Automating Clinical Translational Science Research for Speed, Efficiency, & Accuracy: The University of Michigan MICHR Story

An InfoReady Case Study

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The Clinical and Translational Science Awards (CTSA) Program sponsored by the National Institutes of Health (NIH) supports a national network of medical research institutions — called Hubs – that work together to improve the translational research process in getting more treatments to more patients more quickly.

It's not just the process, it's the speed of the process

With that objective to not only generate research but accelerate it for making a difference in patients' lives, Shannon Marshall, MSA, Admissions and Program Manager for the University of Michigan's Michigan Institute for Clinical Health Research (MICHR), had an enormous challenge. With Michigan's MICHR being one of 60-plus Clinical Science Translation Award (CTSA) hubs throughout the US, Shannon and her colleagues are charged with educating, funding, connecting, and supporting researchers, developing young scientists, engaging with the community, bringing researchers together with clinical studies volunteers, providing regulatory support, and utilizing biostatistics and informatics for evaluation. That's clearly a full menu of objectives which, in one sense, is similar if not identical to traditional translational research goals. What differentiates CTSA hubs like MICHR is the "the need for speed" – the mandate to translate promising science into promising treatments fast enough to significantly reduce morbidity and mortality.

When Shannon arrived at MICHR in 2010, applications were still submitted on paper – PDFs and Word documents often delivered by mail – and had to be manually entered, resulting in not only additional administrative time but unavoidable data error issues. As that was especially problematic due to both University and federal government data collection requirements, Shannon immediately moved all programs to Google Forms to help address the problem. While the transition helped in terms of collecting bio data electronically and sharing information across platforms, it still left unresolved the issue of mailed applications. Additionally, too, Shannon needed to compile and distribute all these pieces manually for the review process.

Reaching the limits of manual processing

With four distinct MICHR programs available to researchers under the Educate, Fund, Connect, and Support categories – involving pre- and post-doctoral awards, pilot grants and grant guidance, community outreach and research participant recruitment, and consultation, research management, biostatistics, and regulatory support – the number of awards are substantial. In fact, since 2006, MICHR has funded 509 scholars and trainees, with each award representing just the tip of a much more considerable applicant, review, and award process iceberg. So the challenge for research administrators was obvious: The sheer number of manual administrative processing tasks placed a counterproductive limit on the whole concept of clinical translational science acceleration. As Shannon puts it: “Running and managing all of our programs is two full-time jobs, but there’s only one of me!”

After the University of Michigan’s Office of Research partnered with InfoReady, Shannon immediately adopted the platform for MICHR. That was fall of 2015. By the following spring,129 applications had been collected and processed, not only significantly faster, but with fewer administrative hours required and far fewer errors.

According to Shannon, “InfoReady helps us by streamlining our admissions and review processes. It acts as a one-stop shop for both our applications and program websites. It allows us to collect all applications in one place – including grant submissions and letters of recommendation – and we’re no longer missing emails with important items attached, which is obviously important to us. We’re also able to review all submissions electronically, so no more downloading, bundling, and rebuilding materials to third part sites like Blackboard.”

Mapping the Process

As an example of how InfoReady can be used in practice, here’s how Shannon maps the process for KL2 and PTSP career development programs – programs particularly beneficial in terms of educating young scholars and researchers in the grant application process because career success is so dependent on grant application success.

After applications are submitted through *InfoReady*, Shannon checks to ensure all necessary materials are attached and the application is complete. Incomplete applications are flagged and candidates are given a grace period after which all completed applications enter round one of a three-phase review process.

The first phase is approval or rejection by a faculty director. Approved applications then move on to phase two, a scientifically oriented analysis by multiple reviewers who

complete a questionnaire and submit each applicant's scores through InfoReady. A final MICHR Review Committee then provides input and makes the ultimate selection.

Reviewer recruitment strategies

One of the more challenging aspects of the process is recruiting reviewers – no surprise to research administrators involved in any kind of competitions. According to Shannon, "We actually struggled with this for some time. What we've done recently is asking applicants to recommend faculty who might potentially review and rank their submissions on scientific merit. Our faculty directors are also encouraged to add to that list during the initial review process. Then it's my turn to embark on a massive email campaign to recruit reviewers. The good news is that the University of Michigan is such a collaborative environment that it's not difficult to come up with names and willing review prospects. The bad news is that in such a collaborative environment, it's also challenging to avoid conflicts of interest! "

"To help us deal with the conflict issue," Shannon continues, "we've developed a set of guidelines. The overarching principle is that regardless of any potential conflict, the reviewer must be able to provide an unbiased and professional review. In practice, what that means is that it's acceptable if the reviewer has heard of but not directly worked with the applicant. It's also acceptable if the reviewer has worked with the applicant's mentor but not the applicant him- or herself. What's not acceptable is direct collaboration with the applicant, and it's also not acceptable if the reviewer's department would benefit financially should the applicant be awarded a grant. These guidelines provide a way forward for us, especially in a research environment where cross-department, cross-discipline research is increasingly common."

Whether reviewers submit their evaluations through InfoReady or by other means, Shannon and her colleagues are especially sensitive to, and appreciative of, the extraordinary time commitment required of them. Particularly in phase three, that means reading all the submissions plus all the attachments, recommendations, previous Phase scientific reviews, and then attending a lengthy meeting – currently via Zoom – that involves considerable discussion not of the more obvious top scoring submissions, but the middle tier which may offer strong scientific merit but have issues necessitating discussion and consensus. Those discussions also consider career development merit as well as scientific merit and strength of the mentoring team.

The value of InfoReady in achieving MICHR process objectives

There's no question that MICHR's submission and review process is robust, including sending reviewer feedback to the applicants through InfoReady. There's also no question as far as Shannon Marshall is concerned that InfoReady has enabled such robustness with efficiency, error-free operation, administrative timesavings, and a pace simply not possible in a manual process mode. In a world where clinical translation science means quality and speed are both critical, the combination of MICHR's processes and InfoReady capabilities have proven a winning team.

For more information or to schedule a demo, please contact sales@inforeadycorp.com