SAMPLE CASE STUDY #2

Note: The information and resources in this case study are educational in nature and are not intended to constitute legal advice.

You are the PI for a team of clinical researchers that is applying for a grant to undertake a study using remote monitoring and administration of insulin to Type II diabetics. This study will have two aims:

1. The first aim is to measure the acceptability and effectiveness of a device to deliver insulin compared to the standard processes for home self-insulin administration. This novel device will monitor blood sugar levels continuously and deliver insulin via an insulin pump. Doses of insulin are calibrated based on an Automated Intelligence algorithm to adjust dosing based on continuous glucose monitoring. The device has received approval from the FDA for use with either Type I or Type 2 diabetics.
2. The second aim is to assess a new blood collection device that allows for an at-home measure of A1C hemoglobin rather than standard office blood draw for hemoglobin A1C. This device is currently in development.

This is a single-site study. Participants will be English-speaking and currently engaged with a clinical care team at the study site that has experience treating Type II diabetes.

The following remote monitoring technology devices will be provided to study subjects:

1. Remote blood collection device for A1C hemoglobin count;
2. Insulin delivery pump system for at-home administration of insulin.

Costs associated with both the insulin delivery and remote A1C monitoring devices will be paid for by the study. The insulin will be prepared for the insulin pump by the study site's clinical pharmacy.

As noted, participant recruitment will be based within the study site's diabetes clinic. Participants will receive training with the clinic team on both the insulin delivery device and the remote blood collection device. Following device training, participants will conduct their own daily A1C counts and insulin administration at home using the remote devices described above. There will be in-person clinic visits at days 15 and 30 as a safety measure (costs of these visits will be billed to patients as standard clinical care visits).

You are seeking regulatory information for the research team regarding FDA-related issues.

<u>General/broad issues/questions:</u>

1. Does FDA regulate any part of this study?
2. If so, how?
3. If not, why not?

<u>Specific issues/questions:</u>

- How, if at all, would the FDA be involved in the use of the proposed remote technology devices in this study? Are IDEs (Investigational Device Exemptions) required?

<u>Responses</u>

3. **Does FDA regulate any part of this study?**	
1.1 If so, how?	**See below**
1.2 How, if at all, would the FDA be involved in the use of the proposed remote technology devices in this study? Are IDEs required?	As with Case Study #1: The FDA likely would not be involved, and an IDE application would not be required here. This would happen only if a) one or both of the selected devices is investigational (i.e., not cleared or approved as may be required by its FDA classification type) and intended for marketing, and b) the IRB deems those devices to be of SR (Significant Risk) in the setting of the proposed research. In its guidance document "Digital Health Technologies for Remote Data Acquisition in Clinical Investigations" (December 2023, final guidance), FDA noted that devices intended only for use in clinical investigations rather than intended for marketing are typically exempt from requirements that might otherwise apply, including premarket clearance (510(k)) or premarket approval (PMA) requirements for devices, as long as the investigation/study otherwise complies with applicable requirements under 21 CFR 812.2(b) regarding non-significant risk devices used in clinical research (e.g., labeling, IRB approval, informed consent, etc.) The guidance document also notes that any DHT (Digital Health Technology) devices used in clinical research that is under FDA jurisdiction (which is most likely not the case here; see the next question's discussion section below) must be shown to be "fit for purpose" as demonstrated through the following factors and processes, described in detail in the guidance document. CONSIDERATIONS WHEN USING DIGITAL HEALTH TECHNOLOGIES IN CLINICAL INVESTIGATIONS A. Selection of a Digital Health Technology and Rationale for Use in a Clinical Investigation B. Digital Health Technology Description in a Submission C. Verification, Validation, and Usability Evaluations of Digital Health Technologies D. Evaluation of Endpoints Involving Data Collected Using Digital Health Technologies E. Statistical Analysis and Trial Design Considerations

	F. Risk Considerations When Using Digital Health Technologies G. Record Protection and Retention H. Other Considerations When Using Digital Health Technologies During a Clinical Investigation The guidance document does recommend that investigators also consider using the above processes to enhance study reliability for any clinical research using remote digital technology *even if the study does not involve an FDA-regulated "test article."* This is a good reminder to researchers who are considering the use of digital technology in their research that not all digital technology in the marketplace is necessarily properly cleared/approved by the FDA, so researchers are well-advised to vet those potential choices carefully using applicable considerations from the above list in the guidance document. FDA also has separate "qualification" programs that are intended to support the development of DHT tools for use in assessing medical products, where developers of those tools may choose to pursue qualification of their DHT as either a Drug Development Tool (DDT) or a Medical Device Development Tool (MDDT) for a specific context of use. Such a qualified tool may be relied upon in multiple clinical investigations to support submissions for drugs or biological products (if qualified as a DDT) or devices (if qualified as an MDDT) without having to repeat studies that supported the qualification.
1.3 If not, why not?	This study is not described as seeking to establish (or supplement) the safety and efficacy of an FDA-regulated "test article," which is the only time the FDA itself regulates a study. As discussed above, in the device arena, the FDA would not actively regulate a study involving a non-SR device even if that device was investigational <u>and</u> a test article (note that FDA would still regulate the device itself but would not normally be involved in the study phase). It is even less likely that the FDA would regulate this study given that examples of both devices described in this study's summary (remote blood collection test and insulin pump) have been cleared/approved by the FDA and on the market for several years. In fact, remote blood collection tests can be purchased over

	the counter. As a result, the safety and efficacy of both devices has already been appropriately established.