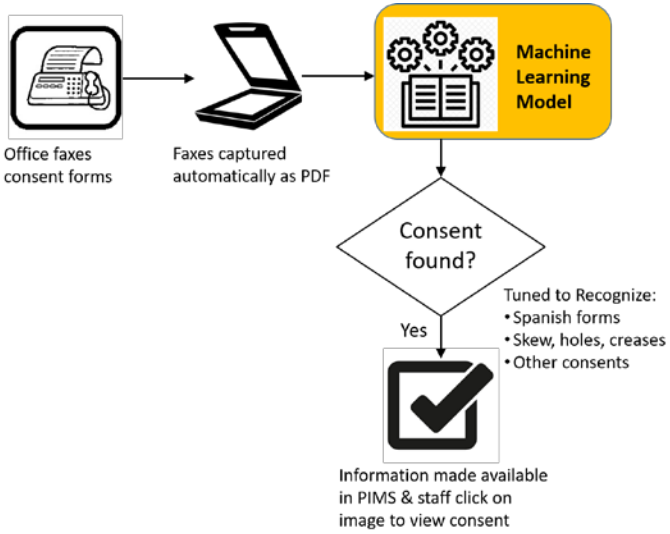
Using Machine Learning to Identify Consent Forms

The Problem

Perioperative staff often manually look for various documents including consent forms prior to surgery. In 2017 there were 15,866 surgical cases where documentation (including consent forms) was faxed to BIDMC resulting in a total of 106,134 faxed pages that staff needed to manually review in order to find the consent forms. Delays in finding or absence of consent forms impacted surgery schedules.

Aim/Goal

Using Machine Learning (ML), proactively identify if a patient has a consent form and prompt the perioperative staff with this information in advance. Components include:



The Team

The BIDMC Center for IT Exploration (ITEx) was established in 2017. The Center's mission is to evaluate innovative technologies to enhance our EHR in modular and interoperable ways. The Center is comprised of BIDMC staff along with partners including Google, Amazon, and MIT.

The goal is to experiment with new technologies and identify use cases where those technologies could benefit BIDMC. In some cases, there are no viable use cases so efforts are refocused to other work (try fast, fail fast, and move on). This is the first ITEx Machine Learning effort to be placed into production at BIDMC.

Special thanks to:

- Kevin Afonso
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- Bela Cardoso
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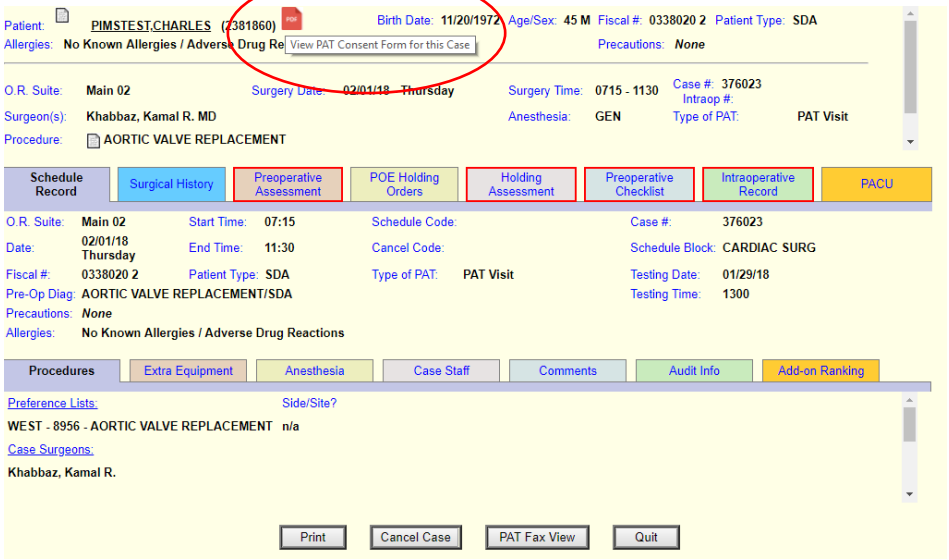
- Si Wong

The Interventions



- An icon will display at the top of the screen if a consent form has been identified and staff can click on it to view the document
- Users can also continue to search for document via the PAT Fax View

The Results/Progress to Date

- Live on 2/28/2018

Lessons Learned

Discussion of challenges and technologies in a heterogeneous group comprised of clinical, business, and technology people leads to opportunities to match technology with real world clinical challenges.

Next Steps/What Should Happen Next

The ITEx will continue to support and maintain the IS Strategic Plan and IT Steering Committee through:

- Experimenting with ML to identify History and Physical (H&P) form
- Actively seeking additional ways to apply this technology

For more information, contact:
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