

Chart Review in the Digital Age: When will research methods catch up?

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Background

Medical chart review is often used in public health and research activities. Historically, medical data may have been accessed by visiting a clinic site where personnel would retrieve the chart and allow data to be abstracted. Electronic record technology now offers the potential for changes in chart review practice.

Objectives

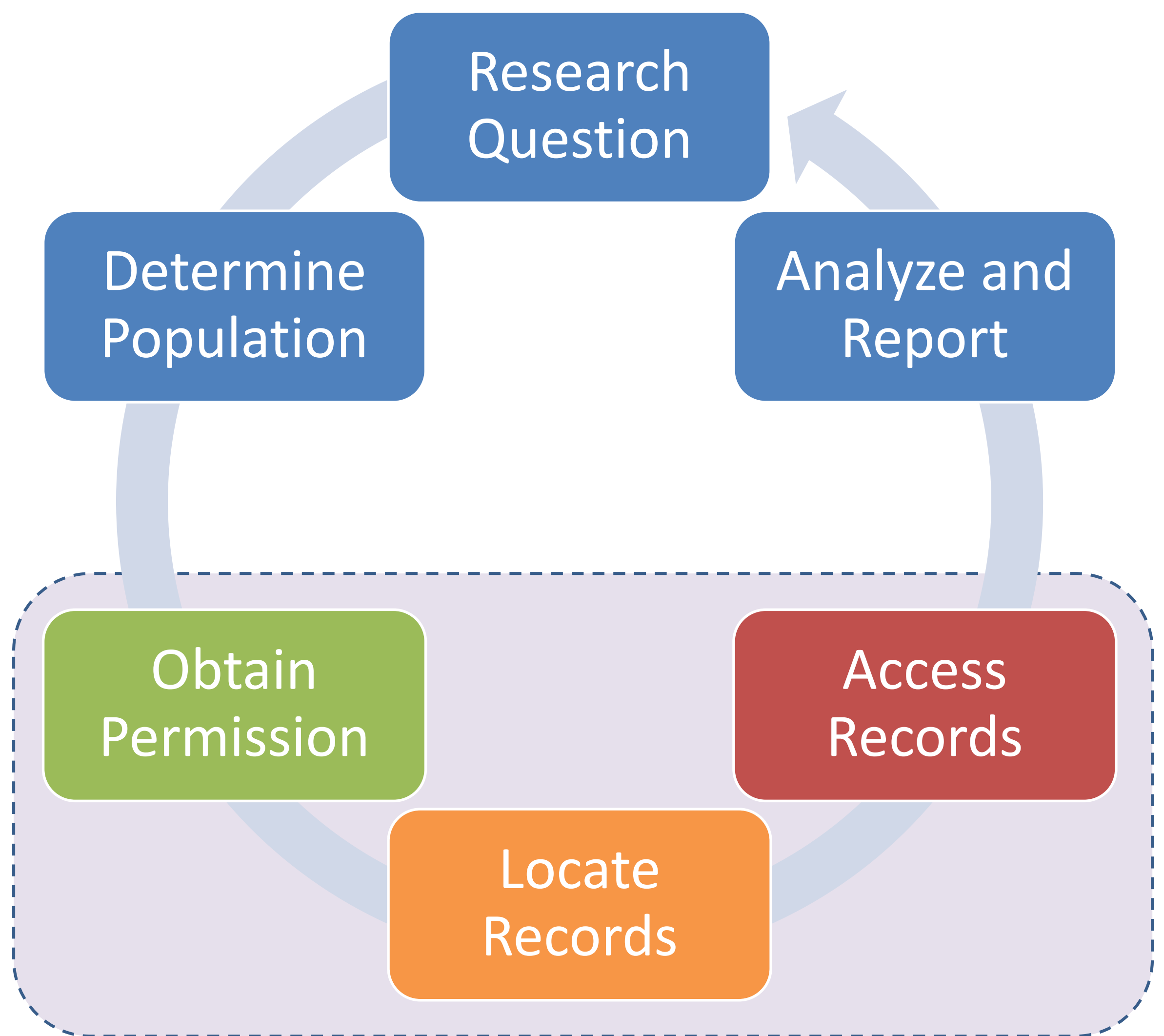
To describe the processes and challenges of carrying out chart review of electronic charts maintained by primary care providers (PCPs) throughout New York City.

Methods

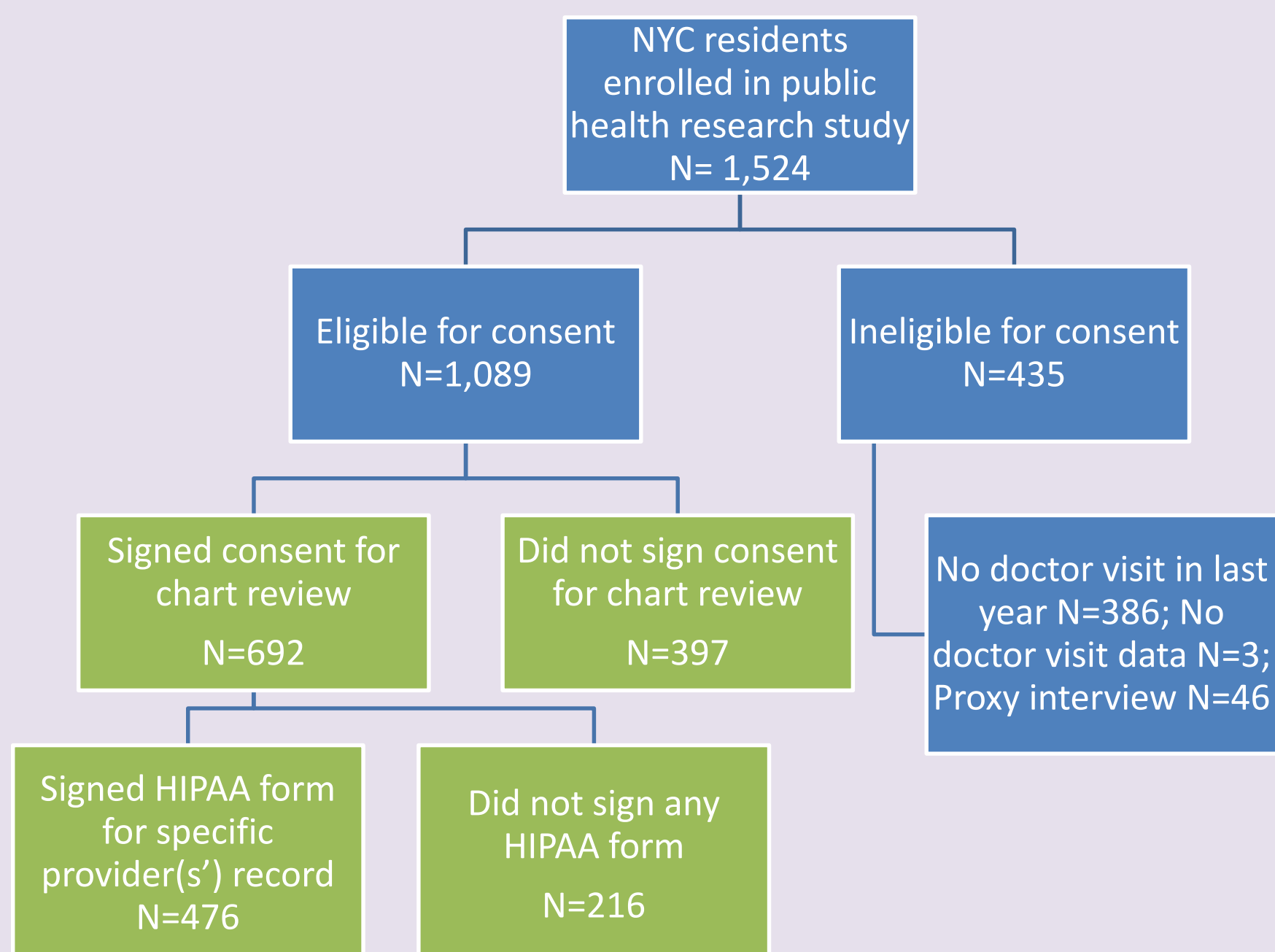
We sought 567 records from 509 providers representing 476 unique patients who are participating in an ongoing public health research effort. We called providers to determine whether the charts were paper or electronic. If electronic, we sent an IRB-approved HIPAA release form signed by the study participant and requested a complete copy of the record. Requests were followed up by telephone if not filled within 4 weeks. Printed records were obtained by mail, fax, or site visit.

Results

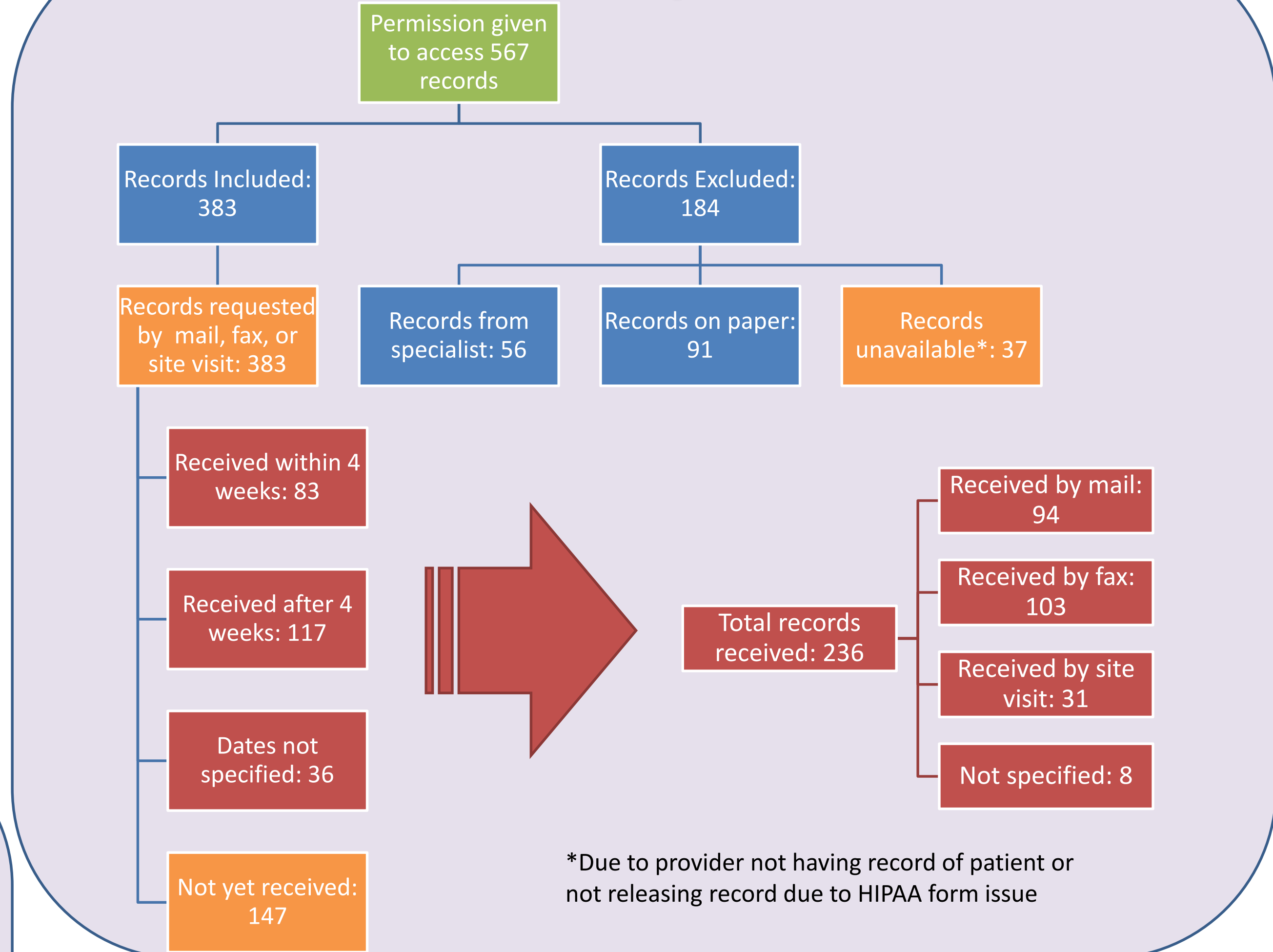
Preliminary results show 87 of 509 (17%) of providers did not use electronic records. After initial requests, 83 records were returned within 4 weeks. Of those returned after 4 weeks, the median time to arrival was 71 days. Qualitative findings obtained by interviewing researchers involved in the chart review process identified complicating factors such as consolidation of providers and facilitating factors such as the ability to print a copy of record at the provider office.



Receiving Permission from 476 Individuals



Locating and Accessing 567 Records



Qualitative Findings

Permission

- HIPAA form issues include not readable by provider, not using provider's standard template, or rejected due to 3 year expiry.
- 3rd party contractors that managed records seemed to have more issues accepting the HIPAA form.
- Unintelligible HIPAA forms or incomplete provider data require Institutional Review Board approval to re-contact the participant.

Location

- Small office providers commented that it was easier for them to send a copy of the electronic record by printing it rather than requesting the paper record from an off-site warehouse.
- 3rd party contractors often shipped records from out of state.
- Primary care providers who share an electronic record with specialists provide more extensive medical records, since the electronic records blended PCP and specialist records.
- Provider unavailability due to death, loss of license or no forwarding contact resulted in significant delays in finding records.

Access

- Office staff with limited fluency or telephone systems not allowing human contact led to difficulty following up record requests.
- Providers reviewing chart before the staff sent the record delayed access to the record.
- Staff explanations that change in office locations, difficulty managing paper documents or denying receipt of requests all contributed to delays in accessing records.

Implications

Electronic records have surpassed paper records among office based providers in the United States and the trend is increasing (Kahn and Weng). Yet many of the functions of chart review are still mediated by older technology: telephone, mail, fax, and in-person visits. Despite permission granted by the individual, we faced many difficulties in locating and accessing records. Adopting electronic methods of record sharing may facilitate future chart review research. Below are some of the areas that may be impacted by adopting electronically mediated record sharing

Permission

- Managing permissions: the individual grants permission to the researcher electronically, this is confirmed electronically and the determination is made to grant access to the record.

Location

- Electronic address: The location of the chart is registered electronically. After receiving permission, the researcher is linked electronically to the location of the record.

Access

- Exchange interface: A dynamic interface allows for multi-directional communication. The individual, researcher, host of the record, provider, and other stakeholders can communicate electronically and update access controls in real time. This may allow the individual to permit use of specific data elements that the researcher can access in a tabular format.

References:

Michael G Kahn and Chunhua Weng. Clinical research informatics: a conceptual perspective. *J Am Med Inform Assoc.* 2012 Jun; 19(e1): e36-e42.
Hsiao C-J, Hing E. Use and characteristics of electronic health record systems among office-based physician practices: United States, 2001-2013. NCHS data brief, no 143. Hyattsville, MD: National Center for Health Statistics. 2014.