The Human Subjects Division (HSD) strives to ensure that people with disabilities have access to all services and content. **If you experience any accessibility-related issues with this form or any aspect of the application process, email hsdinfo@uw.edu for assistance.**

INSTRUCTIONS

- **This form is only for studies that will be reviewed by the UW IRB**. Before completing this form, check HSD's website to confirm that this should not be reviewed by an external (non-UW) IRB.
- **If you are requesting a determination** about whether the planned activity is human subjects research or qualifies for exempt status, you may skip all questions except those marked with **[DETERMINATION]** For example **1.1. [DETERMINATION]** must be answered. Do not upload consent materials for determinations in ***Zipline*** as HSD does not review or approve them.
- **Answer all questions**. If a question is not applicable to the research or if you believe you have already answered a question elsewhere in the application, state "NA" (and if applicable, refer to the question where you provided the information). If you do not answer a question, the IRB does not know whether the question was overlooked or whether it is not applicable. This may result in unnecessary "back and forth" for clarification. Use non-technical language as much as possible.
- For collaborative or multi-site research, describe only the UW activities unless you are requesting that the UW IRB provide the review and oversight for non-UW collaborators or co-investigators as well.
- You may reference other documents (such as a grant application) if they provide the requested information in non-technical language. Be sure to provide the document name, page(s), and specific sections, and upload it to ***Zipline***. Also, describe any changes that may have occurred since the document was written (for example, changes that you've made during or after the grant review process). In some cases, you may need to provide additional details in the answer space as well as referencing a document.
- **NOTE: Do not convert this Word document to PDF.** The ability to use "tracked changes" is required in order to modify your study and respond to screening requests

INDEX

1. OVERVIEW

Study Title: AI Ready and Exploratory Atlas for Diabetes Insights (AI-READI)

1.1. **[DETERMINATION]** **Home institution.** Identify the institution through which the lead researcher listed on the IRB application will conduct the research. Provide any helpful explanatory information.

In general, the home institution is the institution (1) that provides the researcher's paycheck and that considers them to be a paid employee, or (2) at which the researcher is a matriculated student. Scholars, faculty, fellows, and students who are visiting the UW and who are the lead researcher: identify your home institution and describe the purpose and duration of your UW visit, as well as the UW department/center with which you are affiliated while at the UW.
Note that many UW clinical faculty members are paid employees of non-UW institutions.
*The UW IRB provides IRB review and oversight for only those researchers who meet the criteria described in the **SOP Use of the UW IRB**.*

University of Washington

1.2. [DETERMINATION] **Consultation history**. Has there been any consultation with someone at HSD about this study?

It is not necessary to obtain advance consultation. However, if advance consultation was obtained, answering this question will help ensure that the IRB is aware of and considers the advice and guidance provided in that consultation.

☐ **No**

☒ **Yes** → Briefly describe the consultation: approximate date, with whom, and method (e.g., by email, phone call, in-person meeting).

Multiple dates via email

1.3. [DETERMINATION] **Similar and/or related studies**. Are there any related IRB applications that provide context for the proposed activities?

Examples of studies for which there is likely to be a related IRB application: Using samples or data collected by another study; recruiting subjects from a registry established by a colleague's research activity; conducting Phase 2 of a multi-part project, or conducting a continuation of another study; serving as the data coordinating center for a multi-site study that includes a UW site.

Providing this information (if relevant) may significantly improve the efficiency and consistency of the IRB's review.

☒ **No**

☐ **Yes** → Briefly describe the other studies or applications and how they relate to the proposed activities. If the other applications were reviewed by the UW IRB, please also provide: the UW IRB number, the study title, and the lead researcher's name.

Click or tap here to enter text.

1.4. [DETERMINATION] **Externally-imposed urgency or time deadlines**. Are there any externally-imposed deadlines or urgency that affect the proposed activity?

HSD recognizes that everyone would like their IRB applications to be reviewed as quickly as possible. To ensure fairness, it is HSD policy to review applications in the order in which they are received. However, HSD will assign a higher priority to research with externally-imposed urgency that is beyond the control of the researcher. Researchers are encouraged to communicate as soon as possible with their HSD staff contact person when there is an urgent situation (in other words, before submitting the IRB application). Examples: a researcher plans to test an experimental vaccine that has just been developed for a newly emerging epidemic; a researcher has an unexpected opportunity to collect data from students when the end of the school year is only four weeks away.

HSD may ask for documentation of the externally-imposed urgency. A higher priority should not be requested to compensate for a researcher's failure to prepare an IRB application in a timely manner. Note that IRB review requires a certain minimum amount of time; without sufficient time, the IRB may not be able to review and approve an application by a deadline.

☐ **No**

☒ **Yes** → Briefly describe the urgency or deadline as well as the reason for it.

The newly-funded multisite NIH study requires IRB approval within 6 months of the funding receipt.

1.5. [DETERMINATION] **Objectives**. Using lay language, describe the purpose, specific aims, or objectives that will be met by this specific project. If hypotheses are being tested, describe them. You will be asked to describe the specific procedures in a later section.
If this application involves the use of a HUD "humanitarian" device: describe whether the use is for "on-label" clinical patient care, "off-label" clinical patient care, and/or research (collecting safety and/or effectiveness data).

The study will collect a cross-sectional dataset of 4600 people across the US from diverse racial/ethnic groups who are either 1) healthy, or 2) belong in one of the three stages of diabetes severity (pre-diabetes/diet controlled, oral medication and/or non-insulin-injectable medication controlled, or insulin dependent), forming a total of four groups of patients. Clinical data (social determinants of health surveys/PhenX surveys, continuous glucose monitoring data, biomarkers, genetic data, retinal imaging, cognitive testing, etc.) will be collected. The purpose of this project is data generation to allow future creation of artificial intelligence/machine learning (AI/ML) algorithms aimed at defining disease trajectories and underlying genetic links in different racial/ethnic cohorts. A smaller subgroup of participants will be invited to come for a follow-up visit in year 4 of the project (longitudinal arm of the study). Data will be placed in an open-source repository and samples will be sent to the study sample repository and used for future research.

1.6. [DETERMINATION] **Study design**. Provide a one-sentence description of the general study design and/or type of methodology.
Your answer will help HSD in assigning applications to reviewers and in managing workload. Examples: a longitudinal observational study; a double-blind, placebo-controlled randomized study; ethnographic interviews; web scraping from a convenience sample of blogs; medical record review; coordinating center for a multi-site study.

Cross-sectional and longitudinal observational study with data and sample collections.

1.7. [DETERMINATION] **Intent**. Check all the descriptors that apply to your study. You must check at least one box.
This question is essential for ensuring that your application is correctly reviewed. Please read each option carefully.

Check all that apply	Descriptor
☐	Class project or other activity whose purpose is to provide an educational experience for the researcher (for example, to learn about the process or methods of doing research).
☐	Part of an institution, organization, or program's own internal operational monitoring.
☐	Improve the quality of service provided by a specific institution, organization, or program.
☒	Designed to expand the knowledge based of a scientific discipline or other scholarly field of study, and produce results that: • Are expected to applicable to a larger population beyond the site of data collection or the specific subjects studied, or • Are intended to be used to develop, test, or support theories, principles, and statements of relationships, or to inform policy beyond the study.

Check all that apply	Descriptor
☐	Focus directly on the specific individuals about whom the information or biospecimens are collected through oral history, journalism, biography, or historical scholarship activities, to provide an accurate and evidence-based portrayal of the individuals.
☐	A quality improvement or program improvement activity conducted to improve the implementation (delivery or quality) of an accepted practice, or to collect data about the implementation of the practice for clinical, practical, or administrative purposes. This does not include the evaluation of the efficacy of different accepted practices, or a comparison of their efficacy.
☐	Public health surveillance activities conducted, requested, or authorized by a public health authority for the sole purpose of identifying or investigating potential public health signals or timely awareness and priority setting during a situation that threatens public health.
☐	Preliminary, exploratory or research development activities (such as pilot and feasibility studies, or reliability/validation testing of a questionnaire).
☐	Expanded access use of a drug or device not yet approved for this purpose.
☐	Use of a Humanitarian Use Device.
☐	Other. Explain:

Click or tap here to enter text.

1.8. Background, experience, and preliminary work. Answer this question **only** if the proposed activity has one or more of the following characteristics. The purpose of this question is to provide the IRB with information that is relevant to its risk/benefit analysis.

- Involves more than minimal risk (physical or non-physical)
- Is a clinical trial, or
- Involves having the subjects use a drug, biological, botanical, nutritional supplement, or medical device.

"Minimal risk" means that the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

1.8.a. Background. Provide the rationale and the scientific or scholarly background for the proposed activity, based on existing literature (or clinical knowledge). Describe the gaps in current knowledge that the project is intended to address.

This should be a plain language description. Do not provide scholarly citations. Limit your answer to less than one page, or refer to an attached document with background information that is no more than three pages long.

The ability to understand and affect the course of complex, multisystem diseases has been limited by a lack of well-designed, high quality, large, and inclusive multimodal datasets. We propose to create such a dataset allowing ML approaches to provide critical insights int the endemic condition, type 2 diabetes mellitus.

Our approach is to collect a cross-sectional dataset of 4,600 people across the US with dual balancing for self-reported race/ethnicity and four stages of diabetes severity. Building balanced training datasets is critical for the development of unbiased ML models. Approximately 10% of the participants will be invited to return for follow-up data collection. Thus, rather than targeting the demographic distribution of the US population, we intentionally will recruit equal numbers of four racial/ethnic groups. The same rationale applies for balancing diabetic severity. AI/ML ready data will include physical measurements, medical history, motor vehicle driving history, health surveys, continuous glucose monitoring, serological testing for endocrine, cardiac, and renal biomarkers, genome-wide polymorphism assessment, visual function testing, retinal imaging, ECG, cognitive testing, 24-hr activity monitoring, and environmental sensing.

The dataset will be specifically designed to permit downstream pseudotime manifold analysis. This approach has been utilized in developmental biology successfully to identify differentiation pathways from complex gene expression datasets of individual cells. An expanded approach may be used to define disease trajectories by collecting complex, multimodal data from participants with differing disease severity. This approach relies on dimensionality reduction, is agnostic to existing classification criteria or biases, and can be used to reconstruct a temporal atlas of pathogenesis and healing.

1.8.b. Experience and preliminary work. Briefly describe experience or preliminary work or data (if any) that you, your team, or your collaborators/co-investigators have that supports the feasibility and/or safety of this study.

It is not necessary to summarize all discussion that has led to the development of the study protocol. The IRB is interested only in short summaries about experiences or preliminary work that suggest the study is feasible and that risks are reasonable relative to the benefits. Examples: Your team has already conducted a Phase 1 study of an experimental drug which supports the Phase 2 study being proposed in this application; your team has already done a small pilot study showing that the reading skills intervention described in this application is feasible in an after-school program with classroom aides; your team has experience with the type of surgery that is required to implant the study device; the study coordinator is experienced in working with subjects who have significant cognitive impairment.

The study team includes a diverse group of investigators from multiple institutions across the US. Data collection will take place at the University of Washington (UW), the University of Alabama Birmingham (UAB), and the University of California San Diego (UCSD). In the process of preparing the proposal for NIH funding and in planning the study protocol, we have had numerous meetings as well as asynchronous communication to assess the feasibility and safety of the protocol. Investigators at all sites have had prior experience with the proposed study procedures. The ophthalmic imaging devices are non-invasive and do not pose significant risk to the participants. We have teams of study coordinators and research personnel with extensive prior experience conducting research study visits and experience working with participants from an array of diverse backgrounds.

1.9. Supplements. Check all boxes that apply, to identify relevant SUPPLEMENTS that should be completed and uploaded to ***Zipline***.

This section is here instead of at the end of the form to reduce the risk of duplicating information in this IRB Protocol form that you will need to provide in these Supplements.

Check all that apply	Type of Research	Supplement Name and Link
☐	**Department of Defense** The research involves Department of Defense funding, facilities, data, or personnel.	SUPPLEMENT Department of Defense
☐	**Department of Energy** The research involves Department of Energy funding, facilities, data, or personnel.	SUPPLEMENT Department of Energy
☒	**Drug, biologic, botanical, supplement** Procedures involve the use of any drug, biologic, botanical or supplement, even if the item is not the focus of the proposed research.	SUPPLEMENT Drugs
☐	**Emergency exception to informed consent** Research that requires this special consent waiver for research involving more than minimal risk.	SUPPLEMENT Exception from Informed Consent for Emergency Research (EFIC)
☒	**Genomic data sharing** Genomic data are being collected and will be deposited in an external database (such as the NIH dbGaP database) for sharing with other researchers, and the UW is being asked to provide the required certification or to ensure that the consent forms can be certified.	SUPPLEMENT Genomic Data Sharing
☒	**Medical device** Procedures involve the use of any medical device, even if the device is not the focus of the proposed research, except when the device is FDA-approved and is being used through a clinical facility in the manner for which it is approved.	SUPPLEMENT Devices
☒	**Multi-site or collaborative study** The UW IRB is being asked to review on behalf of one or more non-UW institutions in a multi-site or collaborative study.	SUPPLEMENT Multi-site or Collaborative Research
☐	**Non-UW Individual Investigators** The UW IRB is being asked to review on behalf of one or more non-UW individuals who are not affiliated with another organization for the purpose of the research.	SUPPLEMENT Non-UW Individual Investigators
☐	**Other REDCap Installation Attestation for Electronic Consent** The research will use a non-UW installation of REDCap for conducting and/or documenting informed consent.	SUPPLEMENT Other REDCap Installation
☐	None of the above.	

1.10. [DETERMINATION] **Confirm by checking the box below** that you will comply with the COVID requirements described on HSD's COVID webpage, which are based on the location of the in-person study procedures and the vaccination status of study team members and study participants.
Review the HSD website for current guidelines about which in-person research activities are allowable.

☒ **Confirmed**

2. PARTICIPANTS

2.1. [DETERMINATION] **Participants**. Describe the general characteristics of the subject populations or groups, including age range, gender, health status, and any other relevant characteristics.

Adult patients will be recruited into one of four groups: 1) healthy/no diabetes, 2) pre-diabetes/borderline diabetes/diet-controlled diabetes, 3) oral medication and/or non-insulin injectable medication controlled type 2 diabetes, or 4) insulin dependent type 2 diabetes. We aim to recruit approximately 1000 patients into each of the four groups. Patients will be recruited from University of Washington (UW), University of California at San Diego (UCSD), and University of Alabama at Birmingham (UAB). The study aims to recruit 1,000 subjects from each of the following racial and ethnic groups: white, Asian, Hispanic, and Black. Subjects will be age- and sex-matched within and between groups.

Note; We are submitting an NIH supplement to obtain funding for translation of all study materials to enable recruitment and participation of Spanish-speaking participants who are no fluent in English. Hispanic participants enrolled in the meantime will need to be fluent in English to participate.

2.2. [DETERMINATION] **Inclusion and exclusion criteria.**

2.2.a. Inclusion criteria. Describe the specific criteria that will be used to decide who will be included in the research from among interested or potential subjects. Define any technical terms in lay language.

Adults (≥ 40 years old)
Patients with and without type 2 diabetes
Able to provide consent
Must be able to read and speak English

2.2.b. Exclusion criteria. Describe the specific criteria that will be used to decide which of the subjects who meet the inclusion criteria listed above will be excluded from the research. Define any technical terms in lay language.

Adults older than 85 years of age
Pregnancy
Gestational diabetes
Type 1 diabetes

2.3. [DETERMINATION] **Prisoners**. IRB approval is required in order to include prisoners in research, even when prisoners are not an intended target population.
Is the research likely to have subjects who become prisoners while participating in the study?
For example, a longitudinal study of youth with drug problems is likely to have subjects who will be prisoners at some point during the study.

☒ **No**

☐ **Yes** → If a subject becomes a prisoner while participating in the study, will any study procedures and/or data collection related to the subject be continued while the subject is a prisoner?

☐ **No**

☐ **Yes** → Describe the procedures and/or data collection that will continue with prisoner subjects.

Click or tap here to enter text.

2.4. [DETERMINATION] Will the proposed research recruit or obtain data from individuals that are known to be prisoners?

For records reviews: if the records do not indicate prisoner status and prisoners are not a target population, select "No". See the GUIDANCE Prisoners for the definition of "prisoner", which is not necessarily tied to the type of facility in which a person is residing.

☒ **No**

☐ **Yes** → Answer the following questions (**2.4.a. – 2.4.d.)**

2.4.a. Describe the type of prisoners, and their locations(s).

Click or tap here to enter text.

2.4.b. One concern about prisoner research is whether the effect of participation on prisoners' general living conditions, medical care, quality of food, amenities, and/or opportunity for earnings in prison will be so great that it will make it difficult for prisoners to adequately consider the research risks. How will the chances of this be reduced?

Click or tap here to enter text.

2.4.c. Describe what will be done to make sure that (a) recruitment and subject selection procedures will be fair to all eligible prisoners and (b) prison authorities or other prisoners will not be able to arbitrarily prevent or require particular prisoners from participating.

Click or tap here to enter text.

2.4.d. If the research is funded by one of these federal departments and agencies (Health & Human Services; Energy; Defense; Homeland Security; CIA; Social Security Administration), and/or will involve prisoners in federal facilities or in state/local facilities outside of Washington State: check the box below to provide assurance that study team members will (a) not encourage or facilitate the use of a prisoner's participation in the research to influence parole or pardon decisions, and (b) clearly inform each prisoner in advance (for example, in a consent form) that participation in the research will have no effect on his or her parole or pardon.

☐ **Confirmed**

2.5. [DETERMINATION] **Protected populations.** IRB approval is required for the use of the subject populations listed here. Check the boxes for any of these populations that will be purposefully included. (In other words, being a part of the populations is an inclusion criterion for the study.)

The WORKSHEETS describe the criteria for approval but do not need to be completed and should not be submitted.

Check all that apply	Population	Worksheet Name and Link
☐	Fetuses in utero	WORKSHEET Pregnant Women
☐	Neonates of uncertain viability	WORKSHEET Neonates
☐	Non-viable neonates	WORKSHEET Neonates
☐	Pregnant women	WORKSHEET Pregnant Women

2.5.a. If you check any of the boxes above, use this space to provide any information that may be relevant for the IRB to consider.

Click or tap here to enter text.

2.6. [DETERMINATION] **Native Americans or non-U.S. indigenous populations**. Will Native American or non-U.S. indigenous populations be actively recruited through a tribe, tribe-focused organization, or similar community-based organization?

Indigenous people are defined in international or national legislation as having a set of specific rights based on their historical ties to a particular territory and their cultural or historical distinctiveness from other populations that are often politically dominant.

Examples: a reservation school or health clinic; recruiting during a tribal community gathering.

☒ **No**

☐ **Yes** → Name the tribe, tribal-focused organization, or similar community-based organization. The UW IRB expects that tribal/indigenous approval will be obtained before beginning the research. This may or may not involve approval from a tribal IRB. The study team and any collaborators/investigators are also responsible for identifying any tribal laws that may affect the research.

2.7. [DETERMINATION] **UW Medicine and UW Dentistry residents and fellows.** Will the research involve UW Medicine or UW Dentistry residents or fellows as study subjects?

☒ **No**

☐ **Yes** → (1) Describe in the Recruiting section (4.1) and Risks section (10.1) how you will ensure that residents feel free to truly make a voluntary decision about participation (i.e., no negative consequences from supervisors for saying "No") and how you will ensure that any research data will not be used in the residents' supervisor or program evaluation of them; AND (2) You must inform the UW HR Labor Relations representative who negotiates with the resident's union about the study before beginning it. This is currently Jennifer Mallahan mallaj@uw.edu .

2.8. [DETERMINATION] **Third party subjects.** Will the research collect private identifiable information about individuals *other than* the study subjects? Common examples include: collecting medical history information or contact information about family members, friends, co-workers.

"Identifiable" means any direct or indirect identifier that, alone or in combination, would allow you or another member of the research team to readily identify the person. For example, suppose that the research is about immigration history. If subjects are asked questions about their grandparents but are not asked for names or other information that would allow easy identification

of the grandparents, then private identifiable information is not being collected about the grandparents and the grandparents are not subjects.

☒ **No**

☐ **Yes** → These individuals are considered human subjects in the study. Describe them and what data will be collected about them.

2.9. Number of subjects. Is it possible to predict or describe the maximum number of subjects (or subject units) needed to complete the study, for each subject group?

Subject units mean units within a group. For most research studies, a group will consist of individuals. However, the unit of interest in some research is not the individual. Examples:

- *Dyads such as caregiver-and-Alzheimer's patient, or parent and child*
- *Families*
- *Other units, such as student-parent-teacher*

Subject group means categories of subjects that are meaningful for the specific study. Some research has only one subject group – for example, all UW students taking Introductory Psychology. Some common ways in which subjects are grouped include:

- *By intervention – for example, an intervention group and a control group.*
- *By subject population or setting – for example, urban versus rural families*
- *By age – for example, children who are 6, 10, or 14 years old.*

The IRB reviews the number of subjects in the context of risks and benefits. Unless otherwise specified, if the IRB determines that the research involves no more than minimal risk: there are no restrictions on the total number of subjects that may be enrolled. If the research involves more than minimal risk: The number of enrolled subjects must be limited to the number described in this application. If it is necessary later to increase the number of subjects, submit a Modification. Exceeding the IRB-approved number (over-enrollment) will be considered non-compliance.

☐ **No** → Provide the rationale in the box below. Also, provide any other available information about the scope/size of the research. You do not need to complete the table.

Example: It may not be possible to predict the number of subjects who will complete an online survey advertised through Craigslist, but you can state that the survey will be posted for two weeks and the number who respond is the number who will be in the study.

Click or tap here to enter text.

☒ **Yes** → For each subject group, use the table below to provide the estimate of the maximum desired number of individuals (or other subject unit, such as families) who will complete the research.

Group name/description	Maximum desired number or individuals (or other subject unit) who will complete the research *Provide numbers for the site(s) reviewed by the UW IRB and for the study-wide total number; example: 20/100*
No type 2 diabetes	1000

Group name/description	Maximum desired number or individuals (or other subject unit) who will complete the research *Provide numbers for the site(s) reviewed by the UW IRB and for the study-wide total number; example: 20/100*
Type 2 diabetes controlled by diet/lifestyle and/or has a diagnosis of prediabetes or borderline diabetes	1000
Type 2 diabetes controlled by oral and/or non-insulin injectable medications	1000
Type 2 diabetes dependent on insulin	1000
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.

3. NON-UW RESEARCH SETTINGS

Complete this section only if UW investigators and people named in the SUPPLEMENT Non-UW Individual Investigators will conduct research procedures outside of UW and Harborview

3.1. [DETERMINATION] **Research locations and rationale**. Identify the locations where the research will be conducted and include a description of the reason(s) for choosing the locations. If the research will be conducted internationally, be sure to list all the countries where the research will take place.

This is especially important when the research will occur in locations or with populations that may be vulnerable to exploitation. One of the three ethical principles the IRB must consider is Justice: ensuring that reasonable, non-exploitative, and well-considered procedures are administered fairly, with a fair distribution of costs and potential benefits.

The research sites have been chosen based on strong prior experience with conducting longitudinal clinical research studies, experience with ophthalmic study procedures, and available collaborators with commitment to participation. All three sites will recruit people of diverse backgrounds. However, based on local/regional demographics, UW will concentrate in recruiting Asian>Hispanic>Black participants, while the University of California at San Diego site will prioritize Hispanic>Asian>Black participants, and the University of Alabama at Birmingham site will prioritize Black>Hispanic>Asian participants. All sites will recruit white participants. All race and ethnicity information will be self-reported at the time of screening and enrollment.

3.2. [DETERMINATION] **Local context**. Culturally appropriate procedures and an understanding of local context are an important part of protecting subjects. Describe any site-specific cultural issues, customs, beliefs, or values that may affect the research, how it is conducted, or how consent is obtained or documented.

Examples: It would be culturally inappropriate in some international settings for a woman to be directly contacted by a male researcher; instead, the researcher may need to ask a male family member for permission before the woman can be approached. It may be appropriate to obtain permission from community leaders prior to obtaining consent from individual members of a group. In some distinct cultural groups, signing forms may not be the norm.

This federal site maintains an international list of human research standards and requirements:
http://www.hhs.gov/ohrp/international/index.html

3.3. [DETERMINATION] **Location-specific laws.** Describe any local laws that may affect the research (especially the research design and consent procedures). The most common examples are laws about:

- **Specimens** – for example, some countries will not allow biospecimens to be taken out of the country.
- **Age of consent** – laws about when an individual is considered old enough to be able to provide consent vary across states, and countries.
- **Legally authorized representative** – laws about who can serve as a legally authorized representative (and who has priority when more than one person is available) vary across states and countries.
- **Use of healthcare records** – many states have laws that are similar to the federal HIPAA law but that have additional requirements.

UCSD – State of California requires inclusion of the Bill of Rights in the ICF.

3.4. [DETERMINATION] **Location specific administrative or ethical requirements**. Describe local administrative or ethical requirements that affect the research.

Example: A school district may require researchers to obtain permission from the head district office as well as school principals before approaching teachers or students; a factory in China may allow researchers to interview factory workers but not allow the workers to be paid for their participation.

UCSD has a health Data Oversight Committee (HDOC) that oversees data sharing with other institutions. For sharing research data with another academic (i.e., non-profit/non-commercial) institution, this is typically a straightforward process that is expedited. Approval is contingent upon IRB approval and will be sought immediately after IRB approval is obtained.

3.5. [DETERMINATION] **If the PI is a student: Does the research involve traveling outside of the U.S.?**

☐ **No**

☐ **Yes** → Confirm by checking the box that (1) you will register with the **UW Office of Global Affairs** before traveling; (2) you will notify your advisor when the registration is complete; and (3) you will request a UW Travel Waiver is the research involves travel to the list of countries requiring a UW Travel Waiver.

☐ **Confirmed**

4. RECRUITING AND SCREENING PARTICIPANTS

4.1. [DETERMINATION] **Recruiting and screening**. Describe how subjects will be identified, recruited, and screened. Include information about: how, when, where, and in what setting. Identify who (by position or role, not name) will approach and recruit subjects, and who will screen them for eligibility.

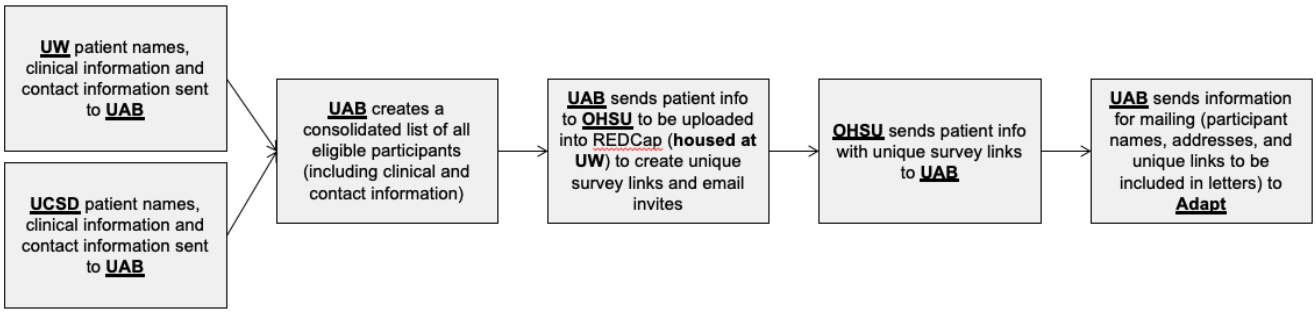
Note: Per UW Medicine policy, the UW Medicine eCare/MyChart system may not be used for research recruitment purposes. Additionally, researchers may not use UW Medicine's Epic Care Everywhere data for research purposes unless the clinical data is necessary for patient/participant safety activities. This means Care Everywhere data cannot be used for recruitment, data abstraction, or any research activities other than those necessary for patient/participant safety.

We will first screen for eligible participants using medical records data search from each institution including ICD diagnosis codes, race, and age.

Information about the study may be provided to potential subjects as follows:

Mailed recruitment letters
Over the 3+ years of study recruitment, approximately 50,000 invitation letters from each site will be sent by both mail and email to participants identified through the electronic medical record search as meeting study eligibility criteria.

UW and UCSD will provide a list of potential participants (names, addresses, age, sex, race/ethnicity, phone number, email addresses, diabetes status) identified through the electronic medical record search to UAB. UAB will add information for their own eligible patients. Using the combined UW, UCSD, and UAB dataset, UAB will select a stratified sample of potential participants based on the sampling scheme. Sampling is necessary to ensure steady enrollment through the recruitment process and to not overwhelm the study staff by inviting all potential participants at one. Once a sample has been selected, a dataset of patient names, clinical information, and patient contact information will be uploaded to a secure site at UAB for Oregon Health and Science University (OHSU) to download to an OHSU server. Although the data will be housed in the UW REDCap system, OHSU is responsible for uploading the combined UW, UCSD, and UAB dataset into REDCap for the purpose of creating patient-specific REDCap survey links and the distribution of REDCap email invitations. After generating patient-specific REDCap survey links, the complete dataset (now including patient-specific REDCap survey links) will be sent back to UAB to send participant information to Adapt Inc., an SSAE16 SOC SecurityCertified and HIPAA-compliant printing and fulfillment service, to send out the recruitment letters. It is necessary for the letters to contain the patient-specific REDCap survey links. The aforementioned process will occur on a recursive basis with UAB coordinating the selection of participants to achieve balancing of race/ethnicity, sex, and diabetes severity until the recruitment goals have been achieved.



Participants may also be E-mailed the recruitment letter.

Follow-up phone calls will be made by research coordinators to those

- Who did not respond to emails and/or mailings
- Who initiated contact with the study teams.

AI-READI Website

Participants will also be directed to the AI-READI website (https://aireadi.org, under construction) where they can learn more about the study, including the study FAQ.

If we are having recruitment difficulties, we may rely on the following options:

- Records from specific clinics or satellite clinics affiliated with each institution
- Referrals from community centers
- Referrals from clinicians/clinic staff from each institution
- Databases (e.g., Leaf), existing research studies and registries
- Self-reports of diabetes status and diagnosis

As social media messages, flyers, and advertisements are not the primary methods of planned recruitment, the information for them have not yet been developed. If we need to rely on these sources, the materials will be submitted to IRB at a later date. However, the general information will be similar to the information in the vitiation letter sent by mail or email, study website (https://aireadi.org) and telephone talking points.

4.2. Recruitment materials.

4.2.a. What materials (if any) will be used to recruit and screen subjects?

Examples: talking points for phone or in-person conversations; video or audio presentations; websites; social media messages; written materials such as letters, flyers for posting, brochures, or printed advertisements; questionnaires filled out by potential subjects.

Letters sent out by email or emails
Follow-up phone conversations
Follow-up texts
Websites

If we are having recruitment difficulties, we may rely on any of the following options:
Social media messages
Flyers
Advertisements

These materials, if needed, will be developed at a later date and submitted to the IRB.

4.2.b. Upload descriptions of each type of material (or the materials themselves) to ***Zipline***. If letters or emails will be sent to any subjects, these should include a statement about how the subject's name and contact information were obtained. No sensitive information about the person (such as a diagnosis of a medical condition) should be included in the letter. The text of these letters and emails must be uploaded to ***Zipline*** (i.e., a description will not suffice).

HSD encourages researchers to consider uploading descriptions of most recruitment and screening materials instead of the materials themselves. The goal is to provide the researchers with the flexibility to change some information on the materials without submitting a Modification for IRB approval of the changes. Examples:

- *Provide a list of talking points that will be used for phone or in-person conversations instead of a script.*
- *For the description of a flyer, include the information that it will provide the study phone number and the name of a study contact person (without providing the actual phone number or name). This means that a Modification would not be necessary if/when the study phone number or contact person changes. Also, instead of listing the*

inclusion/exclusion criteria, the description below might state that the flyer will list one or a few of the major inclusion/exclusion criteria.

- *For the description of a video or a website, include a description of the possible visual elements and a list of the content (e.g., study phone number; study contact person; top three inclusion/exclusion criteria; payment of $*
- *50; study name; UW researcher).*

4.3. [DETERMINATION] **Relationship with participant population**. Do any members of the study team have an existing relationship with the study population(s)?

Example: a study team member may have a dual role with the study population such as being their clinical care provider, teacher, laboratory directory or tribal leader in addition to recruiting them for their research.

☐ **No**

☒ **Yes** → Describe the nature of the relationship.

As of now, our primary method of recruitment is based on electronic medical records search and contacting them via email, letter, and follow-up phone calls (please refer to 4.1). However, we may need to utilize other methods of recruitment listed in 4.1 if our recruitment rate is too low. In case we start relying on referrals from other clinics, registries, other community centers, and because we are trying to recruit a large number of participants, it is possible that the recruitment happens by word of mouth and we may recruit some participants who may be friends, colleagues, families, and relatives of our study staff. In addition, investigators who are also clinicians may have patients in their clinical practices who are eligible for participation.

4.4. Payment to participants. The IRB must evaluate subject payment for the possibility that it will unduly influence subjects to participate. Refer to **GUIDANCE Subject Payment** when designing subject payment plans. Provide the following information about your plans for paying research subjects in the text box below or note that the information can be found in the consent form.

- The total amount/value of the payment
- Schedule/timing of the payment [i.e., when will subjects receive the payment(s)]
- Purpose of the payment [e.g., reimbursement, compensation, incentive]
- Whether payment will be "pro-rated" so that participants who are unable to complete the research may still receive some part of the payment

The IRB expects the consent process or study information provided to the subjects to include all of the above-listed information about payment, including the number and amount of payments, and especially when subjects can expect to receive payment. One of the most frequent complaints received by HSD is from subjects who expected to receive cash or a check on the day that they completed a study and who were angry or disappointed when payment took 6-8 weeks to reach them.

Researchers should review current UW Financial Management requirements about when Social Security Numbers must be collected, and when research payment must be reported to the UW Tax Office and the IRS: https://finance.uw.edu/ps/how-pay/research-subjects.

If your study involves the use of Amazon's Mechanical Turk (MTurk), you must comply with the UW Procurement Services policy that no UW employee, family member, or student directly involved in the research will participate as a subject. The policy requires adding a qualifying question that asks whether the subject is a UW employee or family member, or UW student who is directly involved in the research. If they answer yes, they must be disqualified from MTurk activities.

There will be a $200 stipend for participation, which will be provided when we receive the final data from participants and return of the study devices. The timing of the payment will typically be at least 2 weeks after the study visit, taking into account 10 days of home-based data collection using the devices provided in the study and additional time for devices to be returned to the study team vial mail. The payment will not be prorated. The

amount may be changed in future years depending on the study funding. We will notify IRB in case there is any change in the stipend amount.

Study will cover reasonable costs for parking, public transit, or rideshare fees (e.g., Uber or Lyft) related to the study visit.

The same type and amount of compensation will be given to patients who are asked to come back in Year 4 of the study.

4.5. [DETERMINATION] **Non-monetary compensation**. Describe any non-monetary compensation that will be provided. Example; extra credit for students; a toy for a child.

N/A

4.5.a. If class credit will be offered to students, there must be an alternate way for the students to earn the extra credit without participating in the research. If class credit will be offered, describe the alternative non-research method by which students can earn that same course credit, including who will provide the alternative (e.g., a student subject pool; the course instructor).

N/A

4.6. [DETERMINATION] **Will data or specimens be accessed or obtained for recruiting and screening procedures prior to enrollment?**

Examples: names and contact information; the information gathered from records that were screened; results of screening questionnaires or screening blood tests; Protected Health Information (PHI) from screening medical records to identify possible subjects.

☐ **No** → Skip the rest of this section; go to question **5.1.**
☒ **Yes** → Describe the data and/or specimens (including PHI) and whether it will be retained as part of the study data.

Electronic medical records will be accessed for pre-screening purposes (i.e., to determine age, diabetes status, and other eligibility criteria). Contact information of the participants (phone number, address, email) will be used to contact potential prospective participants. Data gathered during the screening process may be retained as part of the study data to facilitate future screening efforts and/or to contribute to study procedures and reduce duplication efforts.

4.7. Consent for recruiting and screening. Will consent be obtained for any of the recruiting and screening procedures? (Section 8: Consent of Adults asks about consent for the main study procedures).

"Consent" includes: consent from individuals for their own participation; parental permission; assent from children; consent from a legally authorized representative for adult individuals who are unable to provide consent.

Examples:

- *For a study in which names and contact information will be obtained from a registry: the registry should have consent from the registry participants to release their names and contact information to researchers.*

- *For a study in which possible subjects are identified by screening records: there will be no consent process.*
- *For a study in which individuals respond to an announcement and call into a study phone line: the study team person talking to the individual may obtain non-written consent to ask eligibility questions over the phone.*

☒ **No** → Skip the rest of this section; go to question **5.1.**
☐ **Yes** → Describe the consent process.

Click or tap here to enter text.

4.7.a. Documentation of consent. Will a written or verifiable electronic signature from the subject on a consent form be used to document consent for the recruiting and screening procedures?

☐ **No** → Describe the information that will be provided during the consent process and for which procedures.

Click or tap here to enter text.

☐ **Yes, written** → If yes, and a written signature will be used to document consent:
- Upload the consent form to ***Zipline***.

☐ **Yes, electronic** → If yes, and an electronic signature will be used to document consent:
- Upload the consent form to ***Zipline***.
- **If the eSignature process or method for recruiting and screening is different than for the main study procedures**, use the questions about electronic consent in Sections 8.3. and 8.4. to differentiate between recruiting/screening and main study electronic consent. **If electronic consent will be used for recruiting/screening but not main study consent**, use 8.3. and 8.4. to describe e-consent and note that it is only for recruiting/screening.

5. PROCEDURES

5.1. [DETERMINATION] **Study procedures**. Using lay language, provide a complete description of the study procedures, including the sequence, intervention or manipulation (if any), drug dosing information (if any), blood volumes and frequency of draws (if any), use of records, time required, and setting/location. If it is available: Upload a study flow sheet or table to ***Zipline***.

*For studies comparing standards of care: It is important to accurately identify the research procedures. See UW IRB **GUIDANCE Risks of Harm from Standard Care** and the draft guidance from the federal Office of Human Research Protections, "**Guidance on Disclosing Reasonably Foreseeable Risks in Research Evaluating Standards of Care**"; October 20, 2014.*

*Information about pediatric blood volume and frequency of draws that would qualify for expedited review can be found in this **reference table** on the Seattle Children's IRB website.*

The study visit will take approximately 3-4 hours. If requested by subjects, the visit can be performed over a couple of days instead of a single visit.

Sample and Data Collection:
Following consent, we will collect demographic information, basic measurements (weight and height), and vitals. At the earliest possible time, we will collect blood and urine for testing. We will collect approximately 50-60 ml of blood (about 3-4 spoonfuls). In the event that the original blood and/or urine sample quantities were insufficient for the planned testing, we may bring the participant(s) back for an additional blood draw and/or urine sample collection. The list of tests based on blood and urine samples is in the section 5.4.

Participants will not need to be fasting. We will ask the participant about their last per oral food or drink intake at the time of the study visit. A small snack and drink will be available for participants at any time during the study or after the visit.

Questionnaires:
Participants will fill out the following questionnaires:
Center for Epidemiological Studies – Depression (CES-D-10) survey
CES-10 survey
Diabetes self-care activities measurements (SDSCA)
Diet questionnaire
Medication Log
General Health Survey
Problem Areas In Diabetes questionnaire (PAID-5)
Social Determinants of Health questionnaires (PhenX selection of surveys)
Visual Impairment and Access to Eye Care Questionnaires
Alcohol, Smoking, Marijuana and Vaping Use and History Questionnaire (UW and UCSD sites) OR
Alcohol, Smoking and Vaping use and History Questionnaire (UAB site only)

To reduce the visit time, questionnaires may be filled out electronically or on paper before or after the in-person visit. Paper-based questionnaires may be brought to the study visit or mailed back with the devices.

Testing:
Memory and cognitive function will be assess with the MoCA cognitive test (Montreal Cognitive Assessment). We will obtain a 12-lead ECG and perform the monofilament test (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2775618/).

Vision Exam and Retinal Imaging:
Visual function testing will be performed as follows:
Auto-refraction
Best-corrected visual acuity
Best-corrected low luminance visual activity
Contrast sensitivity
Low luminance contrast sensitivity

To perform eye imaging, participants will receive on or two types of eye drops (see Drugs) for pupil dilation. Participants may receive numbing drops (see Drugs) if needed.

Optical coherence tomography (OCT), fundus photography, fluorescence lifetime imaging ophthalmoscopy (FLIO), and optical coherence tomography angiography (OCTA) will be collected using multiple devices. All imaging will be performed using non-invasive imaging methods.

Wearable and at-home devices:
Study participants will have a continuous glucose monitoring device (CGM) applied to their abdomen and will be given a fitness tracking device for activity monitoring. We will use Dexcom CGM devices that collect glucose data over a 10-day period. Participants who are currently wearing a Dexcom G6 will have two options. The first option is to place an additional study Dexcom G6 sensor at least 3 inches away from their current sensor and injection site, wear it for 10 days and send back the transmitter to study staff to download data. The second option does not place an additional study sensor and instead uses the participant's current Dexcom G6 device to get data through Clarity. The study will invite the participant with a unique code to share their Dexcom Clarity data with the study clinic. At the end of the 10 days, study staff will log into Dexcom Clarity and download the participant's data. Patients who already wear Dexcom G6 sensor at the time of the visit will be given an option to allow download of the previously collected glucose values for up to 90 days prior to the study visit. After we capture the 10 days of data, up to 100 days total of glucose data will be collected through the application for subjects who agree to the additional data download, and the study clinic will terminate data sharing with the participant. Sharing with the study clinic will not disrupt their current sharing with any other clinic.

Study participants will receive a small sensor (for environmental data monitoring) and place it at home for data collection for 10 days, and will be asked to return it with the CGM device by mail in a box provided by the study team. The participants will be sent home with instruction for the removal of the CGM device and return the devices back to the research site.

At-home Participation:
The participants will wear the CGM and fitness tracker for 10 days. The participants will also place the environmental sensor in their homes for 10 days. At the end of the 10-day period, participants will need to mail all three devices back so we can obtain the data. Subjects will receive a reminder to return the CGM, fitness tracker, and environmental sensor via phone, text, or email, per their stated preference.
Accessing Medical Records:
We will be extracting medical records to obtain data on general health, eye health, medical and surgical history, diabetes, medications, laboratory records, and any previous medical imaging such as eye imaging. We will also collect information about any car accidents they may have experienced and traffic tickets the participant has received in the last 3 years.

Participants will be asked to complete an exit survey.

Future Participation:
Some study participants who were recruited during Year 1 and 2 (we intend to invite 10% of the study population) will be asked to come for additional follow up visit in Year 4. The follow-up visit would be similar to the visit described above, such as requesting wearing of CGM, fitness tracking device, and environmental sensor. No new variables will be added for collection but not all variables will be collected due to budget constraints.

5.2. [DETERMINATION] Recordings. Does the research involve creating audio or video recordings?

☒ **No** → Go to question **5.3.**

☐ **Yes** → Verify that you have described what will be recorded in the answer to question **5.1.**, and answer question **5.2.a.**

5.2.a. Before recording, will consent for being recorded be obtained from subjects and any other individuals who may be recorded?

☐ **No** → Email hsdinfo@uw.edu before submitting this application in ***Zipline***. In the email, include a brief description of the research and a note that individuals will be recorded without their advance consent.

☐ **Yes**

5.3. [DETERMINATION] MRI scans. Will any subjects have a Magnetic Resonance Imaging (MRI) scan as part of the study procedures?

This means scans that are performed solely for research purposes or clinical scans that are modified for research purposes (for example, using a gadolinium-based contrast agent when it is not required for clinical reasons).

☒ **No** → Go to question **5.4.**

☐ **Yes** → Answer questions **5.3.a** through **5.3.c.**

5.3.a. Describe the MRI scan(s). Specifically:

- What is the purpose of the scan(s)? *Examples: obtain research data; safety assessment associated with a research procedure.*
- Which subjects will receive an MRI scan?
- Describe the minimum and maximum number of scans per subject, and over what time period the scans will occur. *For example: all subjects will undergo two MRI scans, six months apart.*

Click or tap here to enter text.

5.3.b. MRI facility. At which facility(ies) will the MRI scans occur? Check all that apply.

☐ UWMC Radiology/Imaging Services (the UWMC clinical facility)
☐ DISC Diagnostic Imaging Sciences Center (UWMC research facility)
☐ CHN Center for Human Neuroscience MRI Center (Arts & Sciences research facility)
☐ BMIC Biomolecular Imaging Center (South Lake Union research facility)
☐ Harborview Radiology/Imaging Services (the Harborview clinical facility)
☐ SCCA Imaging Services
☐ Northwest Diagnostic Imaging
☐ Other: identify in the text box below:

Click or tap here to enter text.

5.3.c. Personnel. For MRI scans that will be conducted at the DISC, CHN or BMIC research facilities: Indicate who will be responsible for operating the MRI scanner by checking all that apply.

☐ MRI technician who is formally qualified
☐ Researcher who has completed scanner operator training provided by a qualified MRI operator

5.4. [DETERMINATION] **Data variables**. Describe the specific data that will be obtained (including a description of the most sensitive items). Alternatively, a list of the data variables may be uploaded to ***Zipline***.

List of variables is uploaded and listed below:

List of variables

Domain	Variable
Questionnaires	Medical history, past medical/surgical history, medications, basic demographics Center for Epidemiological Studies – Depression (CES-D-10 survey) CES-10 survey Diabetes self-care activities measurements (SDSCA) Diet questionnaire Medication Log General Health Survey Problem Areas In Diabetes questionnaire (PAID-5) Social Determinants of Health questionnaire (PhenX surveys)Alcohol, Smoking, Marijuana and Vaping Use and History Questionnaire (UW and UCSD sites) OR Alcohol, Smoking and Vaping use and History Questionnaire (UAB site only) Exit survey
Vitals	Height, weight, BMI, hip to waist circumference
Vitals	Systolic / Diastolic blood pressure
Vitals	Heart Rate
Vitals	Oxygen (SpO2) saturation
Cognitive Assessment	MoCA cognitive test (Montreal Cognitive Assessment)
Eye Health	Best corrected visual acuity of each eye Eye refraction
Eye Health	Contrast Sensitivity of each eye
Systemic Health	Complete Blood Count (white blood cell count, red blood cell count, platelet count, hemoglobin, hematocrit, MCV, MCH, MCHC, RDW), apolipoprotein genotyping, phosphotau epitopes
Systemic Health	Comprehensive Metabolic Panel (Glucose, Calcium, Total Protein, Albumin, Chloride, Carbon Dioxide, Potassium, Sodium, ALT, AST, Bilirubin, Alkaline Phosphatase, BUN (Blood Urea Nitrogen), Creatinine
Systemic Health	Hemoglobin A1c
Systemic Health	Lipid Panel (Total Cholesterol, Triglycerides, HDL Cholesterol, VLDL Cholesterol)
Urine Analysis	Urine Albumin
Urine Analysis	Urine Creatinine
Medical Imaging	Fundus Photo

Medical Imaging	Optical Coherence Tomography (OCT)
Medical Imaging	Optical Coherence Tomography Angiography (OCTA)
Medical Imaging	Fluorescence Lifetime Imaging Ophthalmoscopy (FLIO)
Wearables	Continuous Glucose Measurements for 10 days
Wearables	Fitness Tracker for 10 days
Banking for future studies	Buffy coat for future DNA extractions, serum samples, plasma samples, PAXgene RNA samples, and PBMC samples
Cardiology	Standard 12-lead ECG
Cardiology	High sensitivity troponin (hs-TNI)
Cardiology	BNP
Peripheral Neuropathy	Monofilament Test
Endocrinology	Hs-CRP
Endocrinology	C-peptide
Environmental	Home air quality, environmental data measuring
Genomics	Whole Genome Sequencing in Years 2-4 (Funding permitted)
DOL External Data	Driving accident history
EMR	Medications Vitals (BP, weight, HR, etc.) Diagnosis and procedure codes Clinical exam evaluation notes Surgery notes Laboratory values Imaging studies (both eye and non-eye related), both scans and reports Diagnostic codes and procedural codes Demographics Insurance data

5.5. [DETERMINATION] **Data sources**. For all types of data that will be accessed or collected for this research: Identify whether the data are being obtained from the subjects (or subjects' specimens) or whether they are being obtained from some other source (and identify the source).

If you have already provided this information in Question 5.1, you do not need to repeat the information here.

Data will be obtained from subjects, devices they will be asked to use, and their specimens, as well as medical records. Driving and accident records will be obtained from the Department of Licensing (no additional approvals are required beyond the IRB approval). Glucose monitoring data for subjects already using specific CGM will be given an option to provide access to glucose data for up to 90 days prior to the study visit, in addition to the study data collection, for a total of up to 100 days, through the CGM vendor's Clarity application. The additional data collection is optional.

5.6. [DETERMINATION] **Identifiability of data and specimens.** Answer these questions carefully and completely. This will allow HSD to accurately determine the type of review that is required and the relevant compliance requirements. Review the following definitions before answering the questions:

Access *means to view or perceive data, but not to possess or record it. See, in contrast, the definition of "obtain".*
Identifiable *means that the identity of an individual is or may be readily (1) ascertained by the researcher or any other member of the study team from specific data variables or from a combination of data variables, or (2) associated with the information.*
Direct identifiers *are direct links between a subject and data/specimens. Examples include (but are not limited to): name, date of birth, medical record number, email or IP address, pathology or surgery accession number, student number, or a collection of data that is (when taken together) identifiable.*
Indirect identifiers *are information that links between direct identifiers and data/specimens. Examples: a subject code or pseudonym.*
Key *refers to a single place where direct identifiers and indirect identifiers are linked together so that, for example, coded data can be identified as relating to a specific person. Example: a master list that contains the data code and the identifiers linked to the codes.*
Obtain *means to possess or record in any fashion (writing, electronic document, video, email, voice recording, etc.) for research purposes and to retain for any length of time. This is different from accessing, which means to view or perceive data.*

5.6.a. Will you or any members of you team have access to any direct or indirect identifiers?

☒ **Yes** → Describe which identifiers and for which data/specimens.

Name, MRN, DOB, age, sex, race/ethnicity, address, phone number, driver's license number, and email

☐ **No** → Select the reason(s) why you (and all members of your team) will not have access to direct or indirect identifiers.

☐ There will be no identifiers
☐ Identifiers or the key have been (or will have been) destroyed before access.
☐ There is an agreement with the holder of the identifiers (or key) that prohibits the release of the identifiers (or key) to study team members under any circumstances.

This agreement should be available upon request from the IRB. Examples: a Data Use Agreement, Repository Gatekeeping form, or documented email.

☐ There are written policies and procedures for the repository/database/data management center that prohibit the release of the identifiers (or identifying link). This includes situations involving an Honest Broker.
☐ There are other legal requirements prohibiting the release of the identifiers or key. Describe them below.

Click or tap here to enter text.

5.6.b. Will you or any study team members obtain any direct or indirect identifiers?

☒ **Yes** → Describe which identifiers and for which data/specimens.

Age (DOB), sex, race/ethnicity, ZIP code (5 digits), driver's license number

☐ **No** → Select the reason(s) why you (and all members of your team) will not obtain direct or indirect identifiers.

☐ There will be no identifiers.
☐ Identifiers or the key have been (or will have been) destroyed before access.
☐ There will be an agreement with the holder of the identifiers (or key) that prohibits the release of the identifiers (or key under any circumstances.

This agreement should be available upon request from the IRB. Examples: a Data Use Agreement, Repository Gatekeeping form, or documented email.

☐ There are written policies and procedures for the repository/database/data management center that prohibit the release of the identifiers (or identifying link). This includes situations involving an Honest Broker.
☐ There are other legal requirements prohibiting the release of the identifiers or key. Describe them below.

Click or tap here to enter text.

5.6.c. If any identifiers will be obtained, indicate how the identifiers will be stored (and for which data). NOT: Do not describe the data security plan here, that information is requested in question **9.6**.

☐ Identifiers will be stored with the data. Describe the data to which this applies:

☒ Identifiers and study data will be stored separately but a link will be maintained between the identifiers and the study data (for example, through the use of a code). Describe the data to which this applies:

All data.

☐ Identifiers and study data will be stored separately, with no link between the identifiers and the study data. Describe the data to which this applies:

Click or tap here to enter text.

5.6.d. Research collaboration. Will individuals who provide coded information or specimens for the research also collaborate on other activities for this research? If yes, identify the activities and provide the name of the collaborator's institution/organization.

Examples include but are not limited to: (1) study, interpretation, or analysis of the data that results from the coded information or specimens; and (2) authorship on presentations or manuscripts related to this work.

Collaborators at all institutions involved in the study will collect, analyze, and interpret data; collect specimens; be involved in preparation of manuscripts, presentations, grants, and other materials stemming from this research.

UAB:
Cynthia Owsley
Nathan E. Miles Endowed Chair of Ophthalmology
University of Alabama, Birmingham
cynthiaowsley@uabmc.edu
205.325.8635

JHU:
T Y. Alvin Liu
Assistant Professor of Ophthalmology
Johns Hopkins University
tliu25@jhmi.edu
410.287.1874

OHSU:
Shannon McWeeney
Professor of Medicine, School of Medicine
Oregon Health Sciences University
mcweeney@ohsu.edu
503.494.8347

CALMI:
Bhavesh Patel
Assistant Research Professor
California Medical Innovations Institute
bpatel@calmi2.org

UCSD:
Linda Zangwill (Contact PI)
Professor of Ophthalmology
UC San Diego
lzangwill@health.ucsd.edu

Sally Baxter (Co-PI)
Assistant Professor of Ophthalmology and Biomedical Informatics
UC San Diego
s1baxter@health.ucsd.edu

Stanford:
Michael Snyder
Stanford W. Ascherman, Professor in Genetics
Stanford University
mpsnyder@stanford.edu
650.723.4668

5.7. [DETERMINATION] **Protected Health Information (PHI).** Will participants' identifiable PHI be accessed, obtained, used, or disclosed for any reason (for example, to identify or screen potential subjects, to obtain study data or specimens, for study follow-up) that does not involve the creation or obtaining of a Limited Data Set?

PHI is individually identifiable healthcare record information or clinical specimens from an organization considered a "covered entity" by federal HIPAA regulations, in any form or media, whether electronic, paper, or oral. ***You must answer yes to this question if the research involves identifiable health care records (e.g., medical, dental, pharmacy, nursing, billing, etc.), identifiable healthcare information from a clinical department repository, or observations or recordings of clinical interactions.***

For information about what constitutes the UW Covered Entity, see UW Medicine Compliance Patient Information Privacy Policy 101 and diagram of the healthcare components.

☐ **No** → Skip the rest of this question; go to question **5.8.**
☒ **Yes** → Answer all of the questions below (**5.7.a.** through **5.7.f.**)

5.7.a. Describe the PHI and the reason for using it. *Be specific. For example, will any "free text" fields (such as physician notes) be accessed, obtained or used?*

See 4.6. and 5.4 sections. PHI are required for the study purposes, both for initial screening/recruitment as well for study data collection. We will collect PHI related to participant's general health, diabetes, cognitive functions, and eye health through prospective data collection as well as review of EHRs as a part of the dataset.

5.7.b. Is any of the PHI located in Washington State?

☐ **No**
☒ **Yes**

5.7.c. Describe the pathway of how the PHI will be accessed or obtained, starting with the source/location and then describing the system/path/mechanism by which it will be identified, accessed, and copied for the research. *Be specific. For example: directly view records; search through a department's clinical database; submit a request to Leaf.*

PHI will be collected by directly viewing electronic medical records and direct attainment from the subjects during the study procedures as described.

5.7.d. For which PHI will subjects provide HIPAA authorization before the PHI is accessed, obtained and/or used?

All PHI accessed or collected following enrollment.

Confirm by checking the box that UW Medicine HIPAA Authorization form maintained on the HSD website will be used to access obtain, use, or disclose any UW Medicine PHI.

☒ **Confirmed**

5.7.e. Will you obtain any HIPAA authorizations electronically (i.e., e-signature)?

☐ **No**
☒ **Yes** → Confirm by checking the box that you have read and understand the *Electronic Documentation of Consent* section of the **WORKSHEET Consent Requirements and Waivers** the **GUIDANCE Consent** *Documentation of Consent* for information regarding the use of electronic signatures and HIPAA authorizations.

☒ **Confirmed**

5.7.f. For which PHI will HIPAA authorization NOT be obtained from the subjects?

PHI obtained for the prescreening activities

Provide the following assurances by checking the boxes.

☒ The minimum necessary amount of PHI to accomplish the purposes described in this application will be accessed, obtained and/or used.
☒ The PHI will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research study, or for other research for which the use or disclosure of PHI would be permitted.
☒ The HIPAA "accounting for disclosures" requirement will be fulfilled, if applicable. See UW Medicine Compliance Policy #104.
☒ There will be reasonable safeguards to protect against identifying, directly or indirectly, any patient in any report of the research.

5.8. [DETERMINATION] **Genomic data sharing**. Will the research obtain or generate genomic data?

☐ **No**
☒ **Yes** → Answer the question below.

5.8.a. Will genomic data from this research be sent to a national database (for example, NIH's dbGaP database)?

☐ **No**
☒ **Yes** → Complete the **SUPPLEMENT Genomic Data Sharing** and upload it to ***Zipline***.

5.9. Whole genome sequencing. For research involving biospecimens: Will the research include whole genome sequencing?

Whole genome sequencing is sequencing of a human germline or somatic specimen with the intent to generate the genome or exome sequence of that specimen.

☐ **No**
☒ **Yes**

5.10. [DETERMINATION] **Cannabis (marijuana), hemp, and related compounds**. These questions are about: cannabis (any part of the plant in any form), hemp, cannabidiol (CBD), delta-8-THC, any product derived from cannabis or hemp, and related synthesized compounds. All UW research must comply with federal laws about cannabis because of conditions associated with the federal money that UW receives. Answer the questions below so that HSD can determine whether the federal laws apply to your specific situation. See the UW Guidance on Research Involving Marijuana for additional information.

5.10.a. Does your research involve any of the following? Check all that apply.

☐ Study staff will obtain or handle any of the above items
☐ Study will provide money to the participants to obtain any of the above items
☐ Study participants will use or consume any of the above items on campus or in any UW-owned or leased facility
☒ None of the above

5.10.b. If you checked any box except "None of the above", provide the following information about each cannabis and related item your research will involve: Name of the item, how you will obtain it, the source, and whether it contains ≥0.3% THC (tetrahydrocannabinol).

Click or tap here to enter text.

5.11. **Possible secondary use or sharing of information, specimens, or subject contact information.** Is it likely that the obtained or collected information, specimens, or subject contact information will be used for any of the following:

- Future research not described in this application (in other words, secondary research)
- Submission to a repository, registry, or database managed by the study team, colleagues, or others for research purposes
- Sharing with others for their own research

Please consider the broadest possible future plans and whether consent will be obtained now from the subjects for future sharing or research uses (which it may not be possible to describe in detail at this time). Answer **YES** even if future sharing or uses will use de-identified information or specimens. Answer **NO** if sharing is unlikely or if the only sharing will be through the NIH Genomic Data Sharing described in question **5.8**.

Many federal grants and contracts now require data or specimen sharing as a condition of funding, and many journals require data sharing as a condition of publication. "Sharing" may include (for example): informal arrangements to share banked data/specimens with other investigators; establishing a repository that will formally share with other researchers through written agreements; or sending data/specimens to a third-party repository/archive/entity such as the Social Science Open Access Repository (SSOAR), or the UCLA Ethnomusicology Archive.

☐ **No**
☒ **Yes** → Answer all of the questions below. (Questions **5.11.a** through **5.11.g**)

5.11.a. Describe what will be stored for future use, including whether any direct or indirect (e.g., subject codes) identifiers will be stored.

Subject codes, contact information/identifiers, deidentified data, unused specimen

5.11.b. Describe what will be shared with other researchers or with a repository/database/registry, including whether direct identifiers will be shared and (for specimens) what data will be released with the specimens.

Data will be shared with the investigators in this project who are part of developing software for de-identifying, data uploading and data sharing.

The data includes responses to questionnaires, vitals and demographic information, cognitive testing, motor vehicle collision involvement, results from blood and urine tests, retinal images, read-out from wearables (CGM and fitness tracker), read-out from home environmental sensor, ECG, and cardiology, peripheral neuropathy, eye health, and endocrinology measures, genomic sequencing, raw imaging data such as retina scans. This will also include any previous relevant medical history that was obtained.

Biobank blood specimens will be stored at UAB as a repository. During this project we will create an infrastructure to decide who is allowed to request and receive the specimen for future research.

There will be two databases for data distribution:

1. The first will be deidentified, which will be publicly available.
2. The second one has some identifiable or sensitive information: genomic data and race/ethnicity, and will require data user agreement between the researchers to obtain the data and approval process developed by the project committee.

5.11.c. Who will oversee and/or manage the sharing?

Principal investigators and lead co-investigators at each participating institution. All the research staff under the PI and lead site PIs will be able to see data under the supervision of the PIs and Site PIs..

5.11.d. Describe the possible future uses, including limitations or restrictions (if any) on future uses or users. As stated at the beginning of this question, consider the broadest possible uses.

Examples: data will be used only for cardiovascular research; data will not be used for research on population origins.

Manuscript and presentation preparations, grant preparations, future research studies, future AI/ML algorithms, repository/data sharing platform creations, future research using the stored specimen and data.

5.11.e. Consent. Will consent be obtained now from subjects for the secondary use, banking and/or future sharing?

☐ **No**
☒ **Yes** → Be sure to include the information about this consent process in the consent form (if there is one) and in the answers to the consent question in Section 8.

Language is included in the ICF.

5.11.f. Withdrawal. Will subjects be able to withdraw their data/specimens from secondary use, banking or sharing?

☒ **No**
☐ **Yes** → Describe how, and whether there are any limitations on withdrawal.

Example: data can be withdrawn from the repository but cannot be retrieved after they are released.

5.11.g. Agreements for sharing or release. Confirm by checking the box that the sharing or release will comply with UW (and, if applicable, UW Medicine) policies that require a formal agreement with the recipient for release of data or specimens to individuals or entities other than federal databases.

Data Use Agreements or Gatekeeping forms are used for data; Material Transfer Agreements are used for specimens (or specimens plus data). Do not attach any template agreement forms; the IRB neither reviews nor approves them.

☒ **Confirmed**

5.12. Communication with subjects during the study. Describe the types of communication (if any) the research team will have with already-enrolled subjects during the study. Provide a description instead of the actual materials themselves.

Examples: email, texts, phone, or letter reminders about appointments or about returning study materials such as a questionnaire; requests to confirm contact information.

Emails, texts, phone calls, letters will be used for communication about upcoming appointments and reminders to wear/use and return continuous glucose monitoring device, fitness tracker, and environmental sensor. 10% of the study population will be invited to participate in a second research visit.

5.13. **Future contact with subjects**. Is there a plan to retain any contact information for subjects so that they can be contacted in the future?

☐ **No**

☒ **Yes** → Describe the purpose of the future contact, and whether use of the contact information will be limited to the study team; if not, describe who else could be provided with the contact information. Describe the criteria for approving requests for the information.

Examples: inform subjects about other studies; ask subjects for additional information or medical record access that is not currently part of the study proposed in this application; obtain another sample.

Examples include: To invite for a follow up study visit, to ask for interests in participating in additional studies related to this study, to obtain additional samples (ex: blood, retinal imaging), to invite to participate in the community advisory board.

5.14. Alternatives to participation. Are there any alternative procedures or treatments that might be advantageous to the subjects?

If there are no alternative procedures or treatments, select "No". Examples of advantageous alternatives: earning extra class credit in some time-equivalent way other than research participation; obtaining supportive care or a standard clinical treatment from a health care provider instead of participating in research with an experimental drug.

☒ **No**
☐ **Yes** → Describe the alternatives.

Click or tap here to enter text.

5.15. Upload to *Zipline* all data collection forms (if any) that will be directly used by or with the subjects, and any scripts/talking points that will be used to collect the data. Do not include data collection forms that will be used to abstract data from other sources (such as medical or academic records), or video recordings.

- ***Examples****: survey, questionnaires, subject logs or diaries, focus group questions.*
- ***NOTE****: Sometimes the IRB can approve the general content of surveys and other data collection instruments rather than the specific form itself. This prevents the need to submit a modification request for future minor changes that do not add new topics or increase the sensitivity of the questions. To request this general approval, use the text box below to identify the questionnaires/surveys/ etc. for which you are seeking this more general approval. Then briefly describe the scope of the topics that will be covered and the most personal and sensitive questions. The HSD staff person who screens this application will let you know whether this is sufficient or whether you will need to provide more information.*
- ***For materials that cannot be uploaded****: upload screenshots or written descriptions that are sufficient to enable the IRB to understand the types of data that will be collected and the nature of the experience for the participant. You may also provide URLs (website addresses) or written descriptions below. Examples of materials that usually cannot be uploaded: mobile apps; computer-administered test; licensed and restricted standardized tests.*
- ***For data that will be gathered in an evolving way****: This refers to data collection/questions that are not pre-determined but rather are shaped during interactions with participants in response to observations and responses made during those interactions. If this applies to the proposed research, provide a description of the process by which the data collection/questions will be established during the interactions with subjects, how the data collection/questions will be documented, the topics likely to be addressed, the most sensitive type of information likely to be gathered, and the limitations (if any) on topics that will be raised or pursued.*

Use this text box (if desired) to provide:

- Short written descriptions of materials that cannot be uploaded, such as URLs
- A description of the process that will be used for data that will be gathered in an evolving way.

- The general content of questionnaires, surveys and similar instruments for which general approval is being sought. (See the **NOTE** bullet point in the instructions above.)

5.16. [DETERMINATION] **SARS-CoV-2 testing**. Will the subjects be tested for the SARS-CoV-2 coronavirus?

☒ **No**
☐ **Yes** → If yes:

- Name the testing lab
- Confirm that the lab and its use of this test is CLIA certified or certified by the Washington State Department of Health
- Describe whether you will return the results to the participants and, if yes, who will do it and how (including any information you would provide to subjects with positive test results).

Click or tap here to enter text.

6. CHILDREN (MINORS) AND PARENTAL PERMISSION

6.1. [DETERMINATION] **Involvement of minors**. Does the research include minors (children)?

Minor or child means someone who has not yet attained the legal age for consent for the research procedures, as described in the applicable laws of the jurisdiction in which the research will be conducted. This may or may not be the same as the definition used by funding agencies such as the National Institutes of Health.

- In Washington State the generic age of consent is 18, meaning that anyone under the age of 18 is considered a child.
- There are some procedures for which the age of consent is much lower in Washington State.
- The generic age of consent may be different in other states, and in other countries.

☒ **No** → Go to Section 8.
☐ **Yes** → Provide the age range of the minor subjects for this study and the legal age for consent in the study population(s). If there is more than one answer, explain.

Click or tap here to enter text.

☐ **Don't know** → This means is it not possible to know the age of the subjects. For example, this may be true for some research involving social media, the Internet, or a dataset that is obtained from another researcher or from a government agency. Go to Section 8.

6.2. Parental permission. Parental permission means actively obtaining the permission of the parents. This is not the same as "passive" or "opt out" permission where it is assumed that parents are allowing their children to participate because they have been provided with information about the research and have not objected or returned a form indicating they don't want their children to participate.

6.2.a. Will parental permission be obtained for:

☐ All of the research procedures → Go to question **6.2.b**.

☐ None of the research procedures → Use the table below to provide justification and skip question **6.2.b.**
☐ Some of the research procedures → Use the table below to identify the procedures for which parental permission will not be obtained.

Be sure to consider all research procedures and plans, including screening, future contact, and sharing/banking of data and specimens for future work.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which there will be NO parental permission[2]	Reason why parental permission will not be obtained	Will parents be informed about the research?[3]	
			YES	NO
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐

Table footnotes

1. *If the answer is the same for all children groups or all procedures: collapse the answer across the groups and/or procedures.*
2. *If identifiable information or biospecimens will be obtained without parent permission, any waiver granted by the IRB does not override parents' refusal to provide broad consent (for example, through the Northwest Biotrust).*
3. *Will parents be informed about the research beforehand even though active permission is not being obtained?*

6.2.b. Indicate the plan for obtaining parental permission. One or both boxes must be checked.

☐ Both parents, unless one parent is deceased, unknown, incompetent, or not reasonably available, or when only one parent has legal responsibility for the care and custody of the child.
☐ One parent, even if the other parent is alive, known, competent, reasonably available, and shares legal responsibility for the care and custody of the child.

This is all that is required for minimal risk research.

If both are checked explain:

Click or tap here to enter text.

6.3. Children who are wards. Will any of the children be wards of the State or any other agency, institution, or entity?

☐ **No**
☐ **Yes** → An advocate may need to be appointed for each child who is a ward. The advocate must be in addition to any other individual acting on behalf of the child as guardian or in loco parentis. The same individual can serve as advocate for all children who are wards.

Describe who will be the advocate(s). The description must address the following points:

- Background and experience
- Willingness to act in the best interests of the child for the duration of the research
- Independence of the research, research team, and any guardian organization

Click or tap here to enter text.

6.4. UW Office of the Youth Protection Coordinator. If the project involves interaction (in-person or remotely) with individuals under the age of 18, researchers must comply with UW Administrative Policy Statement 10.13 and the requirements listed at this website. This includes activities that are deemed to be Not Research or Exempt. It does not apply to third-party led research (i.e., research conducted by a non-UW PI). Information and FAQs for researchers are available.

This point is advisory only; there is no need to provide a response.

7. ASSENT OF CHILDREN (MINORS)

Go to Section 8 if your research does not involve children (minors).

When designing assent processes and forms, researchers should first review the **GUIDANCE Consent** *Protected and Vulnerable Populations* and **TIPSHEET Consent** *Assent and Legally Authorized Representative.*

7.1. Assent of children (minors). Though children do not have the legal capacity to "consent" to participate in research, they should be involved in the process if they are able to "assent" by having a study explained to them and/or by reading a simple form about the study, and then verbally expressing whether they want to participate. They may also provide a written assent if they are older. See **GUIDANCE Consent** *Protected and Vulnerable Populations* and **WORKSHEET Children** for circumstances in which a child's assent may be unnecessary or inappropriate.

7.1.a. Will assent be obtained for:

- ☐ All research procedures and child groups → Go to question **7.2**.
- ☐ None of the research procedures and child groups → Use the table below to provide justification, then skip to question **7.6**.
- ☐ Some of your research procedures and child groups → Use the table below to identify the procedures for which assent will not be obtained.

Be sure to consider all research procedures and plans, including screening, future contact, and sharing/banking of data and specimens for future work.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will not be obtained	Reason why assent will not be obtained
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will not be obtained	Reason why assent will not be obtained
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Table footnotes

1. *If the answer is the same for all children groups or all procedures, collapse your answer across the groups and/or procedures.*

7.2. Assent process. Describe how assent will be obtained, for each child group. If the research involves children of different ages, answer separately for each group. If the children are non-English speakers, include a description of how their comprehension of the information will be evaluated.

Click or tap here to enter text.

7.3. Dissent or resistance. Describe how a child's objection or resistance to participation (including non-verbal indications) will be identified during the research, and what the response will be.

Click or tap here to enter text.

7.4. E-consent. Will any electronic processes (email, websites, electronic signatures, etc.) be used to present assent information to subjects/and or to obtain documentation (signatures) of assent? If yes, describe how this will be done.

Click or tap here to enter text.

7.5. Documentation of assent. Which of the following statements describes whether documentation of assent will be obtained?

☐ None of the research procedures and child groups → Use the table below to provide justification, then go to question **7.5.b.**

☐ All of the research procedures and child groups → Go to question **7.5.a**., do not complete the table.

☐ Some of the research procedures and/or child groups → Complete the table below and then go to question **7.5.a.**

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will NOT be documented
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.

Children Group[1]	Describe the procedures or data/specimen collection (if any) for which assent will NOT be documented
Click or tap here to enter text.	Click or tap here to enter text.

Table footnotes

1. *If the answer is the same for all children groups or all procedures, collapse your answer across the groups and/or procedures.*

7.5.a. Describe how assent will be documented. If the children are functionally illiterate or are not fluent in English, include a description of the documentation process for them.

Click or tap here to enter text.

7.5.b. Upload all assent materials (talking points, videos, forms, etc.) to ***Zipline***. Assent materials are not required to provide all of the standard elements of adult consent; the information should be appropriate to the age, population, and research procedures. The documents should be in Word, if possible.

7.6. Children who reach the legal age of consent during participation in longitudinal research.

When children are enrolled at a young age and continue for many years, it is best practice to re-obtain assent (or to obtain it for the first time, if it was not obtained at the beginning of their participation).

When children reach the legal age of consent, informed consent must be obtained from the now-adult subject for (1) any ongoing interactions or interventions with the subjects, or (2) the continued analysis of specimens or data for which the subject's identify is readily identifiable to the researcher, unless the IRB waives this requirement.

7.6.a. Describe the plans (if any) to re-obtain assent from children.

Click or tap here to enter text.

7.6.b. Describe the plans (if any) to obtain consent for children who reach the legal age of consent.

- If adult consent will be obtained from them, describe what will happen regarding now-adult subjects who cannot be contacted.
- If consent will not be obtained or will not be possible, explain why.

Click or tap here to enter text.

7.7. Other regulatory requirements. (This is for information only; no answer or response is required.) Researchers are responsible for determining whether their research conducted in schools, with student records, or over the Internet comply with permission, consent, and inspection requirements of the following federal regulations:

- PPRA – Protection of Pupil Rights Amendment
- FERPA – Family Education Rights and Privacy Act
- COPPA – Children's Online Privacy Protection Act

8 CONSENT OF ADULTS

When designing consent process and forms, researchers should first review the **GUIDANCE Consent** and **TIPSHEET Consent**. The topics of *A Foundation for Meaningful Consent* and *The Key Information Requirement* are particularly important for ensuring subject comprehension and voluntary participation in research. Information about parental permission can be found in the **GUIDANCE Consent** *Protected and Vulnerable Populations.*

Review the following definitions before answering the questions in this section.

TERM	DEFINITION
CONSENT	is the process of informing potential subjects about the research and asking them whether they want to participate. It does not necessarily include the signing of a consent form.
CONSENT DOCUMENTATION	refers to how a subject's decision to participate in the research is documented. This is typically obtained by having the subject sign a consent form.
CONSENT FORM	is a document signed by subjects, by which they agree to participate in the research as described in the consent form and in the consent process.
ELEMENTS OF CONSENT	are specific information that is required to be provided to subjects.

CHARACTERISTICS OF CONSENT	are the qualities of the consent process as a whole. These are:
	• Consent must be legally effective.
	• The process minimizes the possibility of coercion or undue influence.
	• Subjects or their representatives must be given sufficient opportunity to discuss and consider participation.
	• The information provided must:
	  ○ Begin with presentation of key information (for consent materials over 2,000 words).
	  ○ Be what a reasonable person would want to have.
	  ○ Be organized and presented so as to facilitate understanding.
	  ○ Be provided in sufficient detail.
	  ○ Not ask or appear to ask subjects to waive their rights.

PARENTAL PERMISSION	is the parent's active permission for the child to participate in the research. Parental permission is subject to the same requirements as consent, including written documentation of permission and required elements.
SHORT FORM CONSENT	is an alternative way of obtaining written documentation of consent that is most commonly used for the unanticipated enrollment of individuals who are illiterate or whose language is one for which translated consent forms are not available.

TERM	DEFINITION
WAIVER OF CONSENT	means there is IRB approval for not obtaining consent or for not including some of the elements of consent in the consent process. **NOTE**: if you plan to obtain identifiable information or identifiable biospecimens without consent, any waiver granted by the IRB does not override a subject's refusal to provide broad consent (for example, the Northwest Biotrust).
WAIVER OF DOCUMENTATION OF CONSENT	means that there is IRB approval for not obtaining written documentation of consent.

8.1. Groups. Identify the groups to which the answers in this section apply:

☒ **Adult** subjects

☐ **Parents** who are providing permission for their children to participate in research

→ *If you selected **PARENTS**, the word "consent" below should also be interpreted as applying to parental permission and "subjects" should also be interpreted as applying to the parents.*

8.2. The consent process and characteristics. This series of questions is about whether consent will be obtained for all procedures except recruiting and screening, and, if yes, how.

The issue of consent for recruiting and screening activities is address in question 4.7. You do not need to repeat your answer to question 4.7.

8.2.a. Are there any procedures for which consent will not be obtained?

☒ **No**

☐ **Yes** → Use the table below to identify the procedures for which consent will not be obtained. "All" is an acceptable answer for some studies.

Be sure to consider all research procedures and plans, including future contact, and sharing/banking of data and specimens for future work.

Group[1]	Describe the procedures of data/specimen collection (if any) for which there will be NO consent process	Reason why consent will not be obtained	Will subjects be provided with info about the research after they finish? (Check Yes or No)	
			YES	NO
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐

Group[1]	Describe the procedures of data/specimen collection (if any) for which there will be NO consent process	Reason why consent will not be obtained	Will subjects be provided with info about the research after they finish? (Check Yes or No)	
			YES	NO
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐	☐

Table footnotes

1. If the answer is the same for all groups, collapse your answer across the groups and/or procedures.

8.2.b. Describe the consent process, if consent will be obtained for any or all procedures, for any or all groups. Address groups and procedures separately if the consent processes are different.

Be sure to include:

- *The location/setting where consent will be obtained*
- *Who will obtain consent (refer to positions, roles, or titles, not names)*
- *How subjects will be provided sufficient opportunity to discuss the study with the research team and consider participation.*

In-person consent:
Consent will be obtained in a private room by a study team member. Patients will be given opportunity to ask questions prior to signing the consent. If they require more time, we will provide them with the consent form and schedule additional time to review their questions and concerns prior to signing the consent.

Electronic consent:
Subjects will be contacted by email, letter, or telephone call to ascertain their interest. Participants will be directed to our study interface (REDCap) where they will have the opportunity to read the consent documentation and give e-consent, request a phone call or video conference via a CRC to ask questions, or wait to sign the consent when they come to their in-person visit. No study-specific questionnaires, with the exception of the screening questionnaire, will be available to participants until consent has been given. Once signed, electronic consent will be automatically emailed to the subjects. Subjects will be able to request an additional copy from the study coordinator for the duration of the study.

Our preferred method will be obtaining e-consent so that the participants can fill out surveys prior to the study visit in order to decrease the study visit duration. However, participants who wish to be consented in person will not be excluded and a copy will be mailed to them before their study visit.

8.2.c. Comprehension. Describe the methods that will be used to ensure or test the subjects' understanding of the information during the consent process.

Subjects will be asked to confirm their understanding of study activities and requirements to ensure comprehension.
We now included a table at the beginning of the consent form that clarifies which information will be publicly available, and which would require an application and approval process that would contain privacy protection. Since the beginning of the consent form describes the database, the PI believes that this is the best placement for the table and the preceding clarification.

8.2.d. Influence. Does the research involve any subject groups that might find it difficult to say "no" to participation because of the setting or their relationship with someone on the study team, even if they aren't pressured to participate?

Examples: Student participants being recruited into their teacher's research; patients being recruited into their healthcare provider's research; study team members who are participants; outpatients recruited from an outpatient surgery waiting room just prior to their surgery.

☐ **No**

☒ **Yes** → Describe what will be done to reduce any effect of the setting or relationship on the participation decision.

Examples: a study coordinator will obtain consent instead of the subject's physician; the researcher will not know which subjects agreed to participate; subjects will have two days to decide after hearing about the study.

Our first line of recruitment is through medical records database search, so it is unlikely that we will have any previous relationship with participants. However, it is possible that we will have to rely on other forms of recruitment, such as referral based. Then, if the referral to the study comes from a research staff member who a has relationship with the potential participant, the actual recruitment and consenting process will be performed by a research staff member that does NOT have any pre-existing relationship with the participant.

8.2.e. Information provided is tailored to the needs of the subject population. Describe the basis for concluding that the information that will be provided to subjects (via written or oral methods) is what a *reasonable member* of the *subject population(s)* would want to know. If the research consent materials contain a key information section, also describe the basis for concluding that the information present in that section is that which is *most likely* to assist the selected subject population with making a decision. See **GUIDANCE Consent** *Key Information* and **EXAMPLE Key Information**.

For example: Consultation with publications about research subjects' preferences, disease-focused nonprofit groups, patient interest groups, or other researchers/study staff with experience with the specific population. It may also involve directly consulting selected members of the study population.

We have years of experience preparing consent forms for study subjects. There will also be a community advisory board that evaluates the consent forms and research protocols and their feedback will be considered in the modifications of the IRB as needed

8.2.f. Ongoing process, new information, and reconsent.

For research that involves multiple or continued interaction with subjects over time, describe the opportunities (if any) that will be given to subjects to ask questions or to change their minds about participating.

Throughout the course of the study, subjects may need to be notified about new information. This might take the form of a verbal or written communication or may require subjects to provide reconsent. When a modification is submitted in which subjects need to be informed about new information, describe the method and process the research team will use to provide this information.
*See **TIPSHEET Consent** Reconsent and Ongoing Subject Communication and **GUIDANCE Consent Reconsent and Ongoing Subject Communication** for details.*

Study subjects will have the opportunity to ask questions throughout the study and will be reminded that they have the right to change their mind about study participation

8.3. **Electronic presentation of consent information**. Will any part of the consent-related information be provided electronically for some, or all of the subjects?

*This refers to the use of electronic systems and processes instead of (or in addition to) a paper consent form. For example, an emailed consent form, a passive or an interactive website, graphics, audio, video podcasts. See **GUIDANCE Consent** Electronic Consent and Documentation of Consent for information about electronic consent requirements at UW.*

☐ **No** → Skip to question **8.4.**
☒ **Yes** → Answer questions **8.3.a.** through **8.3.e.**

8.3.a. Describe the electronic consent methodology and the information that will be provided.

All information materials must be made available to the IRB. Website content should be provided as a Word document. It is considered best practice to give subjects information about multi-page/multi-screen information that will help them assess how long it will take them to complete the process. For example, telling them that it will take about 15 minutes, or that it involves reading six screens or pages.

Potential participants will receive an email with a unique code to access their e-consent, supported by UW REDCap.

8.3.b. Describe how the information can be navigated (if relevant).

For example, will the subject be able to proceed forward or backward within the system, or to stop and continue at a later time?

Web access will provide free navigation, forward and backward, within the system, as well as the ability to come back at a later time. Individuals will have the ability to exit out of the consent document and request more information from the study team.

8.3.c. In a standard paper-based consent process, the subjects generally have the opportunity to go through the consent form with study staff and/or to ask study staff about any question they may have after reading the consent form. Describe what will be done, if anything, to facilitate the subject's comprehension and opportunity to ask questions when consent information is presented electronically. Include a description of any provisions to help ensure privacy and confidentiality during this process.

Examples: hyperlinks, help text, telephone calls, text messages or other type of electronic messaging, video conference, live chat with remotely located study team members.

Contact information for the study staff will be given in the recruitment materials, as well as the electronic consent form itself. Potential participants are encouraged to call, email, or set up a Zoom meeting with the study staff. The study website may also have a live chat function.

8.3.d. What will happen if there are individuals who wish to participate but who do not have access to the consent methodology being used, or who do not wish to use it? Are there alternative ways in which they can obtain the information, or will there be some assistance available? If this is a clinical trial, these individuals cannot be excluded from the research unless there is a compelling rationale.

For example, consider individuals who lack familiarity with electronic systems, have poor eyesight or impaired motor skills, or who do not have easy email or internet access.

E-consent is just an additional modality to the standard paper-based consent; subjects can choose which is easier and more accessible to them.

8.3.e. How will the research team ensure continued accessibility of consent materials and information during the study?

Upon signing, the signed consent form will be automatically emailed to subjects. Subjects will be able to receive an additional copy of their signed e-consent by contacting study coordinator(s) at any time during the study.

8.3.f. How will additional information be provided to subjects during the research, including any significant new findings (such as new risk information). If this is not an issue, explain why.

Study participants will have access to some of their clinical laboratory data via an online portal. This is not an interventional study, so significant new findings are not expected. Subjects will receive a card with the study visit information (e.g., vital signs, visual acuity), as described.

8.4. Written documentation of consent. Which of the statements below describe whether documentation of consent will be obtained? NOTE: This question does not apply to screening and recruiting procedures which have already been addressed in question **4.7**.

Documentation of consent that is obtained electronically is not considered written consent unless it is obtained by a method that allows verification of the individual's signature. In other words, saying "yes" by email is rarely considered to be written documentation of consent.

8.4.a. Is written documentation being obtained for:

☐ **None** of the research procedures → Use the following table to provide justification then go to question **8.5.**

☒ **All** of the research procedures → Do not complete the following table, go to question **8.4.b.**

☐ **Some** of the research procedures → Use the following table to identify the procedures for which written documentation of consent will not be obtained from adult subjects.

Adult subject group[1]	Describe the procedures or data/specimen collection (if any) for which there will be NO documentation of consent	Will they be provided with a written statement describing the research (optional)? (Check Yes or No)	
		YES	NO
Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	☐	☐
Click or tap here to enter text.	Click or tap here to enter text.	☐	☐

Table footnotes

1. If the answer is the same for all adult groups or all procedures, collapse the answer across the groups and/or procedures.

8.4.b. Electronic consent signature. For studies in which documentation of consent will be obtained, will subjects use an electronic method to provide their consent signature?

- *See **GUIDANCE Consent** Documentation of Consent and **GUIDANCE Electronic Consent Signatures** for information about options (including **REDCap** e-signature and the **DocuSign** system) and any associated requirements.*
- *FDA-regulated studies must use a system that complies with the FDA's "Part 11" requirements about electronic systems and records. Note that the UW-IT supported DocuSign e-signature system does not meet this requirement.*
- *Having subjects check a box at the beginning of an emailed or web-based questionnaire is not considered legally effective documentation of consent.*

☐ **No**

☒ **Yes** → Indicate which methodology will be used

☒ **UW ITHS REDCap** (excludes REDCap Mobile application, which is a separate software application for use with a mobile device for consent when internet service is absent or unreliable)

☐ **Other REDCap installation** → Please name the institutional version you will be using (e.g., Vanderbilt, Univ. of Cincinnati) in the following field and provide a completed **SUPPLEMENT Other REDCap Installation** with your submission.

☐ **UW DocuSign**

☐ **Other** → Please describe in the following field and provide a signed **TEMPLATE Other E-signature Attestation Letter** with your submission.

Click or tap here to enter text.

8.4.b.1. Is this method legally valid in the jurisdiction where the research will occur?

NOTE: UW ITHS REDCap (excludes REDCap Mobile application) and UW DocuSign have been vetted for compliance with Washington State and federal laws regarding electronic signatures.

☐ **No**

☐ **Yes** → What is the source of information about legal validity?

Click or tap here to enter text.

8.4.b.2. Will verification of the subject's identity be obtained if the signature is not personally witnessed by a member of the study team? Note that this is required for FDA-regulated studies.

*See the **GUIDANCE Consent** Documentation of Consent for information and examples*

☐ **No** → Provide the rationale for why this is not required or necessary to protect subjects or the integrity of the research. Also, what would be the risks to the actual subject if somebody other than the intended signer provides the consent signature?

Click or tap here to enter text.

☐ **Yes** → Describe how subject identity will be verified, providing a non-technical description that the reviewer will understand.

Click or tap here to enter text.

8.4.b.3. How will the requirement be met to provide a copy of the consent information (consent form) to individuals who provide an e-signature?

The copy can be paper or electronic and may be provided on an electronic storage device or via email. If the electronic consent information uses hyperlinks or other websites or podcasts to convey information specifically related to the research, the information in these hyperlinks should be included in the copy provided to the subjects and the website must be maintained for the duration of the entire study.

Click or tap here to enter text.

8.4.c. Barriers to written documentation of consent. There are many possible barriers to obtaining written documentation of consent. Consider, for example, individuals who are functionally illiterate; do not read English well; or have sensory or motor impairments that may impede the ability to read and sign a consent form.

8.4.c.1. Describe the plans (if any) for obtaining written documentation of consent from potential subjects who may have difficulty with the standard documentation process (that is, reading and signing a consent form).

Examples of solutions: Translated consent forms; use of the Short Form consent process; reading the form to the person before they sign it; excluding individuals who cannot read and understand the consent form.

For subjects who have difficulty viewing the study consent, a study team member will read the consent form for them. We still expect that a subject would be capable of signing the consent form. If a person is functionally illiterate, a study team member will sign and note the reason for missing subject signature in the presence of an impartial witness.

8.5. Non-English-speaking or-reading adult subjects. Will the research enroll adult subjects who do not speak English or who lack fluency or literacy in English?

☐ **No**

☒ **Yes** → Describe the process that will be used to ensure that the oral and written information provided to them during the consent process and throughout the study will be in a language readily understandable to them and (for written materials such as consent forms or questionnaires) at an appropriate reading/comprehension level.

Based on the feedback from the community advisory group, the study team realized that to truly enroll non-English speaking participants, it would be necessary to translate all materials (not just the consent form), which is currently not possible. Therefore, non-English speaking participants will not be initially enrolled and all patients will need to be proficient enough to understand instructions of the study procedures such as using fitness tracking and CGM.

¼ of our target study population is Hispanic/LatinX. We will first rely on recruiting Hispanic patients who can consent and fully communicate in English. If our recruitment goal is not being met, then the consent form will be translated into Spanish to be able to recruit patients who prefer to be consented in Spanish. We have native Spanish speaking research staff at UCSD who can translate the instructions, but we do not have research staff who speak other languages.

8.5.a. Interpretation. Describe how interpretation will be provided, and when. Also, describe the qualifications of the interpreter(s) - for example, background, experience, language proficiency in English and in the other language, certification, other credentials, familiarity with the research related vocabulary in English and the target language.

Native Spanish speaking research staff will provide interpretation and instructions as needed.

8.5.b. Translations. Describe how translations will be obtained for all study materials (not just consent forms). Also, describe the method for ensuring that the translations meet the UW IRB's requirement that translated documents will be linguistically accurate, at an appropriate reading level for the participant population, and culturally sensitive for the local in which they will be used.

☒ Check this box to confirm that before using them with subjects, you will upload in *Zipline* all translated consent materials that will be provided to subjects in written or electronic form (per **HSD policy**).

*If the IRB determines that your study is greater than minimal risk, or otherwise determines it is required, you will need to work with your translator to provide a **TEMPLATE Translation Attestation**. If the attestation is required, you will be informed by the IRB during the course of the review.*

Spanish language translations will be obtained if we are not meeting our recruitment goals for Hispanic participants. The consent form will be translated into Spanish by UCSD translation services.

8.6. [DETERMINATION] **Deception**. Will information be deliberately withheld, or will false information be provided, to any of the subjects?

NOTE: "Blinding" subjects to their study group/condition/arm is not considered to be deception, but not telling them ahead of time that they will be subjects to an intervention or about the purpose of the procedure(s) is deception.

☒ **No**

☐ **Yes** → Describe what information and why.

Example: it may be necessary to deceive subjects about the purpose of the study (describe why).

Click or tap here to enter text.

8.6.a. Will subjects be informed beforehand that they will be unaware of or misled regarding the nature or purposes of the research? (Note: this is not necessarily required.)

☐ **No**

☐ **Yes**

8.6.b. Will subjects be debriefed later? (Note: this is not necessarily required.)

☐ **No** → Provide your reasoning for not debriefing subjects.

Click or tap here to enter text.

☐ **Yes** → Describe how and when this will occur. Upload any debriefing materials, including talking points or a script, to ***Zipline***.

Click or tap here to enter text.

8.7. [DETERMINATION] **Cognitively impaired adults, and other adults unable to consent**. Will such individuals be included in the research?

Examples: individuals with Traumatic Brain Injury (TBI) or dementia; individuals who are unconscious, or who are significantly intoxicated.

☒ **No** → Go to question **8.8.**
☐ **Yes** → Answer the following question.

8.7.a. Rationale. Provide the rationale for including this population.

Click or tap here to enter text.

8.7.b. Capacity for consent/decision making capacity. Describe the process that will be used to determine whether a cognitively impaired individual is capable of consent decision making with respect to the research protocol and setting.

Click or tap here to enter text.

8.7.b.1. If there will be repeated interactions with the impaired subjects over a time period when cognitive capacity could increase of diminish, also describe how (if at all) decision-making capacity will be re-assessed and (if appropriate) consent obtained during that time.

Click or tap here to enter text.

8.7.c. Permission (surrogate consent). If the research will include adults who cannot consent for themselves, describe the process for obtaining permission ("surrogate-consent") from a legally authorized representative (LAR).

*For research conducted in Washington State, see **GUIDANCE Consent** Diminished and Fluctuating Consent Capacity and Use of a Legally Authorized Representative (LAR) to learn which individuals meet the state definition of "legally authorized representative".*

Click or tap here to enter text.

8.7.d. Assent. Describe whether assent will be required of all, some, or none of the subjects. If some, indicate which subjects will be required to assent and which will not (and why not). Describe any process that will be used to obtain and document assent from the subjects.

Click or tap here to enter text.

8.7.e. Dissent or resistance. Describe how a subject's objection or resistance to participation (including non-verbal) during the research will be identified, and what will occur in response.

Click or tap here to enter text.

8.8. Research use of human fetal tissue obtained from elective abortion. Federal and UW Policy specify some requirements for the consent process. If you are conducing this type of research, check the boxes to confirm these requirements will be followed.

☐ Informed consent for the donation of fetal tissue for research use will be obtained by someone other than the person who obtained the informed consent for abortion.
☐ Informed consent for the donation of fetal tissue for research use will be obtained after the informed consent for abortion.
☐ Participation in the research will not affect the method of abortion.
☐ No enticements, benefits or financial incentives will be used at any level of the process to incentivize abortion or the donation of human fetal tissue.
☐ The informed consent form for the donation of fetal tissue for use in research will be signed by both the woman and the person who obtains the informed consent.

8.9. Consent-related materials. Upload to ***Zipline*** all consent scripts/talking points, consent forms, debriefing statements, Information Statements, Short Form consent forms, parental permission forms, and any other consent related materials that will be used. Materials that will be used by a specific site should be uploaded to that site's Local Site Documents page.

- *Translations must be submitted and approved before they can be used. However, we strongly encourage you to wait to provide them until the IRB has approved the English versions.*
- *Combination forms: it may be appropriate to combine parental permission with consent, if parents are subjects as well as providing permission for the participation of their children. Similarly, a consent form may be appropriately considered an assent form for older children.*
- *For materials that cannot be uploaded: upload screenshots or written descriptions that are sufficient to enable the IRB to understand the types of data that will be collected and the nature of the experience for the participants. URLs (website addresses) may also be provided, or written descriptions of websites. Examples of materials that usually cannot be uploaded: mobile apps; computer-administered text; licensed and restricted standardized tests.*

9. PRIVACY AND CONFIDENTIALITY

9.1. [DETERMINATION] **Privacy protections.** Describe the steps that will be taken, if any, to address possible privacy concerns of subjects and potential subjects.

Privacy refers to the sense of being in control of access that others have to ourselves. This can be an issue with respect to recruiting, consenting, sensitivity of the data being collected, and the method of data collection.
Examples:

- *Many subjects will feel a violation of privacy if they receive a letter asking them to participate in a study because they have ____ medical condition, when their name, contact information, and medical condition were drawn from medical records without their consent. Example: the IRB expects that "cold call" recruitment letters will inform the subject about how their information was obtained.*
- *Recruiting subjects immediately prior to a sensitive or invasive procedure (e.g., in an outpatient surgery waiting room) will feel like an invasion of privacy to some individuals.*
- *Asking subjects about sensitive topics (e.g. details about sexual behavior) may feel like an invasion of privacy to some individuals.*

All study procedures will be conducted in private rooms.
All study data and identifiable information will be kept on encrypted servers, or in locked cabinets/room with restricted access (at all sites)

9.2. [DETERMINATION] **Identification of individuals in publications and presentations.** Will potentially identifiable information about subjects be used in publications and presentations, or is it possible that individual identities could be inferred from what is planned to be published or presented?

☒ **No**

☐ **Yes** → Will subject consent be obtained for this use?

☐ **Yes**

☐ **No** → Describe the steps that will be taken to protect subjects (or small groups of subjects) from being identifiable.

Click or tap here to enter text.

9.3. [DETERMINATION] **State mandatory reporting**. Each state has reporting laws that require some types of individuals to report some kinds of abuse, and medical conditions that are under public health surveillance. These include:

- Child abuse
- Abuse, abandonment, neglect, or financial exploitation of a vulnerable adult
- Sexual assault
- Serious physical assault
- Medical conditions subject to mandatory reporting (notification) for public health surveillance

Are you or a member of the research team likely to learn of any of the above events or circumstances while conducting the research **AND** feel obligated to report it to state authorities?

☒ **No**

☐ **Yes** → The UW IRB expects subjects to be informed of this possibility in the consent form or during the consent process, unless you provide a rationale for not doing so:

Click or tap here to enter text.

9.4. [DETERMINATION] **Retention of identifiers and data.** Check the box below to indicate assurance that any identifiers (or links between identifiers and data/specimens) and data that are part of the research records will not be destroyed until after the end of the applicable records retention requirements (e.g. Washington State; funding agency or sponsor; Food and Drug Administration). If it is important to say something about destruction of identifiers (or links to identifiers) in the consent form, state something like "the link between your identifier and the research data will be destroyed after the records retention period required by state and/or federal law."

See the "Research Data" sections of the following website for UW Records management for the Washington State research records retention schedules that apply in general to the UW (not involving UW Medicine data): ***http://f2.washington.edu/fm/recmgt/gs/research?title=R***

See the "Research Records and Data" information in Section 8 of this document for the retention schedules for UW Medicine Records: ***https://www.uwmedicine.org/recordsmanagementuwm-records-retention-schedule.pdf***

☒ **Confirm**

9.5. [DETERMINATION] **Certificates of Confidentiality.** Will a federal Certificate of Confidentiality be obtained for the research data? *NOTE: Answer "No" if the study is funded by NIH or the CDC, because most NIH-funded and CDC-funded studies automatically have a Certificate.*

☒ **No**

☐ **Yes**

9.6. [DETERMINATION] **Data and specimen security protections**. Identify the data classifications and the security protections that will be provided for all sites where data will be collected, transmitted, or stored, referring to the GUIDANCE Data and Security Protections for the minimum requirements for each data classification level. ***It is not possible to answer this question without reading this document. Data security protections should not conflict with records retention requirements.***

9.6.a. Which level of protections will be applied to the data and specimens? If more than one level will be used, describe which level will apply to which data and which specimens and at which sites.

Level 3

9.6.b. Use this space to provide additional information, details, or to describe protections that do not fit into one of the levels. If there are any protections within the level listed in 9.6.a which will not be followed, list those here, including identifying the sites where this exception will apply. For example, if you intend to store subject identifiers with study data (not permitted under requirement U9 for Risk Levels 3-5), then indicate this in the box below (e.g., "We will not adhere to requirement U9 for screening data").

Click or tap here to enter text.

10. RISK / BENEFIT ASSESSMENT

10.1. [DETERMINATION] **Anticipated risks.** Describe the reasonably foreseeable risks of harm, discomforts, and hazards to the subjects and others of the research procedures. For each harm, discomfort, or hazard:

- Describe the magnitude, probability, duration, and/or reversibility of the harm, discomfort, or hazard, AND
- Describe how the risks will be reduced or managed. Do not describe data security protections here, these are already described in question **9.6.**

- *Consider possible physical, psychological, social, legal, and economic harms, including possible negative effects on financial standing, employability, insurability, educational advancement or reputation. For example, a breach of confidentiality might have these effects.*
- *Examples of "others": embryo, fetus, or nursing child; family members; a specific group.*
- *Ensure applicable risk information from any Investigator Brochures, Drug Package Inserts, and/or Device Manuals is included in your description.*
- *Do not include the risks of non-research procedures that are already being performed.*
- *If the study design specifies that subjects will be assigned to a specific condition or intervention, then the condition or intervention is a research procedure - even if it is a standard of care.*
- *Examples of mitigation strategies: inclusion/exclusion criteria; taking blood samples to monitor something that indicates drug toxicity.*
- *As with all questions on this application, you may refer to uploaded documents.*

Confidentiality breach – low risk – all identifiable information will be kept on encrypted computers/servers or in a locked cabinet/room with restricted access at all sites. Only authorized research personnel will have access to identifiable information.

Eye drops – low risk – we will use one or two types of eye drops to dilate subject's pupils for the eye imaging. Applying eye drops for pupil dilation can cause mild stinging. Following the procedure, subjects will have blurry vision for several hours and increased sensitivity to light. We will inform them not to operate a vehicle until their vision returns to normal, and provide eye shades to protect their eyes from excessive sensitivity to light. Rarely,

patients may experience prolonged dilation lasting 1-2 days. There are very rare, but serious adverse events associated with dilation drops, including angle closure attacks, allergic reactions, increased blood pressure, and arrhythmias. In the event that a participant experiences any of these rare events, emergency medical attention would be sought immediately.

Eye imaging – low risk - imaging can occasionally take a long time, or the light source used during imaging may cause slight discomfort or a headache

COVID-19 exposure – due to the current pandemic, patients may be exposed to COVID-19. We have in place an in-person research plan, per HSD guidelines, and will complete the HSD COVID-19 risk assessment tool before and during the study to ensure subjects' safety.

Emotional stress – low risk – could be caused by any conditions that may be revealed by study participation.

Fatigue – low risk – subjects may be fatigued from the study visit, which may last several hours. We will readily accommodate any subject's request for a break.

Blood draw – low risk – may cause bruising, fainting, pain, or infection. We will provide a small snack following blood collection to reduce a chance of fainting or weakness. Extremely rarely the puncture site may become infected, which could lead to hospitalization or death.

CGM – low risk – may cause bruising, pain, or infection at the point of insertion; irritation due to prolonged presence of the monitor/adhesive on the skin (e.g., due to excessive sweating or tight clothing), or skin discoloration. If the CGM is uncomfortable, we will let the patients remove it and mail it back before the full 10 days have elapsed.

Fitness tracking – low risk – there is no known harm to wearing a fitness tracking device. The subjects will be educated by staff on sizing the devices to minimize the discomfort caused by ill-fitted wristbands.

Environmental sensor – low risk – there is no known risk to having an environment sensor in the home.

10.2. [DETERMINATION] **Reproductive risks**. Are there any risks of the study procedures to subjects or partner of subjects related to pregnancy, fertility, lactation or effects on a fetus or neonate?

Examples: direct teratogenic effects; possible germline effects; effects on fertility; effects on a woman's ability to continue a pregnancy; effects on future pregnancies.

☒ **No** → Go to question **10.3**.
☐ **Yes** → Answer the following questions:

10.2.a. Risks. Describe the magnitude, probability, duration and/or reversibility of the risks.

Click or tap here to enter text.

10.2.b. Steps to minimize risk. Describe the specific steps that will be taken to minimize the magnitude, probability or duration of these risks.

Examples: inform the subjects about the risks and how to minimize them; require a pregnancy test before and during the study; require subjects to use contraception; advise subjects about banking of sperm and ova.

If the use of contraception will be required, describe the allowable methods and the time period when contraception must be used.

Click or tap here to enter text.

10.2.c. Pregnancy. Describe what will be done if a subject (or a subject's partner) becomes pregnant.

For example; will subjects be required to immediately notify study staff, so that the study procedures can be discontinue or modified, or for a discussion of risks, and/or referrals or counseling?

Click or tap here to enter text.

10.3. [DETERMINATION] **MRI risk management**. A rare but serious adverse reaction called nephrogenic systemic fibrosis (NSF) has been observed in individuals with kidney disease who received gadolinium-based contrast agents (GBCAs) for the scans. Also, a few healthy individuals have a severe allergic reaction to GBCAs.

10.3.a. Use of gadolinium. Will any of the MRI scans involve the use of a gadolinium-based contrast agent (GBCA)?

☐ **No**
☐ **Yes** → Which agents will be used? *Check all that apply.*

Check all that apply	Brand Name	Generic Name	Chemical Structure
☐	Dotarem	Gadoterate meglumine	Macrocylic
☐	Eovist / Primovist	Gadoxetate disodium	Linear
☐	Gadavist	Gadobutro	Macrocyclic
☐	Magnevist	Gadpentetate dimeglumine	Linear
☐	MultiHance	Gadobenate dimeglumine	Linear
☐	Omniscan	Gadodiamide	Linear
☐	OptiMARK	Gadoversetamide	Linear
☐	ProHance	Gadoteridol	Macrocyclic
☐	Other, provide name:		
	Click or tap here to enter text.		

10.3.a.1. The FDA has concluded that gadolinium is retained in the body and brain for a significantly longer time than previously recognized, especially for linear GBCAs. The health-related risks of this longer retention are not yet clearly established. However, the UW IRB expects researchers to provide a compelling justification for using a linear GBCA instead of a macrocyclic GBCA, to manage the risks associated with GBCAs.

Describe why it is important to use a GBCA with the MRI scan(s). Describe the dose that will be used and (if it is more than the standard clinical dose recommended by the

manufacturer) why it is necessary to use a higher dose. If a linear GBCA will be used, explain why a macrocyclic GBCA cannot be used.

Click or tap here to enter text.

10.3.a.2. Information for subjects. Confirm by checking this box that subjects will be provided with the FDA-approved Patient Medication Guide for the GBCA being used in the research or that the same information will be inserted into the consent form.

☐ **Confirmed**

10.3.b. Who will (1) calculate the dose of GBCA; (2) prepare it for injection; (3) insert and remove the IV catheter; (4) administer the GBCA; and (5) monitor for any adverse effects of the GCBA? Also, what are the qualifications and training of these individual(s)?

Click or tap here to enter text.

10.3.c. Describe how the renal function of subjects will be assessed prior to MRI scans and how that information will be used to exclude subjects at risk for NSF.

Click or tap here to enter text.

10.3.d. Describe the protocol for handling a severe allergic reaction to the GBCA or any other medical event/emergency during the MRI scan, including who will be responsible for which actions.

Click or tap here to enter text.

10.4. [DETERMINATION] **Unforeseeable risks**. Are there any research procedures that may have risks that are currently unforeseeable?

Example: using a drug that hasn't been used before in this subject population.

☒ **No**

☐ **Yes** → Identify the procedures.

Click or tap here to enter text.

10.5. Subjects who will be under regional or general anesthesia. Will any research procedures occur while patients are under general or regional anesthesia, or during the 3 hours preceding general or regional anesthesia (supplied for non-research reasons)?

☒ **No**

☐ **Yes** → Check all the boxes that apply.

- ☐ Administration of any drug for research purposes
- ☐ Inserting an intra-venous (central or peripheral) or intra-arterial line for research purposes
- ☐ Obtaining samples of blood, urine, bone marrow or cerebrospinal fluid for research purposes
- ☐ Obtaining a research sample from tissue or organs that would not otherwise be removed during surgery.

☐ Administration of a radio-isotope for research purposes**
☐ Implantation of an experimental device
☐ Other manipulations or procedures performed solely for research purposes (e.g., experimental liver dialysis, experimental brain stimulation)

If any of the boxes are checked:

Provide the name and institutional affiliation of a physician anesthesiologist who is a member of the research team or who will serve as a safety consultant about the interactions between the research procedures and the general or regional anesthesia of the subject-patients. If the procedures will be performed at a UW Medicine facility or affiliate, the anesthesiologist must be a UW faculty member, and the Vice Chair of Clinical Research in the UW Department of Anesthesiology and Pain Medicine must be consulted in advance for feasibility, safety and billing.

Click or tap here to enter text.

*** If the box about radio-isotopes is checked, the study team is responsible for informing in advance all appropriate clinical personnel (e.g., nurses, technicians, anesthesiologists, surgeons) about the administration and use of the radio-isotope, to ensure that any personal safety issues (e.g., pregnancy) can be appropriately addressed. This is a condition of IRB approval.*

10.6. Data and Safety Monitoring. A Data and Safety Monitoring Plan (DSMP) is required for clinical trials (as defined by NIH). If required for this research, or if there is a DSMP for the research regardless of whether it is required, upload the DSMP to ***Zipline***. If it is embedded in another document being uploading (for example, a Study Protocol) use the text box below to name the document that has the DSMP. Alternatively, provide a description of the DSMP in the text box below. For guidance on developing a DSMP, see the ITHS webpage on Data and Safety Monitoring Plans.

N/A

10.7. Un-blinding. If this is a double-blinded or single-blinded study in which the participant and/or relevant study team members do not know the group to which the participant is assigned, describe the circumstances under which un-blinding would be necessary, and to whom the un-blinded information would be provided.

N/A

10.8. Withdrawal of participants. If applicable, describe the anticipated circumstances under which participants will be withdrawn from the research without their consent. Also, describe any procedures for orderly withdrawal of a participant, regardless of the reason, including whether it will involve partial withdrawal from procedures and any intervention but continued data collection or long-term follow-up.

N/A

10.9. [DETERMINATION] Anticipated direct benefits to participants. If there are any direct research-related benefits that some or all individual participants are likely to experience from taking part in the research, describe them below:

Do not include benefits to society or others, and do not include subject payment (if any). Examples: medical benefits such as laboratory tests (if subjects receive the results); psychological resources made available to participants; training or education that is provided.

Subject may receive some direct benefit by being able to access the data generated by the study procedures (see section 10.10.b).

10.10. [DETERMINATION] Return of individual research results.

In this section, provide your plans for the return of individual results. An "individual research result" is any information collected, generated or discovered in the course of a research study that is linked to the identity of a research participant. These may be results from screening procedures, results that are actively sought for purposes of the study, results that are discovered unintentionally, or after analysis of the collected data and/or results has been completed.

*See the **GUIDANCE Return of Individual Results** for information about results that should and should not be returned, validity of results, the Clinical Laboratory Improvement Amendment (CLIA), consent requirements and communicating results.*

10.10.a. Is it anticipated that the research will produce any individual research results that are clinically actionable?

"Clinically actionable" means that there are established therapeutic or preventive interventions or other available actions that have the potential to change the clinical course of the disease/condition, or lead to an improved health outcome.

In general, every effort should be made to offer results that are clinically actionable, valid and pose life-threatening or severe health consequences if not treated or addressed quickly. Other clinically actionable results should be offered if this can be accomplished without compromising the research.

☐ **No**

☒ **Yes** → Answer the following questions (**10.10.a.1** through **10.10.a.3.**)

10.10.a.1. Describe the clinically actionable results that are anticipated and explain which results, if any, could be urgent (i.e. because they pose life-threatening or severe health consequences if not treated or addressed quickly).

Examples of urgent results include very high calcium levels, highly elevated liver function test results, positive results for reportable STDs.

Results obtained during the study visit may be clinically actionable, such as blood pressure or visual acuity/eye exam data and will be shared with the study participants in real time. Each participant will receive a card with these results at the end of the visit. This includes vision or life threatening actionable incidental findings, e.g., retinal detachment, disc edema, or tumors, identified during the visit. In such cases, patients will be referred for treatment.

Due to delay in obtaining the laboratory results and lack of standard interpretation methods for other data (e.g., imaging), it is unlikely that these data would be clinically actionable. All clinical laboratory results will be uploaded on a yearly basis, and participants will be able to access them (but there may be a substantial lag between the study visit and the yearly upload).

CGM data will be shared with the participants, which may include data for up to 100 days of collection.

10.10.a.2. Explain which of these results will be offered to subjects.

Subjects will receive results obtained on site during the visit (e.g., blood pressure or vision exam results), CGM data, and laboratory testing results; however, laboratory testing results may not be available within the clinically actionable timeline. The laboratory testing results will be available to subjects through the study database that is updated and uploaded yearly. Each subject will receive an access code. Normal range of values will be available for the laboratory results. All abnormal laboratory results will be marked/flagged, and it will be recommended that subjects use the information and discuss the results with their primary care provider or specialist. Study will not provide interpretation of the data due to the high number of subjects.

The portal will contain a disclaimer, instructing the subjects to review the provided information with their physician(s).

10.10.a.3. Explain which results will not be offered to subjects and provide the rationale for not offering these results.

Reasons not to offer the results might include:

- *There are serious questions regarding validity or reliability*
- *Returning the results has the potential to cause bias*
- *There are insufficient resources to communicate the results effectively and appropriately*
- *Knowledge of the result could cause psychosocial harm to subjects*

Only data obtained during the study visit exam (e.g., blood pressure, eye exam information), CGM data, and laboratory test results obtained from collected blood and urine samples will be offered to the participants. Since we are recruiting from the EMRs, not every patient is seen by a specialist at the study sites or has access to care from a specialty clinic. Thus, we will return the data that can be interpreted by a primary care doctor. In addition, we are not distributing any test results that do not have standard interpretation methods (e.g., retinal images, fitness tracking).

10.10.b. Is there a plan for offering subjects any results that are not clinically actionable?

Examples: non-actionable genetic results, clinical tests in the normal range, experimental and/or uncertain results.

☐ **No**

☒ **Yes** → Explain which results will be offered to subjects and provide the rationale for offering these results.

Subjects will receive results of the tests listed under 10.10.a.2, some of which may be within the normal range. The study team will not curate the results in any way and therefore cannot exclude results that are normal and do not require treatment or intervention. Knowing that their values are normal may be reassuring to the subjects. Furthermore, these normal findings may serve as baseline in case of any future abnormal findings.

10.10.c. Describe the validity and reliability of any results that will be offered to subjects.

The IRB will consider evidence of validity such as studies demonstrating diagnostic, prognostic, or predictive value, use of confirmatory testing, and quality management systems.

Reference ranges for laboratory testing will be provided.

10.10.d. Describe the process for communicating results to subjects and facilitating understanding of the results. In the description, include who will approach the participant with regard to the offer of results, who will communicate the result (if different), the circumstances, timing, and communication methods that will be used.

As stated in 10.10.b, participants will be able to access the data via an electronic database and discuss any test results with their clinical care providers. Data access will be provisioned upon completion of all study procedures, and a secure e-mail will be sent by study staff with database access details. Study staff will communicate database access details when data are available, but will not provide any clinical interpretations.

10.10.e. Describe any plans to share results with family members (e.g. in the event a subject becomes incapacitated or deceased).

We do not have plans to share results with family members.

10.10.f. Check the box to indicate that any plans for return of individual research results have been described in the consent document. If there are no plans to provide results to participants, this should be stated in the consent form.

See the GUIDANCE Return of Individual Results for information about consent requirements.

☒ **Confirmed**

10.11. Commercial products or patents. Is it possible that a commercial product or patent could result from this study?

☐ **No**

☒ **Yes** → Describe whether subjects might receive any remuneration/compensation and, if yes, how the amount will be determined.

There are no plans for the researchers involved in collecting the data set to develop any commercial products or file for patents. However, the data set will be publicly available with a commercial-friendly open-source license and there may be products or patents that are developed from it in the future.

11. ECONOMIC BURDEN TO PARTICIPANTS

11.1. Financial responsibility for research-related injuries. Answer this question only if the lead researcher is not a UW student, staff member, or faculty member whose primary paid appointment is at the UW.

For each institution involved in conducting the research: Describe who will be financially responsible for research-related injuries experienced by subjects, and any limitations. Describe the process (if any) by which participants may obtain treatment/compensation.

Click or tap here to enter text.

11.2. Costs to subjects. Describe any research-related costs for which subjects and/or their health insurance may be responsible (examples might include: CT scan required for research eligibility screening; co-pays; surgical costs when a subject is randomized to a specific procedure; cost of a device; travel and parking expenses that will not be reimbursed).

Subjects may incur costs for transport that will not be reimbursed if transportation fees exceed $25.

12. RESOURCES

12.1. [DETERMINATION] **Faculty Advisor**. (For researchers who are students or residents.) Provide the following information about the faculty advisor.

- Advisor's name
- Your relationship with your advisor (for example: graduate advisor; course instructor)
- Your plans for communication/consultation with your advisor about progress, problems, and changes.

Click or tap here to enter text.

12.2. UW Principal Investigator Qualifications. Upload a current or recent Curriculum Vitae (CV), Biosketch (as provided to federal funding agencies), or similar document to the Local Site Documents page in ***Zipline***. The purpose of this is to address the PI's qualifications to conduct the proposed research (education, experience, training, certifications, etc.).

For help with creating a CV, see http://adai.uw.edu/grants/nsf_biosketch_template.pdf and https://medicine.uw.edu/faculty/academic-human-resources/curriculum-vitae-cv

☒ **The CV will be uploaded.**

12.3. UW Study team qualifications. Describe the qualifications and/or training for each UW study team member to fulfill their role on the study and perform study procedures. (You may be asked about non-UW study team members during the review; they should not be described here.) You may list these individuals by name, however if you list an individual by name, you will need to modify this application if that individual is replaced. Alternatively, you can describe study roles and the qualifications and training the PI or study leadership will require for any individual who might fill that role. The IRB will use this information to assess whether risks to subjects are minimized because study activities are being conducted by properly qualified and trained individuals.

Describe: The role (or name of person), the study activities they will perform, and the qualifications or training that are relevant to performing those study activities.

Examples:
Research Study Coordinator: Obtain consent, administer surveys, blood draw. Will have previous experience coordinating clinical research and be a certified phlebotomist in WA.

Undergraduate Research Assistant: Obtain consent, perform all study procedures. Will have had coursework in research methods, complete an orientation to human subjects protections given by the department, and will receive training from the PI or the graduate student project lead on obtaining consent and debriefing subjects.

Acupuncturist: Perform acupuncture procedures and administer surveys. Must be licensed with WA State DoH and complete training in administering research surveys given by the project director, an experienced survey researcher.

Co-Investigator: Supervise MRI and CT scan procedures and data interpretation, obtain consent. MD, specialty in interventional radiology and body imaging. 5-years clinical research experience.

Principal Investigators/ Co-Principal/ Co-Investigator: Make executive decision pertaining to the scope of the project including data collection, curation, and processing

Program/project manager: Oversee data collection and management of research coordinators/project managers, make project related decisions in collaboration with the investigators, oversee integration and collaboration between all study members and modules

Database manager: Ingest data into the Redcap database and extract for processing

Research/Data scientist/Postdoctoral Fellow: Process data for release in database and development of standards

Clinical research coordinator/study coordinator: Responsible for contacting and consenting the research participants, ushering participants through the research visit, conducting study visits including collection of ophthalmologic images, providing training on study procedures such as continuous glucose monitoring or fitness tracker, and ensuring the return of all study materials (ex. Environmental sensor)

Research assistant: Conduct study visits including collection of ophthalmologic images, provide training on study procedures such as continuous glucose monitoring or fitness tracker, ensure the return of all study materials (ex. Environmental sensor) under the direction of the study coordinator or project manager; responsible for data upload and management from each clinic visit

Software engineer: Responsible for designing, implementing, and testing the different data curation pipelines

Cloud engineer: Responsible for cloud infrastructure customization, configuration and deployment including integrating, configuring, deploying, and managing centrally provided common cloud services

Phlebotomist: Responsible for blood collection from research participants

Lab Assistant: Responsible for processing and shipping samples

Domain experts: Provide guidance on issues arising from collecting data from each domain of medicine such as endocrinology and cardiology.

12.4. Study team training and communication. Describe how it will be ensured that each study team member is adequately trained and informed about the research procedures and requirements (including any changes) as well as their research-related duties and functions.

☐ There is no study team

The PI assumes the responsibility that each study team member is trained and receives timely information required for performing their research-related duties.

13. OTHER APPROVALS, PERMISSIONS, AND REGULATORY ISSUES

13.1. [DETERMINATION] **Approvals and permissions**. Identify any other approvals or permissions that will be obtained. For example: from a school, external site/organization, funding agency, employee union, UW Medicine clinical unit.

Do not attach the approvals and permissions unless requested by the IRB.

Click or tap here to enter text.

13.2. Financial Conflict of Interest. Does any UW member of the team have ownership or other Significant Financial Interest (SFI) with this research as defined by UW policy GIM 10?

☒ **No**

☐ **Yes** → Has the Office of Research made a determination regarding this SFI as it pertains to the proposed research?

☐ **No** → Contact the Office of Research (206.616.0804, research@uw.edu) for guidance on how to obtain the determination.

☐ **Yes** → Upload the Conflict Management Plan for every UW team member who has a FCOI with respect to the research, to ***Zipline***. If it is not yet available, use the text box to describe whether the Significant Financial Interest has been disclosed already to the UW Office of Research and include the FIDS Disclosure ID if available.

Click or tap here to enter text.