

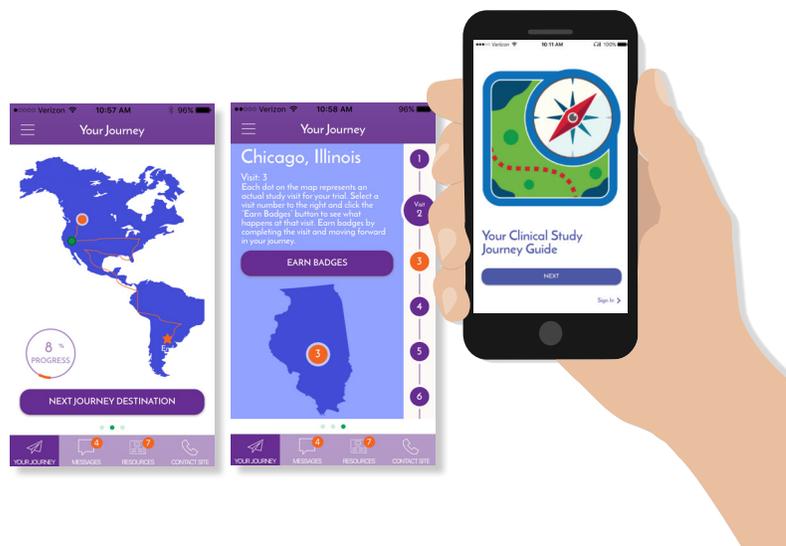
Acurian on...

The Role of Technology in Patient Recruitment

Wearables... smartphones... social networks... the list of new technological tools available to patients and healthcare providers goes on and on. Many clinical trial sponsors are still trying to sort out what role these exciting developments will play in the future of patient recruitment.

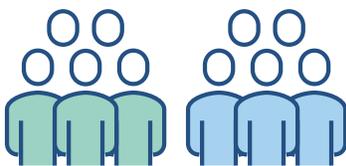
One thing is for sure: despite the allure of bright, shiny objects, there's no one "silver bullet" that will magically accelerate the patient recruitment funnel, improve the throughput of clinical research sites, or keep patients from dropping out of a study. A strategic **combination** of marketing, technology and site management will always be required to meet enrollment goals.

Acurian is a technology-enabled marketing company, integrating both proprietary and third-party technology into all aspects of sponsors' recruitment campaigns. Here are some examples of "where the rubber meets the road" in our current use of technology, and thoughts on new trends that are beginning to emerge.





Databases and Strategic Targeting



Quantitative information for enrollment campaigns, as well as names for specific disease eRegistries, can be gleaned from an experiential database of pre-screened study candidates. A Patient Recruitment Organization (PRO) with its own database has a distinct advantage – a substantial starting point for patient outreach, which can be filtered for the target condition and key study criteria.

When considering the value of a database, it is important to differentiate between **identified** vs. **de-identified** data.

Identified patients are highly motivated and have elected to receive clinical trial information. They are looking to educate themselves about their condition and are advocates for their own healthcare.

De-identified patients are those who have the specified indication, targeted through searches of electronic medical records or other large data sources, but who are not associated with identifiable data.

For the most effective and efficient outreach, a database should contain patients who:

- Opt in and agree to be contacted
- Express interest in clinical trial opportunities
- Have the specified condition and/or required medications
- Provide location information and other demographics



Digital media targeting is a precise tool that uses a patient database (including clinical, lifestyle, and interest data) to narrow recruitment parameters while expanding search scope. By creating a profile of the target patient based on successful enrollment in past studies of the same indication, the latest recruitment efforts can be tailored to find more patients who have similar attributes.

For example, Acurian uses demographic, psychographic, and behavioral research insights derived from a historical performance patient database of over 17 million pre-screened trial candidates to develop our recruitment campaigns.



Social/Digital Listening



Social listening is the process of monitoring digital conversations (such as on Facebook, group chatrooms, or Twitter) to understand what people are saying online about a topic, brand, or industry. For sponsors of clinical trials, social listening gleans insights from patients about how their condition affects their daily lives, their experience with existing treatments, and their openness to participating in a study for a new drug. Social listening can influence strategies for clinical trial design, patient recruitment/awareness, and patient retention.

Patients also learn and gain support from these social networks and online resources. Sharing with others can make their own experience more bearable. In the past 12 months:

- 72% of Internet users looked online for health information
- 25% read/watched others' health experiences
- 6% shared their own health information online.¹

Acurian's approach to social listening is multi-pronged, leveraging our proprietary network of top influencers who already have enormous followings on their social media accounts, and using indication-related conversations and keywords to engage with potential patients in their existing online communities. Ultimately, we hope to drive these patients to a Web landing page with information on how to take action, such as contacting a trial site in their vicinity.





Site Tracking, Monitoring, and Support

The ability to capture data and track activity throughout the enrollment continuum can only be achieved through tightly integrated technology. Acurian's technology infrastructure facilitates the integration of clinical research site intelligence and real-time referral conversion performance to help optimize our recruitment campaigns.

Acurian Recruitment Manager® is a proprietary application used to track referral processing performance at sites. By accessing this user-friendly portal a few minutes per week, sites can provide timely updates of what's going on. Acurian Retention Manager™ software provides the platform needed to deliver a core set of services that ensure early and sustained patient engagement, regardless of the patient support provided at the site level. (A related mobile app is designed to provide resources to site staff and help track the progress of the clinical studies being conducted at each site.)

Acurian works with the providers of Clinical Trial Management Systems (CTMS) to integrate the flow of our data to sites, while retrieving updates on the status of our referrals without requiring sites to enter the data via a separate system. We also employ a Customer Relationship Management (CRM) application to coordinate messages between site contacts and our field-based teams, to avoid bombarding the sites with too many communications. The systems support the balanced distribution of referrals within a local market to the sites demonstrating the capacity and performance history for successful conversions.





Mobile Health

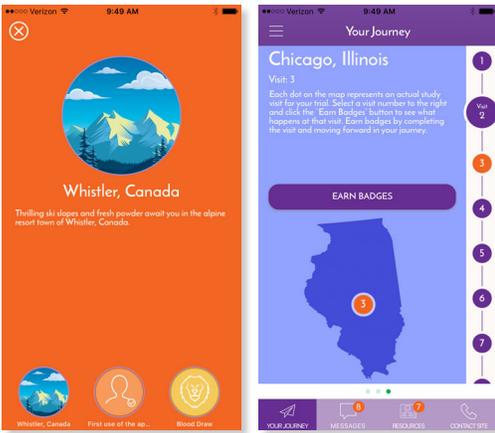
Mobile devices and apps, and the cloud storage facilities that store patient data, comprise the Clinical Internet of Things. For clinical trials, the value of cultivating such a network of devices comes from the ability to personalize services, use analytics to detect patterns, send information to remote locations, and motivate users into achieving specific goals.

More and more mobile health (mHealth) applications are now being designed to help patients track their *own* progress in a clinical study and provide them with an additional way to access resources. For example, patients in some of the latest trials that Acurian is supporting can review study information, reference site address and contact details, and receive messages on their app, so they know what to expect during each visit to the site. Other apps can provide automated visit and medication reminders for patients, and collect their feedback.

As patients can increasingly generate and monitor their own health data, one expert predicts that “the smartphone will become the world’s healthcare portal,” leading eventually to physician-directed patient self-management for chronic conditions such as diabetes.²

For monitoring Activities of Daily Living (ADL) and Quality of Life (QOL), wearables and sensors/carryables can be very useful to measure physical function and support compliance. Future developments include the evolution of Fitbit®-type devices and smartwatches to monitor a patient’s body continuously, just as a thermostat would monitor their home.





Connectivity may breed compliance, but there has to be something in it for the patients, and one size does not fit all. mHealth technology should be convenient and meaningful to the individual. This underscores the importance of **usability testing** to incorporate user feedback.³ Evidence must support the use and selection of a wearable device for a study, determining if it is:

- Safe
- Suitable (for the study design and objectives, patient population, etc.)
- Reducing, rather than increasing, the patient's burden to complete each visit, step, or procedure of the trial
- Providing valid, continuous, secure, and reliable data (i.e., capable of detecting meaningful, interpretable changes in real time and transmitting them securely. Data privacy and security are critical for traditional electronic data capture, but incorporating direct patient data requires additional safeguards.)⁴

The potential is obvious. Because it is real-time, mHealth data provides better insight into potential adverse events. Because it is remotely captured, mHealth data increases the pool of eligible patients. And mHealth data offers the promise of objective measurement that could replace much of the subjective data that is gathered from patients today.⁵



Since it is widely recognized that only a fraction of a patient's health is directly related to the clinical care they receive, it is extremely important to understand what happens to a patient when he or she is *not* at the trial site.⁶ Through these remote monitoring solutions, clinical trial administrators will be able to extend studies more effectively into the lives of trial participants, delivering insights in between site visits that can provide a better understanding of the patient experience, support patient engagement, and ultimately help simplify the path to approval.

Conclusion

From gathering information about potential study candidates and their concerns, to connecting patients with trial sites and monitoring their progress while undergoing treatment, clinical trials are benefiting from the integration of new technology. Acurian continues to explore any and all technological innovations that will provide strategic support for patient recruitment and retention.

¹ DIA 2017 Annual Meeting presentation, "People Will Talk: Gathering Insights from Digital Listening"

² DIA 2017 Annual Meeting presentation, "Partnering with Patients: Virtual and Traditional Communities"

³ DIA 2017 Annual Meeting presentation, "Sharing the Burden"

⁴ DIA 2017 Annual Meeting presentation, "Leveraging Wearables and Sensors in Clinical Trials and mHealth"

⁵ Medidata white paper, "Combining the Discipline of Clinical R&D with the Promise of mHealth," April 2015

⁶ <https://healthitanalytics.com/features/explaining-the-basics-of-the-internet-of-things-for-healthcare>