Why a Unique Patient Identifier is Critical to Improve Patient Matching
By Barry Hieb, MD

In a recent HIStalk article entitled "National Patient Identifier: Why Patient Matching Technology May Be a Better Solution," Vicki Wheatley argues that, "… healthcare organizations should instead focus on strengthening their existing enterprise matching strategies" rather than work to implement a national patient identifier (NPI). The article makes several valid points that contribute to the ongoing debate about an NPI:

- No solution, including an NPI, can solve all patient matching problems.
- Patient matching errors and healthcare fraud will continue to require special attention.
- Accurate tracking of an individual's information across healthcare silos is becoming increasingly important.
- Any proposed patient matching solutions must not negatively influence privacy, security, or clinical outcomes.
- Accurate patient matching is essential for activities ranging from clinical care to healthcare analytics to population health management.

In these and several other areas, Ms. Wheatley's article makes a valid contribution to the ongoing debate concerning a national unique patient identifier.

There were a few areas, however, where we have a somewhat different viewpoint. The first of these is the implied assumption that healthcare organizations must make a choice between having an EMPI and having a national patient identifier. We believe that this is a false dichotomy.

Clearly, healthcare organizations must continue to improve their existing EMPI systems as much as possible. However, years of analysis and experience indicate that this will not allow them to achieve the levels of patient matching accuracy that are being required going forward. Those requirements include identification of individuals across disparate healthcare systems, the need for matching against ever-increasing patient populations, and the fact that patient demographic data has known variability and ambiguities.

These represent just three of the reasons why unassisted EMPI demographic matching cannot represent the sole patient matching strategy. Rather, the EMPI approach will need to be supplemented by techniques such as the use of an NPI, biometrics, digital certificates, and other technologies.

Virtually every EMPI system uses a patient's Social Security number as a data element to improve the performance of their demographic matching algorithm. I was puzzled by the statement, "… even in theory, every single potential patient in the country would need to be assigned one…" as a condition for an NPI to work. Ms. Wheatley acknowledges that there are many people in the US who require healthcare but do not have an SSN. Despite this deficiency, the use of the SSN clearly adds value in those situations where it is accurately available. Similarly, an NPI would benefit each patient who chooses to use one.

An important point to keep in mind is that there is no mechanism to check for data entry errors in most of the data elements currently used for demographic matching. This includes the SSN, names, and

addresses. For example, there is no reliable way to detect transposition of digits when a SSN is manually entered. Nor is there an easy way to automate the capture of a patient's SSN.

Contrast that with a well-designed national patient identifier system. In most situations, the NPI would be read using automated technology such as a barcode reader or a smart chip that would virtually eliminate errors. Even when the NPI is manually entered, embedded check digits can ensure that any data entry errors are immediately detected and the operator is prompted to re-enter the NPI. When added to a person's demographic profile, the NPI thus becomes the single demographic element that can lead to accurate patient identification on its own. These proposals represent a major advance from the current situation – i.e., an 8 percent or more error rate in EMPI matches.

It is very clear that healthcare organizations will continue their use of EMPI systems for the foreseeable future. That fact, however, should not blind us to the reality that these EMPI systems need to be augmented by additional capabilities going forward if they are going to meet the patient matching accuracy needs that are emerging in healthcare.

The use of a national patient identifier, even if it is initially only chosen by a subset of providers (or patients, on a voluntary basis), will enhance the patient matching accuracy for those patients and help avoid the medical errors that are associated with patient matching errors.

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