</td>
<td></td>
</tr>
<tr>
<td>Time spent providing direct clinical care, hours/weekc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10–19</td>
<td>59 (12)</td>
<td>—</td>
<td>NA</td>
</tr>
<tr>
<td>20–29</td>
<td>79 (16)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>30–39</td>
<td>114 (23)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>$\geq 40$</td>
<td>246 (49)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Proportion of patients in practice uninsured or covered only through Medicaid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>20 (4)</td>
<td>—</td>
<td>NA</td>
</tr>
<tr>
<td>$\geq$half, but less than all</td>
<td>165 (34)</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>&lt;half, but more than none</td>
<td>172 (35)</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Limitations
The current study had several limitations. Generalizability may be limited because of deliberate oversampling of primary care physicians. In addition, the sample size was not large enough to assess differences by practice location. Also, this survey relies on self-reported data so it may over- or under-estimate physician awareness. Despite these limitations, the current findings prompt the following recommendations.

Recommendations
Capitalize on physician interest. Many physicians want to be engaged in public health initiatives. Health departments should direct topical and timely resources to physicians, taking their media preferences into account, and increase awareness of existing resources.

Engage physicians early and often. Health departments should enhance outreach to physicians, providing clinician-friendly materials that emphasize the application of public health in clinical practice. In addition, collaborations with clinical residency programs can make regular communication habit rather than requirement among future community providers. Such collaborations can also enhance public health curricula during training and promote mutual understanding of and respect for each partner’s roles and responsibilities. Establishing and maintaining physician contact registries, including e-mail addresses, can also facilitate more frequent and rapid communication at minimal cost.

Make interaction easy. Health departments should use new technology to facilitate communication with physicians. As more physicians adopt technologies such as electronic health records and social media, health departments should use these tools to engage physicians and promote public health. Outreach strategies should account for physician preferences, such as providing print materials to older providers. Collaborative relationships between health departments and physicians are mutually beneficial and en-

<table>
<thead>
<tr>
<th>Respondent characteristic</th>
<th>Total, n</th>
<th>Ever received communication from NYC Health Department*</th>
<th>Ever received information through Health Alert Network® communications</th>
<th>Physician communication to the NYC Health Department</th>
<th>Contacted NYC Health Department for information or advice®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>498</td>
<td>403 (82)</td>
<td>178 (37)</td>
<td>180 (47)</td>
<td>149 (31)</td>
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<tr>
<td>Primary practice focus</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Primary care</td>
<td>300</td>
<td>268 (90)</td>
<td>123 (42)</td>
<td>114 (44)</td>
<td>112 (39)</td>
</tr>
<tr>
<td>Specialist</td>
<td>192</td>
<td>134 (70)</td>
<td>55 (29)</td>
<td>66 (33)</td>
<td>37 (20)</td>
</tr>
<tr>
<td>Age, years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;45</td>
<td>190</td>
<td>144 (77)</td>
<td>53 (29)</td>
<td>79 (57)</td>
<td>49 (27)</td>
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<tr>
<td>45–64</td>
<td>245</td>
<td>207 (86)</td>
<td>102 (43)</td>
<td>90 (43)</td>
<td>88 (38)</td>
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<tr>
<td>&lt;65</td>
<td>63</td>
<td>52 (84)</td>
<td>23 (37)</td>
<td>11 (22)</td>
<td>12 (20)</td>
</tr>
<tr>
<td>Practice type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solo</td>
<td>139</td>
<td>115 (84)</td>
<td>46 (34)</td>
<td>38 (34)</td>
<td>48 (36)</td>
</tr>
<tr>
<td>Group</td>
<td>97</td>
<td>79 (84)</td>
<td>38 (41)</td>
<td>36 (49)</td>
<td>30 (34)</td>
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<tr>
<td>Community health center or hospital</td>
<td>227</td>
<td>182 (81)</td>
<td>78 (35)</td>
<td>93 (53)</td>
<td>60 (27)</td>
</tr>
</tbody>
</table>

*Ever received a NYC Health Department publication, including the Health Alert Network®

®The Health Alert Network is an electronic notification system that provides information on urgent and emergency public health situations.13

The universal reporting form is used to report notifiable diseases or conditions to the NYC Health Department.14 This form may be submitted through mail or fax, and can be submitted electronically through the Health Department’s online application, Reporting Central (available since the summer of 2009).

Visited NYC Health Department website or contacted NYC Health Department for clinical guidance in the past year

Health Department, Department of Health and Mental Hygiene; NYC, New York City
hance each group’s ability to effectively promote health. Physician surveys enable assessment of physicians’ interactions with their local health department and represent an important step in increasing physician engagement in public health.

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Human participant protection: The NYC Health Department Office of the General Counsel deemed this study a non-research public health activity not subject to IRB review.

No financial disclosures were reported by the authors of this paper.

References


Appendix A: Detailed Methods

Survey Sample

A survey was conducted of physicians selected from an American Medical Association Physician Masterfile list, limited to approximately 18,000 physicians with active New York State (NYS) licenses and primary office addresses in New York City (NYC). Primary care physicians (defined as general pediatrics, general internal medicine, obstetrics/gynecology, gynecology, family medicine, and general practice) make up approximately 30% of the NYC physician population, but were 70% of the current sample. To detect a 15% difference in response between primary care and non–primary care physicians with 90% power, and assuming a 50% response rate, a sample size of 1200 physicians was needed. The total list of physicians was divided into primary care and non-primary care, and random selection was made of 840 primary care physicians and 360 non-primary care physicians.

Survey Reminders and Follow-Up

Reminders (postcards, a second packet of survey materials, and reminder e-mails to those with e-mail information available) were distributed to encourage response. Almost 2 months after the initial mailing, Health Department Call Center employees who had been trained to administer the survey contacted nonrespondents using available telephone information to (1) complete the survey by phone when they reached the physician, (2) schedule a future date to complete the survey with the physician by phone, (3) resend the survey materials to the physician or (4) if appropriate, update information for the physician (e.g., new address, relocation out of NYC, retirement). Additional detail can be found in Appendix C. Surveys completed by paper or by phone were manually entered into Survey Monkey (www.surveymonkey.com) by Health Department staff. Results were downloaded into Microsoft Excel (2003) and imported into SAS 9.2 for analysis.

Survey Response

Even though the survey was conducted with a relatively small budget and no additional staff, the response rate was 56%, due in part to the use of the Health Department’s Call Center. The Call Center outreach resulted in a large number of additional surveys completed by mail (n=29) and Internet (n=31) in addition to those completed by phone (n=74). Also, through the work of the Call Center, an additional 21 sample records were identified as invalid. However, even without the Call Center, a response rate of 44% was estimated.

Surprisingly, only 11% of eligible surveys were completed online, due in part to the small number of available e-mail addresses. The majority of physicians were offered only the online survey option through a link provided in the mailed materials.
Appendix B: Physician Survey Questionnaire

Thanks for taking our survey! It is important that you fill out this survey personally, rather than asking an assistant to do so. After you are done, please put the completed survey in the enclosed pre-stamped envelope and return it to us.

If you would prefer to complete this survey online, you can access it at http://tiny.cc/MDsurvey.

- Your survey ID number is located in the upper right corner of this page.
- Your password is “HDsurvey.”

General Information: The following questions will help us know a little more about you and the practice where you spend most of your time.

Today’s Date: ____________________

1a) How old are you?
   - O < 35 years
   - O 35–44 years
   - O 45–54 years
   - O 55–64 years
   - O 65+ years

1b) What is your gender?
   - O Female
   - O Male
   - O Other

1c) When did you graduate from medical school?
   - O 2005–2009
   - O 2000–2004
   - O 1995–1999
   - O 1990–1994
   - O 1980–1989
   - O 1970–1979
   - O 1960–1969
   - O Before 1960

1d) Where did you graduate from medical school?
   - O New York State
   - O Other United States
   - O Canada
   - O Other foreign

1e) How many hours per week do you spend caring for patients (including assessment, examination, diagnosis, and treatment)?
   - O 0–9 hours  → If 0–9: Thanks for completing the survey! Please send it back to us.
   - O 10–19 hours
   - O 20–29 hours
   - O 30–39 hours
   - O 40+ hours

June 2012
Appendix B: Physician Survey Questionnaire (continued)

The following questions refer to the practice where you spend the most time providing direct patient care.

1f) What is the zip code of your practice location? _______________

1g) What best describes your practice?
   - Solo practice
   - Partnership or group practice - Please specify the number of physicians in your practice: ______
   - Community health center
   - Hospital practice
   - Other - Please specify: __________________________

1h) Electronic health records hold patient information in a digital format that is capable of being shared across different health care settings. This information may include demographics, medical history, prescriptions, and test results. Do you use electronic health records in your practice?
   - Yes: What is the name of your electronic health record system? __________________________
   - No: Would you like to use electronic health records in your practice?  Yes  No

1i) What proportion of the patients in your practice are uninsured or only covered through Medicaid?
   - All
   - Not all but more than half
   - Less than half
   - None
   - Don’t know

1j) What is your primary practice focus? Please select only one option.
   - Allergy and immunology
   - Anesthesiology
   - Dermatology
   - Emergency medicine
   - Family medicine
   - General practice
   - Internal medicine (general)
   - Internal medicine - Cardiovascular disease
   - Internal medicine - Critical care
   - Internal medicine - Endocrinology and metabolism
   - Internal medicine - Gastroenterology
   - Internal medicine - Geriatrics
   - Internal medicine - Infectious diseases
   - Internal medicine - Medical oncology
   - Internal medicine - Nephrology
   - Internal medicine - Pulmonary disease
   - Internal medicine - Rheumatology
   - Other internal medicine sub-specialty
   - Neurology
   - Obstetrics and gynecology
   - Gynecology (only)
   - Occupational medicine
   - Ophthalmology
   - Otolaryngology
   - Pathology
   - Pediatrics (general)
   - Pediatric sub-specialty
   - Physical medicine and rehabilitation
   - Preventive medicine
   - Psychiatry
   - Radiology
   - Surgery (general)
   - Surgical sub-specialty
   - Urology
   - Other
Appendix B: (continued)

**NYC Health Department Resources:** The following questions are about your interactions with the NYC Health Department.

2) How many times have you visited the NYC Health Department website (www.nyc.gov/health) in the past year?
   - O Never → Please skip to question 3.
   - O Fewer than 3 times
   - O 3 or more times
   - O Don’t know → Please skip to question 3.

2a) What types of information have you accessed on the NYC Health Department website? Please check all that apply.
   - O Information on a specific health condition
   - O A Health Department publication
   - O Notifiable disease reporting forms
   - O Data on local health behaviors or conditions
   - O Patient education materials
   - O Other. Please specify: __________________________

2b) Please indicate how much you agree or disagree with the following statements.

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) The NYC Health Department website provides useful information for my practice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) When I use the NYC Health Department website, it is easy for me to find the information I am seeking.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following questions will help us to assess your familiarity and satisfaction with NYC Health Department publications.

3) Do you remember ever reading any material published by the NYC Health Department?
   - O Yes
   - O No → Please skip to question 4.
   - O Don’t know → Please skip to question 4.

3a) What is your preferred method of receiving NYC Health Department publications? Please select only one option.
   - O E-mail with attachment
   - O E-mail with web link
   - O Print (hard copy)
   - O No preference
   - O Another method. Please specify: __________________________
Appendix B: Physician Survey Questionnaire (continued)

4) Which of the following sources, other than the NYC Health Department, do you rely on to provide health information? Please select all that apply.

- Centers for Disease Control and Prevention (e.g., disease-specific clinical guidance, Travelers’ Health)
- New York State Department of Health
- Professional societies (e.g., American College of Physicians, American Academy of Family Practice)
- Publicly available internet sites (e.g., WebMD)
- U.S. Preventive Services Task Force
- Peer-reviewed journals (e.g., JAMA, NEJM)
- Academic medical centers (e.g., materials, programs, events)
- Paid on-line medical resources (e.g., Up to date, MD Consult)
- Popular media sources (e.g., newspapers, blogs)
- Another method. Please specify: __________________________

City Health Information: The following questions are about the NYC Health Department publication City Health Information. City Health Information is a monthly newsletter targeting primary care providers that offers recommendations on clinical topics of public health importance.

5) Have you ever received a copy of City Health Information?

- Yes
- No → Please skip to question 6.
- Don’t know → Please skip to question 6.

5a) Do you currently receive City Health Information through regular mail or electronically? Please select all that apply.

- Regular mail
- Electronically (e-mail, website)
- Don’t know
- Do not currently receive

5b) In the past year, how often have you read issues of City Health Information?

- I read almost every issue (more than 6 issues).
- I read some of the issues (3–6 issues).
- I read issues occasionally (1–2 issues).
- I received the CHI but have not read any issues.
- I do not currently receive this publication.
Appendix B: (continued)

5c) Please select one option below to complete the following statement: If City Health Information were distributed only by e-mail, I would read it ____________.
   - O more often than I do now.
   - O as often as I do now.
   - O less often than I do now.

5d) The average issue of City Health Information is eight pages long. Would you say this length is...
   - O too long.
   - O just right.
   - O too short.
   - O Don’t know.

5e) Please indicate how much you agree or disagree with the following statement: For those issues relevant to my practice, City Health Information has provided me with information that I use in my practice.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know

5f) City Health Information covers topics of public health significance. Areas covered in past issues have included influenza, cause of death reporting, asthma, end of life care, substance use, and medication adherence. Please list up to three topics you would like to see in City Health Information:
   a) ____________________________
   b) ____________________________
   c) ____________________________

Health Alert Network: The following questions are about the Health Alert Network communications. Health Alert Network communications provide information on urgent and emergent public health situations, such as measles and West Nile virus.

6) Have you ever received information through the Health Alert Network communications?
   - O Yes
   - O No ➔ Please skip to question 7.
   - O Don’t know ➔ Please skip to question 7.

6a) Are you currently registered to receive the Health Alert Network communications electronically (through e-mail or fax)?
   - O Yes
   - O No
   - O Don’t know

6b) Please indicate how much you agree or disagree with the following statement: The Health Alert Network has provided me with information that I use in my practice.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know
Appendix B: Physician Survey Questionnaire (continued)

Take Care New York: The following questions are about Take Care New York. Take Care New York is a NYC Health Department program that outlines 10 steps people can take to improve their health.

7) Are you familiar with Take Care New York (www.nyc.gov/health/tcny)?
   - O Yes
   - O No → Please skip to question 8.
   - O Don’t know → Please skip to question 8.

7a) Have you ever used the Take Care New York pocket guide for physicians in your practice (http://tiny.cc/pocketguide)?
   - O Yes
   - O No
   - O Don’t know

7b) Please indicate how much you agree or disagree with the following statement: Take Care New York resources are useful to my practice.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know

Death Certificates: The following questions are about filing death certificates with the NYC Health Department.

8) Please indicate how much you agree or disagree with the following statement: The instructions for recording cause of death on death certificates are clear.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know
   - O I have not filed a death certificate with the NYC Health Department.

9) Have you ever filed a death certificate with the NYC Health Department using the Electronic Death Registration System?
   - O Yes
   - O No → Please skip to question 10.
   - O Don’t know → Please skip to question 10.

9a) Please indicate how much you agree or disagree with the following statement: The process for filing death certificates electronically with the NYC Health Department is straightforward.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know
Appendix B: (continued)

**Notifiable Diseases and Conditions:** The following questions are about reporting notifiable diseases or conditions to the NYC Health Department.

10a) Please indicate how much you agree or disagree with the following statement: In the past year when I diagnosed a notifiable disease or condition, it was easy for me to report this to the NYC Health Department.

- O Strongly agree
- O Agree
- O Neutral
- O Disagree
- O Strongly disagree
- O Don’t know
- O I have not reported any notifiable diseases or conditions in the past year.

10b) Please indicate how much you agree or disagree with the following statement: Aggregate notifiable disease data submitted to the NYC Health Department by physicians citywide are ultimately beneficial to my practice.

- O Strongly agree
- O Agree
- O Neutral
- O Disagree
- O Strongly disagree
- O Don’t know

11) Are you aware of the NYC Health Department’s Universal Reporting Form (http://tiny.cc/urf)?

- O Yes
- O No

**Online Social Networking:** The following questions are about online social networking services. These services allow users to set up individualized profiles and to interact through messaging tools such as e-mail, discussion forums, and instant messaging. Examples of sites that provide social networking services are Facebook, LinkedIn, Sermo, Doctors Hangout, and Clinical Village, among others.

12) Do you currently read or participate in any online social networking services, either professionally or personally? Please select all that apply.

- O Yes, professionally
- O Yes, personally
- O No

13) Are you familiar with the Primary Care Information Project, a NYC Health Department program to support the adoption and use of electronic health records among providers in New York City? Please select only one option.

- O Yes, I have heard of PCIP.
- O Yes, my practice uses an electronic health record system provided by PCIP.
- O No
- O Don’t know

**Public Health Detailing:** The following questions are about public health detailing. Public health detailers are NYC Health Department employees who visit provider offices and provide brief, targeted messages, clinical tools and resources, and patient education materials on specific public health topics, such as diabetes and tobacco cessation.

14) Have you ever been visited by NYC Health Department staff as part of a public health detailing campaign?

- O Yes
- O No ➔ Please skip to question 15.
- O Don’t know ➔ Please skip to question 15.

14a) Please indicate how much you agree or disagree with the following statement: The public health detailing program has provided me with information that I use in my practice.

- O Strongly agree
- O Agree
- O Neutral
- O Disagree
- O Strongly disagree
- O Don’t know
Appendix B: Physician Survey Questionnaire (continued)

**Early Intervention:** The following questions are about the Early Intervention program, a comprehensive interagency program that supports infants and children with developmental delays by offering rehabilitative services regardless of race, ethnicity, or income.

15) Have you ever referred a child to the Early Intervention program?
   - O Yes
   - O No → Please skip to question 16.
   - O Don’t know → Please skip to question 16.

15a) Please indicate how much you agree or disagree with the following statement: I was satisfied with the services my patients received from the Early Intervention Program.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know

**NYC Health Department Clinics:** The following questions are about the NYC Health Department clinics. These free and confidential clinics are open to the public and include the STD clinics and the Chest Centers. Healthcare providers can refer patients to these clinics to obtain STD, HIV, and TB services.

16) In the past year, have you referred a patient to one of the NYC Health Department clinics?
   - O Yes
   - O No → Please skip to question 17.
   - O Don’t know → Please skip to question 17.

16a) Which of the following factors influence your decision to refer a patient to one of the NYC Health Department clinics? Please select all that apply.
   - O Health Department expertise
   - O Insurance status
   - O Homelessness
   - O Other. Please specify: __________________________
   - O Lack of parental consent
   - O Immigration status
   - O SubSTANCE abuse

16b) Please indicate how much you agree or disagree with the following statement: I was satisfied with the services my patients received from the NYC Health Department clinics.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know

**NYC Poison Control Center:** The following questions are about the NYC Poison Control Center, which can be contacted by calling 212-POISONS or 1-800-222-1222.

17) In the past year, have you contacted the NYC Poison Control Center?
   - O Yes
   - O No → Please skip to question 18.
   - O Don’t know → Please skip to question 18.

17a) Please indicate how much you agree or disagree with the following statement: I was satisfied with the information I received from the NYC Poison Control Center.
   - O Strongly agree
   - O Agree
   - O Neutral
   - O Disagree
   - O Strongly disagree
   - O Don’t know
Appendix B: (continued)

Clinical Guidance: The following questions are about clinical guidance offered by the NYC Health Department.

18) Are you aware of how to reach NYC Health Department on-call physicians after hours?
   O Yes  O No  O Don’t know

19) Are you familiar with the Provider Access Line (1-866-NYCDOH1), a service of the NYC Health Department that provides information and clinical guidance?
   O Yes  O No  O Don’t know

20) In the past year, have you contacted the NYC Health Department for clinical guidance?
   O Yes  O No ➔ Please skip to question 21.
   O Don’t know ➔ Please skip to question 21.

20a) Using the table below, please indicate which topics you have contacted the NYC Health Department for clinical guidance on in the past year. Please select all that apply.

| a) HIV/AIDS, other STDs, or TB |
| b) Flu and flu immunization |
| c) Other communicable diseases |
| d) Chronic conditions (such as diabetes, cardiovascular disease, and asthma) |
| e) Tobacco cessation |
| f) Nutrition, physical activity |
| g) Reproductive health |
| h) Early childhood development |
| i) Substance use and treatment |
| j) Depression |
| k) Mental health, other than depression |
| l) Toxicology/ poison control |
| m) Environmental exposures |
| n) WTC exposures |
| o) Other |

20b) Please list up to three topics you would like the NYC Health Department to offer guidance on. Be as specific as possible.
   a) ____________________________
   b) ____________________________
   c) ____________________________

20c) Please indicate how much you agree or disagree with the following statement: When I contacted the NYC Health Department in the past year for guidance, it was easy for me to reach the correct source.
   O Strongly agree  O Agree  O Neutral  O Disagree  O Strongly disagree  O Don’t know

20d) Please indicate how much you agree or disagree with the following statement: In general, when I contacted the NYC Health Department in the past year for guidance, the information provided was useful to my practice.
   O Strongly agree  O Agree  O Neutral  O Disagree  O Strongly disagree  O Don’t know
Appendix B: Physician Survey Questionnaire (continued)

**Information from the NYC Health Department:** The following questions are about information provided by the NYC Health Department.

21) Please indicate how much you agree or disagree with the following statements about general information provided by the NYC Health Department.

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) The NYC Health Department provides community health data (e.g., surveys, vital statistics) that I use in my practice.</td>
<td></td>
<td></td>
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<tr>
<td>b) The NYC Health Department provides sufficient health information for the public.</td>
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<td></td>
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<tr>
<td>c) The NYC Health Department provides sufficient health information for providers.</td>
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</table>

**NYC Health Department H1N1 Support and Response:** Since the end of April, the NYC Health Department has been actively involved in the public health response to the novel H1N1-influenza (swine origin) outbreak investigation. The following questions will help us understand your interactions with the NYC Health Department regarding this public health emergency.

22) Have you received alerts and updates on H1N1 through the Health Alert Network?
   - Yes
   - No → Please skip to question 23.
   - Don’t know → Please skip to question 23.

22a) How often do you read H1N1 notifications from the Health Alert Network?
   - Every time a notification is issued
   - More than half of the time a notification is issued, but not every time
   - Less than half of the time a notification is issued
   - Never
   - Don’t know

22b) Please indicate how much you agree or disagree with the following statement: H1N1 information released through the Health Alert Network provides me with information that I use in my practice.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
   - Don’t know

23) Please indicate how much you agree or disagree with the following statement: When I report cases of H1N1, it is easy to comply with the reporting guidelines.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
   - Don’t know
   - I have not reported any cases of H1N1.
Appendix B: (continued)

24) Have you called the NYC Health Department for consultation on H1N1?
   - Yes
   - No → Please skip to question 25.
   - Don’t know → Please skip to question 25.

24a) Please indicate how much you agree or disagree with the following statements about calling the NYC Health Department for consultation on H1N1.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) It was easy for me to reach the correct information source at the NYC Health Department.</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>b) I obtained the information I needed in a reasonable amount of time.</td>
<td></td>
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<tr>
<td>c) I received clear information.</td>
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<tr>
<td>d) I would have found it useful to be able to e-mail the NYC Health Department with questions or requests for information.</td>
<td></td>
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</table>

25) Please indicate how much you agree or disagree with the following statement: I am confident enough in the safety and efficacy of the H1N1 vaccine to provide or recommend this vaccine to my patients.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
   - Don’t know

26) Have you requested H1N1 vaccine for your practice?
   - Yes
   - No → Please skip to question 27.
   - Don’t know → Please skip to question 27.

26a) Please indicate which patients in your practice currently receive or will receive priority for H1N1 vaccination. Please select all that apply.
   - Children 6 months through 2 years of age
   - Anyone 3 years through 24 years of age
   - Anyone 25 through 64 years of age with an underlying health condition that increases risk of severe illness or complications
   - Pregnant women
   - Anyone 65 years of age or older
   - I do not/will not prioritize any patient populations for H1N1 vaccination.
Appendix B: Physician Survey Questionnaire (continued)

24) Have you called the NYC Health Department for consultation on H1N1?
   - Yes
   - No ➔ Please skip to question 25.
   - Don’t know ➔ Please skip to question 25.

24a) Please indicate how much you agree or disagree with the following statements about calling the NYC Health Department for consultation on H1N1.

<table>
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<tr>
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<th>Neutral</th>
<th>Disagree</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

25) Please indicate how much you agree or disagree with the following statement: I am confident enough in the safety and efficacy of the H1N1 vaccine to provide or recommend this vaccine to my patients.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
   - Don’t know

26) Have you requested H1N1 vaccine for your practice?
   - Yes
   - No ➔ Please skip to question 27.
   - Don’t know ➔ Please skip to question 27.

26a) Please indicate which patients in your practice currently receive or will receive priority for H1N1 vaccination. Please select all that apply.
   - Children 6 months through 2 years of age
   - Anyone 3 years through 24 years of age
   - Anyone 25 through 64 years of age with an underlying health condition that increases risk of severe illness or complications
   - Pregnant women
   - Anyone 65 years of age or older
   - I do not/will not prioritize any patient populations for H1N1 vaccination.
Appendix B: (continued)

General Experience with the NYC Health Department: The following questions are about your practice and your experience with the NYC Health Department. Please use the spaces below to share your thoughts with us.

27) Within the past year, has guidance or information from the NYC Health Department caused you to modify or change your practice in any way?
   
   O Yes  O No → Please skip to question 28.

27a) Please share an example: ____________________________________________________________
     ____________________________________________________________
     ____________________________________________________________

28) Please use the space below to share your thoughts on any issues not covered in the survey, or any additional comments you might have for the NYC Health Department.
   
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

Thank you for filling out our survey!

We value your input, which will help us improve the services and resources the Health Department provides to NYC’s physicians.

For more information about any of the programs mentioned in this survey, please visit www.nyc.gov/health or call 311.
## Appendix C: NYC Health Department physician survey distribution and follow-up

<table>
<thead>
<tr>
<th>Timing</th>
<th>Audience</th>
<th>Action</th>
<th>Extra materials included with survey</th>
<th>Possible outcomes</th>
</tr>
</thead>
</table>
| -              | All               | Mailed paper copies of the survey | • A cover letter from the Commissioner of Health  
• A $2 MetroCard incentive (good for one subway or bus ride)  
• One optional form for entrance into a lottery for one of five 1-year subscriptions to MD Consult*  
• One optional form for participation in focus groups to provide additional qualitative feedback | • Completing the paper copy and returning it in a preaddressed stamped envelope  
• Completing the survey online using a web link provided in both the cover letter and on the survey |
| + 10 days      | All               | Reminder postcard               | • None                                                                                                  | • Completing the paper copy and returning it in the preaddressed stamped envelope originally sent  
• Completing the survey online using a web link provided in the original materials and on the reminder postcard |
| + 3 weeks      | Nonrespondents    | Mailed paper copies of the survey | • Reminder letter from the Deputy Commissioner for the Division of Epidemiology  
• One optional form for entrance into a lottery for one of five 1-year subscriptions to MD Consult*  
• One optional form for participation in focus groups to provide additional qualitative feedback | • Completing the paper copy and returning it in a preaddressed stamped envelope  
• Completing the survey online using a web link provided in both the cover letter and on the survey |
| + 5 weeks      | Nonrespondents    | Reminder e-mail                 | • None                                                                                                  | • Completing a paper copy and returning it in the preaddressed stamped envelope  
• Completing the survey online using a web link provided in the e-mail |
| + 1.5 months   | Nonrespondents    | NYC Health Department Call Center outreach | • None                                                                                                  | • Call Center staff were instructed to pursue the following options, in order of preference:  
(1) complete the survey by phone when they reached the physician,  
(2) schedule a future date to complete the survey with the physician by phone,  
(3) resend the survey materials to the physician or  
(4) if appropriate, update information for the physician (e.g., new address, relocation out of NYC, retirement). |

*MD Consult, www.mdconsult.com/
NYC, New York City
Appendix D: Physician Survey Sample and Response

18,436 AMA Master File–listed physicians with primary practice in New York City and valid New York State licenses

1200 survey sample

626 (56%) unique surveys received\(^a\)
  - 486 mail
  - 74 Internet
  - 74 telephone

82 invalid surveys
  - 15 moved out of state
  - 5 retired
  - 61 undelivered
  - 1 never practices

128 ineligible records removed from final data set\(^b\)
  - 75 spend <10 hours/week with patients
  - 11 missing information on hours/week with patients
  - 21 practice outside of NYC
  - 5 with invalid ZIP code
  - 16 missing ZIP code

498 eligible records in final data set

\(^a\) Response rate does not include eight duplicate records. Call center efforts resulted in 29 mail, 31 Internet, and 74 phone interviews, and identified 21 invalid records. Response rate without the call center: 43%.

\(^b\) Categories are mutually exclusive in order of assignment.

AMA, American Medical Association