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May 4, 2020

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
H-232, U.S. Capitol
Washington, D.C. 20515

The Honorable Mitch McConnell
Majority Leader
U.S. Senate
S-230, U.S. Capitol
Washington, D.C. 20510

The Honorable Kevin McCarthy
Republican Leader
U.S. House of Representatives
H-204, U.S. Capitol
Washington, D.C. 20515

The Honorable Charles Schumer
Democratic Leader
U.S. Senate
S-221, U.S. Capitol
Washington, D.C. 20510

Dear Speaker Pelosi, Leader McCarthy, Leader McConnell, and Leader Schumer,

Many of the plans to re-open the country in the midst of the COVID-19 pandemic emphasize two key elements: the ability to effectively trace back the contacts of infected individuals and broad administration of an eventual vaccine. Both factors hinge on having correct patient demographic data—such as individuals’ names and phone numbers. Unfortunately, current flaws in the identification and matching of patient records inhibit the nation’s ability to accomplish these efforts successfully. As Congress looks to enhance the nation’s capacity to respond to this pandemic, improving patient matching will be critical. Congress should work with federal agencies—such as the Office of the National Coordinator for Health Information Technology (ONC) and the U.S. Postal Services (USPS)—to ensure that they are using all the available tools they have so that public health entities can effectively trace contacts and track immunizations.

The Pew Charitable Trusts is a non-profit research and policy organization with several initiatives focused on improving the quality and safety of patient care. Pew’s health information technology (health IT) initiative focuses on advancing the interoperable exchange of health data and improving the safe use of electronic health records (EHRs).

Demographic data critical to effective contact tracing

A cornerstone of any pandemic response effort relies on contact tracing—or the ability to trace and monitor the contacts of infected patients to prevent additional virus spread. As many plans from experts have shown, the United States’ response to the novel coronavirus outbreak will be no different. As it stands, however, the nation’s public health professionals at the front lines of contact tracing often lack key information needed to effectively identify and communicate with COVID-19 positive individuals.

Specifically, research shows that phone numbers are often not sent from laboratories to public health authorities, and when they are included, the numbers often refer to an ordering physician and not a patient.¹ As a result, contact tracers spend indispensable time searching for a phone number or email address to contact an individual²—all while the virus may be spreading by unknowingly infected individuals that have not been reached via contact tracing mechanisms.

Given the importance of contact tracing to pandemic response and the currently limited workforce available for this effort, Congress can take steps—described in more detail below—to ensure that public health authorities have the demographic data they need to efficiently and effectively communicate with individuals that have tested positive for COVID-19.

Robust matching crucial to future immunization campaign

In parallel to efforts to contain the spread of COVID-19, public health professionals and experts have indicated that mitigating this illness will also require a vaccine. That vaccine, which may not be available for at least a year, is likely to have an initially limited supply and may require multiple doses to take effect.

Like with other national vaccination efforts, public health professional and clinicians rely on immunization registries to track whether someone has obtained a dose. For example, prior to administering vaccines, clinicians and other health professionals should check immunization registries for a patient's record to determine whether a dose is needed, and then share information indicating that the inoculation was given. Absent these steps, clinicians may not provide the right number of doses to secure immunity or provide too much of the vaccine when supply is low.

The effectiveness of immunization registries relies on the ability for health care professionals to locate the right record. To do so, they use demographic data—such as name, date of birth, and address. However, a variety of factors can influence the identification of the right record, including typos and information that changes over time. These challenges with patient matching have long been documented throughout health care; for example, research has shown that patient matching rates between hospitals can be as low as 50 percent.³

Just as with contact tracing, Congress can take steps, outlined below, to address this perennial challenge that could hinder national vaccination efforts.

Better standardization can support both contact tracing and immunization

Research has identified two key steps that could improve patient identification and matching in support of more efficient contact tracing and effective immunization efforts.

- *Adding more data elements:* The federal government should advance the use of other regularly collected demographic data elements for patient matching and identification. This will ensure that public health authorities have up-to-date contact information when receiving reports from laboratories, hospitals, and other testing sites.

The ONC, in recent final regulations, outlined key demographic data that should be used for matching. In the new rule, ONC indicates that EHRs must have the capability of sharing phone numbers, email addresses, previous addresses, and other information critical for identification and matching. These data elements can both provide information for contact tracing and enable better match rates. For example, research published in 2017 showed that email addresses are already captured in more than half of patient records yet are typically not used for matching.⁴ The documentation of email is likely higher today given the adoption of patient-facing tools, like portals, that often require this information to register.

However, these regulations only apply to EHRs and not to the systems that may transmit data directly to public health authorities for contact tracing or to registries—such as lab systems. To address this gap, Congress can require that the Department of Health and Human Services (HHS)—such as through ONC or the Centers for Disease Control and Prevention (CDC)—ensure that all of the demographic information listed in the new regulations are also shared among hospitals, laboratories, and registries for pandemic response purposes.

- *Standardizing data elements:* Currently, data elements—such as addresses and phone numbers—may not be standardized across health IT systems. Research has shown that standardizing specific data elements can improve match rates. In particular, research has shown that use of the USPS format for address (which indicates, for example, appropriate street suffixes) can improve the accuracy of matching records by approximately 3 percent,⁵ which could result in tens of thousands of additional correct record linkages per day. An organization with a match rate of 85 percent, for example, could see its unlinked records reduced by 20 percent with standardization of address alone.

In fact, many immunization registries (and the information systems they use) have already recognized the value of using the USPS address format for patient matching, and pay to use a shared service to conduct this standardization and validation.⁶ Although immunization registries have broadly adopted this data-driven policy, other parts of the health care industry do not yet use this standard—including EHRs. Without all systems using the same format, data exchanged between them will not reap the full benefits from the standardization for improved data quality and increased match rates. Going forward, EHRs and other technologies should have the ability to utilize USPS format so that all systems adhere to the same standards. The optimization of future COVID-19 vaccination efforts will rely on accurate and up-to-date data on an individual's immunization status, as well as accurate surveillance of doses administered at the population level, which increased matching rates will support.

While the USPS makes its address standardization web tools available for free to online retailers and e-commerce, the same service is not available to health care. Specifically, the agency's terms and conditions restrict its use solely for shipping purposes. As a result, health organizations cannot use it for patient safety and pandemic response even though it's already made available for free to other services. Some immunization registries have

implemented the standard via a shared service to procure a solution to conduct the address standardization and validation.⁷

As Congress evaluates ways in which USPS can leverage its services to assist in the pandemic response efforts, it should encourage the agency to open this free technology to health care in a manner that allows both address standardization for new records and those already on file. Doing so will put the nation further ahead in preparing for a mass vaccination campaign.

Conclusion

The COVID-19 pandemic has highlighted the gaps in data exchange in health care that has and will continue to inhibit the nation's response to this, and future pandemics, if they remain unaddressed. Congress should take robust and immediate actions to ensure that public health authorities have the information they need to contact infected individuals and effectively administer future immunization campaigns.

Thank you for your leadership in responding to and mitigating the current as well as future pandemics. Should you have any questions or if we can be of assistance, please contact me at 202-540-6333 or bmoscovitch@pewtrusts.org.



Ben Moscovitch
Project Director, Health Information Technology
The Pew Charitable Trusts

CC:

The Honorable Frank Pallone Jr., Chairman, House Energy and Commerce Committee
The Honorable Greg Walden, Ranking Member, House Energy and Commerce Committee
The Honorable Carolyn Maloney, Chairwoman, House Oversight and Reform Committee
The Honorable Jim Jordan, Ranking Member, House Oversight and Reform Committee
The Honorable Nita Lowey, Chairwoman, House Appropriations Committee
The Honorable Kay Granger, Ranking Member, House Appropriations Committee
The Honorable Lamar Alexander, Chairman, Senate Health, Education, Labor and Pensions Committee
The Honorable Patty Murray, Ranking Member, Senate Health, Education, Labor and Pensions Committee
The Honorable Ron Johnson, Chairman, Senate Homeland Security and Governmental Affairs Committee
The Honorable Gary Peters, Ranking Member, Senate Homeland Security and Governmental Affairs Committee
The Honorable Richard S. Shelby, Chairman, Senate Appropriations Committee
The Honorable Patrick Leahy, Ranking Member, Senate Appropriations Committee

¹ B. Dixon et al., “Electronic Health Information Quality Challenges and Interventions to Improve Public Health Surveillance Data and Practice,” *Public Health Reports* 128, no. 6 (2013): 546-53, <http://europepmc.org/article/PMC/3804098>.

² R. Pifer, “Public Health Agencies, Commercial Labs Warn Patchy It Infrastructure Hobbling Covid-19 Response,” Health Care Dive, accessed April 30, 2020, April 17, 2020, <https://www.healthcaredive.com/news/public-health-commercial-labs-CDC-health-it-coronavirus-covid19-test/576189/>.

³ B. Moscovitch, “Enhanced Patient Matching Is Critical to Achieving Full Promise of Digital Health Records,” Pew Charitable Trusts, accessed April 30, 2020, October 18, 2018, <https://www.pewtrusts.org/en/research-and-analysis/reports/2018/10/02/enhanced-patient-matching-critical-to-achieving-full-promise-of-digital-health-records>.

⁴ A. Culbertson et al., “The Building Blocks of Interoperability: A Multisite Analysis of Patient Demographic Attributes Available for Matching,” *Applied Clinical Informatics* 8, no. 2 (2017): 322-36, <https://doi.org/10.4338/ACI-2016-11-RA-0196>.

⁵ S.J. Grannis et al., “Evaluating the Effect of Data Standardization and Validation on Patient Matching Accuracy,” *Journal of the American Medical Informatics Association* 26, no. 5 (2019): 447-56, <https://doi.org/10.1093/jamia/ocy191>.

⁶ American Immunization Registry Association, “Address Cleansing Service,” accessed April 30, 2020, <https://www.immregistries.org/address-cleansing>.

⁷ American Immunization Registry Association, “Address Cleansing Service,” accessed April 30, 2020, <https://www.immregistries.org/address-cleansing>.