

Industry Leader

Smoothing The Road To An NDA

INDUSTRY LEADER

Even when enrollment for a clinical study is completed on schedule (it does happen sometimes), getting from Phase I trials to the submission of a new drug application (NDA) may involve roadblocks that stand between the clinical study team and analysis of the final datasets. Running up against such barriers is particularly common in studies that need to collect patient-reported outcomes — more specifically, studies that choose to collect such data in paper-based systems.

Once upon a time, paper diaries were the preferred way to collect subjects' perceptions between clinic visits. Clinicians knew they had to make do with data that often lacked accuracy and timeliness. Patients in a depression study, for example, might consider it a full day's accomplishment just to get out of bed and get dressed. It was rare that they would, or even could, answer every question, and many of them filled in the missing replies days later based on fuzzy memories. The resulting missing, inaccurate, or incomplete data presented huge obstacles to the statistician trying to reach a conclusion based on that data. In contrast, electronic patient-reported outcome (ePRO) systems make timely and accurate data collection efficient and cost-effective.

ROADBLOCK REMOVAL

A number of studies have shown the high cost of delays in getting a new drug to market. The dollar amount

varies with the indication and the product, but every week of delay can cost millions. Delays also cut into a sponsor's patent protection window.

When a protocol requires that research subjects report their perceptions (pain level or quality of life issues, for example), researchers must formulate questions that elicit usable data. When the questionnaire is paper-based, a site may hire extra employees to spend long hours reviewing paper diaries, seeking follow-up information, and making entries into a database. This amount of manual labor is expensive, error-prone, and time-consuming. Contrast that with the time- and date-stamped database created as patients enter their data into lightweight portable devices, and you start to see the cost and data accuracy roadblocks disappear.

Today's patients, particularly those in industrialized countries, routinely use lightweight handheld devices such as PDAs, iPhones, and smartphones. They're accustomed to carrying communications instruments wherever they go. Reminder alarms going off in a pocket or purse are a part of everyday life. The device, with a touch screen and a sophisticated graphical design, can even be fun to use. Attractive and convenient though they are, however, eDiaries are far more than just a "pretty face."

ACCURACY IN REAL TIME

Compiling accurate, valuable data in real time helps to push aside barriers to study closeout and thus to NDA submission. Patients with paper-based diaries often forget to fill in



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their entries and end up doing it just before their next office visit. Even subjects with the best of intentions are not likely to accurately recall how they felt a week or even two days ago. Memories are often subconsciously biased as time passes. However, those using electronic diaries are required to make their entries within specific time windows. Not only can a reminder alarm alert them to the need to make an entry, the device can be programmed to immediately challenge any out-of-range, invalid, or contradictory responses. Assuming a good protocol design, compliance to the protocol's instructions results in good data. Compliance rates in ePRO trials have been reported at 90% to 97% — consistently higher than can be proven with paper. That makes it possible to gather sufficient evaluable data from studies with fewer subjects at fewer sites. ●