

CRF Box Electronic Patient Diary case study

Interview with Medical Director, Major US Biotechnology Corporation

VIP CUSTOMER QUESTIONS & ANSWERS

Q: How did you come to select (CRF Box) E-Diaries to help you in your clinical trial process?

We were aware of some of the academic literature suggesting how unreliable paper diaries are, and I had experienced this myself in the clinic while working with paper-based blood glucose logs, as they were often filled in only in the waiting room by the patient. We wanted to find a way around that in our clinical trial, and chose eDiaries while appreciating the potential challenges with our patients, since they were elderly and mostly hospitalized. However, we wanted to collect the data in a more engaging way, particularly as the patients themselves recorded large parts of the pivotal data.

Q: How important was the diary data overall in this protocol?

This is very important data for us. I think we still need to define with the regulatory agencies what the primary data source will be, but I think the diary data will be critical either way whether the investigator's subjective assessment becomes the primary endpoint, or whether the actual diary data becomes the primary endpoint.

Q: Did you have any regulatory concerns when evaluating the benefits of eDiaries? Do you think the FDA will accept their use?

I think the FDA will be fine with the electronic data. We are not planning to present the data to them before our "End of Phase II meeting" with them, so we'll get feedback from them at that point.

Q: You deployed the e-Diaries over several months. Tell us about how you internally participated in the deployment process and what departments were involved?

I think the key interaction was really coordinating the education of the study coordinators at the sites, to act as a "bridge" with study personnel on how to use the diaries, who to contact with any issues etc. Beta testing in the field was very important, and in this way a lot of the practical challenges were identified early on in the implementation process.

Q: What do you consider most important issues in making the E-Diary deployment a success at the site and patient level??

There were a couple of very important variables: first, having very straightforward, easily understood documentation on how the diaries work, a kind of a step-by-step instruction manual for the sites and the patients was critical. And even with that it became clear that a lot of face-to-face interaction with the CRAs as well as the coordinators was necessary. Sometimes people don't like going through manuals, especially with a new technology. So the key was to sit down with the site personnel and to carefully explain all of the different scenarios that might occur. This logic applied with the patients as well. The coordinators who took their time to explain the diary functionality to the patients were most successful in the end.

Q: How did you handle training and support issues?

There were presentations and one-on-one training given at the Investigators' Meeting, which was very helpful. We also had a live customer support available both for the patients and the sites on and off hours. We found out that the live help desk worked well, and the sites were satisfied with the response times. I can't overstate that "more is better" in this case. Don't assume that people know how to use this technology: we really needed to work to the lowest common denominator to support every single end-user.

Q: Oftentimes Electronic Patient Diaries are still considered "techy gadgets" that may create confusion for individual patients. How have your sites and patients accepted them, in general?

We did have some problems with the patients as well as with the coordinators. Some of these were related to device functionality, others to the poor condition of our patient population. We found that some of the very simple technology issues became major barriers to success, for example being able to find simple telephone lines that would enable the coordinators and patients to download the data became very challenging. Whenever you have any barriers, even simple barriers, it leads to frustration and difficulty in acceptance of the devices. If the study were on smaller scale in a more uniform setting, I think it would have been less of an issue. This is something that providers like CRF Box need to consider in the future in large, multi-country studies with a large variability in the equipment and infrastructure available at different sites.



We also developed some fallback plans for the sites and patients, for instance we allowed them not to send the data if they didn't want to, but asked them to forward the devices for a centralized download.

Q: In this trial there was also a CRO involved. How did that affect the deployment of E-Diaries (if at all)?

Yes...I would say it did have an impact. I would say that the CRO was perhaps a little less receptive and enthusiastic about applying this technology than they could have been. This was a new process for many of the CRO staff. Although in the end we managed to make it work with them, it could have been significantly improved. I think they could have had a greater level of familiarity and a greater enthusiasm for supporting the technology at the sites. I would say matching this sort of data capture technology with a CRO that's knowledgeable and enthusiastic is crucial, and something that we will certainly consider in the future.

Q: Aside from improved quality of data, what other benefits have CRF Box e-Diaries provided for the investigative sites and for your organization (if any)?

One of the benefits of this type of immediate electronic data capture that we were looking for was the real-time monitoring ability of how patients were using the device and making sure that they were compliant with the data capture protocol. We weren't perfectly satisfied with the results in the end to the sense that the patients were often not downloading the data in real time (although they might have been entering it in time).

Secondly, we had hoped that the time-stamping feature would encourage patients to capture information after each of their bowel movements, and that they would feel pressured to be reliable and enter the data after the clinical event had occurred. I don't think we really know yet whether this paid off, because we may not have a large enough database to assess this reliably.

Q: How did you benefit from the web-based Reviewer Tool? And how did the sites benefit from it (if at all)?

This is an area where we could have succeeded better. At the CRO side the monitors were not really paying adequate attention to the web-based Review Tool where the information on patient compliance was accumulated. The CRO didn't educate the monitors effectively to determine if the patients and coordinators were being compliant in data downloading. In the future, we need better planning with the CRO leading to more effective use of the technology.

What happened was that our project management spent their time looking at the Review Tool, and trying to make sure that the sites that weren't downloading the data were contacted. In the best theoretical world the Review Tool would have been of tremendous use, practically speaking in this trial it ended up not being as useful as we had hoped for.

The same applied for the sites, as they were not using the Review Tool very effectively. I think this is an issue for better education and even perhaps better selection of sites, if you are able to do that. In this case we were not screening the sites based on their familiarity with web-based tools, but if you have the opportunity to do that, I can certainly see how that can be helpful.

Q: E-Diaries typically involve very special clinical benefits that are dependent upon the applied therapeutic area. What therapeutic area are you working on, and were there some special elements in the clinical protocol that lent themselves well to the use of E-Diaries?

The indication for this study was in the area of infectious diarrhea, and we had a challenging patient population of elderly and mostly hospitalized patients. We acknowledged that it would be very hard to capture GI symptoms and bowel movement data reliably on paper, and that's one of the reasons why we selected electronic diaries.

Q: How have you been able to justify CRF Box e-Diaries' return on investment for upper management?

Well, because of the scale of the investment for this trial we didn't have to do any separate proposal for our senior management. We argued that the cleaner data that we hoped to capture, and that the ability to monitor data entry in real time to make sure that patients who were non-compliant would be contacted would justify the investment. We just wanted to make sure that the data at the end of the day would be in better shape, given the expectation we had that paper diaries would be a bit of a mess. So that was justification enough to make the initial investment.

Based on our accumulated experience from this trial, we are more inclined to use the technology moving forward with a more functional population in a focused clinical setting without too much heterogeneity between the site infrastructures. I would advise to be cautious in using this technology among very elderly patients.