CLINICAL RESEARCH CONSENT FORM

100-Year Human Aging Study

Longevity Metrics, Inc.

Study	100-Year Human Aging Study
Included Studies	Current studies: 100-Year Human Aging Study | Human Observatory Study | Health Ahead Comparative Effectiveness Study | Longevity Metrics AI/ML Development Study. Additional studies may be added by IRB-approved amendment under this unified consent.
Sponsor	Longevity Metrics, Inc.
Principal Investigator	William E. Brandenburg, MD | (303) 501-0016 | info@longevitymetrics.org
Ethics Board (IRB)	Longevity Metrics Ethics Board | IORG0012336 | IRB00014601
Ethics Board Contact	info@longevitymetrics.org — independent from the research team
Address	3020 Carbon Place, Suite 101, Boulder, CO 80301
Consent Version	V2 | April 2026

> *This consent covers all research and clinical activities conducted by Longevity Metrics. Some sections may not apply to your specific visit or participation type. You are asked to sign this consent prior to each service or discrete interaction so that your participation is fully documented.*

KEY INFORMATION — Please Read This First

The following 10 points are the most important things to understand before deciding whether to join this study. The full consent document follows with complete details.

1. What is this?	A long-term research study collecting health data from you over your lifetime to learn how biology, environment, and lifestyle predict longevity. You are also receiving a clinical service (health screening).
2. Why 100 years?	We collect data from you today and will follow up periodically over your lifetime. We want to know if our predictions about your health are correct — and to find that out, we need to follow you for a very long time.
3. What happens?	You will undergo a health screening (tests for fitness, body composition, blood work, thinking, vision, and more as applicable to your service). A physician will review all results and provide information to you about what they mean. The Your Longevity Report Card (YLRC) service additionally includes physician recommendations on what to do to improve your health. Other services include physician review and interpretation of results but do not guarantee individualized treatment recommendations.

4. What do I get?	You receive your own health data and a report. You pay a non-refundable service fee for the screening. You are not compensated for research participation.
5. Predictions may be wrong.	We will estimate your biological age, when you might die, and what you might die from. These are experimental predictions based on imperfect models. They may be entirely wrong. Do not make major medical or life decisions based solely on our predictions. This will only be provided when utilizing Your Longevity Report Card and Your Longevity Data
6. Lifetime follow-up.	We will contact you periodically for the rest of your life to ask about your health. We will also access your death records after you die. If you withdraw from the study, we retain the right to access your death records. This is permanent and cannot be reversed.
7. Your data is linked.	Your health data will be linked to environmental, social, and population data from public databases as part of the Human Observatory Study. Your identity will be protected, but your data will be used for population health research.
8. Greatest risk (in-person).	The most serious risk is cardiopulmonary exercise testing. Serious cardiac events occur in approximately 1 in 10,000 to 1 in 100,000 tests. Other physical testing also poses the risk of musculoskeletal and traumatic injury. Qualified clinical staff and emergency equipment are always present. Online-only participants have no procedural risk.
9. Recording is required.	Your in-person visit will be video and audio recorded in full. Recording is mandatory for all in-person participation; you may not opt out and still receive in-person services. Recordings are used for safety and liability documentation, data backup, AI-assisted analysis, and training of future AI models. You may decline any specific test or procedure, but you cannot decline recording.
10. Conflict of interest.	Dr. Brandenburg is both the study Sponsor and the Principal Investigator. He is the founder and Chief Executive Officer of Longevity Metrics, Inc., which sponsors this research, and he also leads the research as Principal Investigator. This dual role is a financial conflict of interest disclosed to and managed by the Ethics Board.

1. Introduction

You are being asked to take part in research conducted by Longevity Metrics, Inc., a preventive health technology company in Boulder, Colorado. The Principal Investigator is William Brandenburg, MD, Founder and CEO of Longevity Metrics and Adjunct Faculty at the University of Colorado School of Medicine.

This consent form explains what the research involves, what will happen to you if you participate, and what risks and benefits you can expect. Please read it carefully and ask any questions before you sign. You will be provided with a copy.

Questions at any time: contact the study team at info@longevitymetrics.org or (303) 501-0016.

Questions about your rights as a research participant: contact the Ethics Board independently at info@longevitymetrics.org. The Ethics Board is an independent committee that protects the rights and welfare of research participants and is not part of the research team.

If you require materials in another language or need a translator, please let us know before your visit and we will help you arrange appropriate support.

This study is currently self-funded by Longevity Metrics, Inc. and supported by participant fees. Future funding from federal and state agencies, private foundations, and other sources is anticipated. The Principal Investigator is the founder and CEO of Longevity Metrics, Inc., the study sponsor. This is a financial conflict of interest disclosed to and managed by the Ethics Board.

2. Purpose of This Study

The purpose of the 100-Year Human Aging Study is to learn whether we can accurately predict when people will die, what they will die from, and what health conditions they will develop — using data collected today. We collect detailed measurements of your biology, combine that data with information about your environment and family history, and generate predictions using AI-assisted models. Over the coming decades, we will find out whether those predictions were correct.

This research is organized under a unified consent framework. Longevity Metrics conducts multiple connected research studies that build on each other, share governance under a single Ethics Board, and operate under this single consent document. The current studies are:

- The 100-Year Human Aging Study: the foundational longitudinal study collecting individual clinical biology and validating these surrogate markers of health and longevity against actual mortality over decades.
- The Human Observatory Study: a population-scale research project linking individual clinical data to environmental, social, and mortality databases to generate causal health intelligence at neighborhood and state resolution, and beyond.
- The Health Ahead Comparative Effectiveness Study: a sequential platform of comparative effectiveness studies testing how preventive health screening is delivered. Comparisons include — but are not limited to — AI diagnostic pipeline off versus on; static versus interactive personalized reports; mobile (Health Ahead Bus) versus fixed-site (Boulder lab) delivery; physician-led versus hybrid AI-assisted delivery; and fully autonomous AI-administered delivery. New comparisons are added by IRB-approved amendment.
- The Longevity Metrics AI/ML Development Study: a secondary-analysis study that uses data already collected under the other studies to build, train, validate, and improve artificial intelligence and machine learning models. This study does not collect new data and does not enroll participants separately. It governs how the data you already provide is analyzed to create the AI tools used in your screening and in future research.

All studies are governed by the Longevity Metrics Ethics Board (IORG0012336 / IRB00014601) under this unified consent framework. By signing this consent you agree to participate in all current studies. Additional studies may be added by IRB-approved amendment under this same consent framework; such additions will be communicated to you and you may withdraw at any time as described in Section 17.

PART A — IN-PERSON CLINICAL PARTICIPANTS

This section applies to all participants receiving in-person clinical services at the Boulder Human Performance Lab or on the Health Ahead Bus. If you are an online-only participant who submitted data through humanobservatory.org and will not be receiving in-person services, you may proceed directly to Part B.

3. What Will Happen — In-Person Participants

3.1 Your Service Level

You will receive one or more of the clinical services offered by Longevity Metrics. All services are described in the Consent for Patient Care in this packet. The most comprehensive options are:

Your Longevity Report Card (YLRC) — Full Battery

Two-visit full assessment including all physical, cardiac, imaging, laboratory, and cognitive testing components. Includes a 1-hour medical provider consultation and 100+ page Longevity Report Card document with longevity predictions. Visit 2 must be completed within 15 calendar days of Visit 1.

Your Longevity Data (YLD) — Half-Day Assessment

Single-visit performance and imaging package. No laboratory blood draw. Includes cardiopulmonary exercise testing, DEXA Complete, carotid ultrasound, EKG, spirometry, neurocognitive screening, and more. Physician-reviewed digital report provided.

Individual services (DEXA, VO2 Max, Sleep Study, Lab Panels, Semen Analysis, Physician Consultation) may also be received as standalone or add-on services. All services contribute research data to the 100-Year Human Aging Study.

3.2 What We Collect

- Physical measurements: height, weight, vital signs, grip strength, body composition, bone density
- Blood and laboratory work: comprehensive biomarker panels (as selected)
- Cardiac and pulmonary testing: cardiopulmonary exercise testing (CPET), EKG, echocardiography, spirometry, carotid ultrasound
- Imaging: DEXA full body and skeletal, retinal fundus photography, abdominal ultrasound
- Sleep study: Level 2 home polysomnography capturing full sleep architecture including AHI, oxygen desaturation, sleep staging, respiratory effort, and heart rate variability
- Neurocognitive assessment: video and audio-based cognitive and dementia screening
- Medical, social, and family history: complete history including occupational and environmental exposures
- Geographic and environmental data: home address and work location (collected for neighborhood-resolution environmental linkage and converted to geographic area codes for research storage; street address is retained only in an access-controlled identity file), known environmental exposures
- Video and audio recording (mandatory): full-session video and audio recordings are captured for every in-person visit. Recording is required for safety and liability documentation, data backup, AI-assisted analysis, and training of future AI models. Recording cannot be opted out of as a condition of in-person participation.
- Cognitive and sensory assessment: vision, hearing, balance, gait, movement evaluation
- Semen analysis: collected at Patient's private residence or lodging, delivered to Longevity Metrics within 30 minutes (if selected)

- Questionnaires: health history, family history, medications, lifestyle, and social and environmental history

3.3 Where

In-person services are available at the Boulder Human Performance Lab (3020 Carbon Place, Suite 101, Boulder, CO 80301) and on the Health Ahead Bus, a fully equipped mobile screening unit that travels to communities across Colorado. All services available in the lab are available on the bus.

3.4 Pre-Testing Protocol

At every service visit, before any procedures begin, qualified clinical staff will complete a standardized pre-testing protocol including: confirmation of signed consent documents, photo ID verification, photograph of the participant, brief medical and social history screening, height, weight, resting heart rate, blood pressure, and pulse oximetry. This protocol applies to every visit and every service.

4. Participant Autonomy

Longevity Metrics is committed to maximum inclusion. This is a pragmatic prospective observational trial. We do not require specialist clearance, physician authorization, or gatekeeping as a condition of participation. You may decline any specific test or procedure at any time. Your participation in all three connected studies is a condition of enrollment, but individual procedures within your visit are always optional — with one exception. Full-session video and audio recording is a condition of in-person participation and cannot be opted out of. Participants who do not consent to recording cannot receive in-person services. Online-only participation does not involve recording.

Participants who lack decision-making capacity may be enrolled with consent of a legally authorized representative (LAR) consistent with 45 CFR 46.116 and applicable Colorado law. Assent will be sought from the participant where possible and will be respected. LAR relationship and authority are documented on the Unified Patient Agreement.

Longevity Metrics anticipates establishing a pediatric sub-protocol in the future. Currently, enrollment is limited to participants age 18 and older.

5. AI-Assisted Analysis

All data is analyzed using AI software developed by Longevity Metrics and by third parties. Some models are built in-house; others are obtained from third-party developers, downloaded, and run on Longevity Metrics infrastructure. The AI pipeline operates in three tiers: automated quality control and data organization; biological age calculation and longevity prediction; and physician-assisted report synthesis. A physician reviews all AI outputs before any results are delivered to you. The AI is a clinical decision tool and aid to the physician — it does not replace physician judgment.

Regardless of whether a model is built in-house or obtained from a third party, your data never leaves the building in identifiable form. All AI runs on on-premises hardware inside Longevity Metrics facilities. No participant data is transmitted to external cloud services or third-party AI companies.

Your video and audio recordings are analyzed by AI to screen for early signs of memory problems and depression. These are experimental screening tools, not diagnostic tests. If the AI identifies something concerning, your physician will review it with you. All AI diagnostic model outputs are experimental and should never be interpreted without a licensed medical provider.

6. Who Will Perform My Tests?

Tests are performed by trained staff under physician supervision. Your care team may include: a physician (Dr. Brandenburg or a credentialed physician delegate) for consultation, interpretation, and all testing performed; Registered Nurses (RN) for blood draws, vital signs, and clinical

monitoring; Exercise Physiologists or Physical Therapists for cardiopulmonary exercise testing and movement assessments; Diagnostic Imaging Technologists for DEXA, echocardiography, and ultrasound; Registered Polysomnographic Technologists (RPSGT) for sleep studies; and Research Coordinators for questionnaires and cognitive testing. Trainees and graduate students may also perform testing. With appropriate training and licensure, any of these tasks may be shared among clinical staff as needed to complete all testing.

7. Longevity Predictions

After your screening, you will receive estimates of your biological age, your predicted death age, your predicted causes of death, and your chronic disease risk profiles. These predictions are experimental outputs of statistical models trained on population data. They are not FDA-approved diagnostic tests.

These predictions may be entirely wrong. Your individual outcome may differ substantially from any prediction. Do not make major medical, financial, or life decisions based solely on our predictions without also consulting your own physicians.

8. Study Duration and Longitudinal Follow-Up

This study follows you for your entire lifetime. Once enrolled, you will be contacted periodically — and no less than once every 5 years — to provide a brief update on your health status, serious adverse health events, and functional ability. Periodic contact is the goal; the 5-year minimum reflects operational realities for a small research team in early operations.

Participants enrolled in the Health Ahead Comparative Effectiveness Study will also be contacted by survey at 6-12 months after their screening visit as required by that study's design.

9. Risks — In-Person Participants

9.1 Exercise Testing (VO2 Max)

Maximal exercise testing carries risk of musculoskeletal injury, cardiac arrhythmia, myocardial ischemia, syncope, and in rare cases serious cardiac events including death. Estimated risk of serious cardiac event: approximately 1 per 10,000–100,000 tests in pre-screened populations. Qualified clinical staff, an AED, and a BVM are present during all exercise testing. Emergency services will be activated for any serious adverse event. You may decline this test.

9.2 Blood Draws and Lab Work

Risks include bruising, soreness, lightheadedness, damage to surrounding tissues and structures, and rarely infection at the needle site. No more than 100 ml of blood will be collected in a single visit. Fasting is required for most panels. You will be notified in advance of fasting requirements. Fasting poses a risk of blood sugar dropping to dangerously low levels, particularly in participants with diabetes or those taking blood sugar-lowering medications. Participants taking insulin, sulfonylureas, meglitinides, or other glucose-lowering agents should hold these medications before their fasting visit and consult their prescribing provider if unsure. In severe cases, hypoglycemia can cause confusion, loss of consciousness, organ damage, and death. Clinical staff will monitor for symptoms, and glucose will be available on site.

9.3 DEXA Imaging and Pregnancy

Whole-body DEXA delivers an effective radiation dose of approximately 0.001 millisieverts (mSv) — far below the 1 mSv annual occupational exposure limit established for pregnant radiation workers by the National Council on Radiation Protection (NCRP Report No. 116), and roughly 1/1,000th of the natural background radiation a fetus receives during an entire pregnancy. No adverse fetal outcomes have been documented at doses below 50 mSv in the peer-reviewed literature. If you are

pregnant or may be pregnant, this information is provided so you can make an informed decision. A separate acknowledgment is on the signature page.

9.4 Oral Glucose Tolerance Test

You will drink a sugar solution and be followed using a continuous glucose monitor over 2 hours. Risks include nausea, lightheadedness, and significant drops in blood sugar — see Section 9.2 for fasting hypoglycemia risk and medication hold instructions, which apply here as well. Do not drive home immediately after an OGTT if you feel unwell.

9.5 Incidental Findings

The extensive diagnostic testing performed in this study will likely identify some incidental findings of indeterminate significance — including abnormalities that are potentially dangerous or harmful but may also represent false positives. This includes tumors, cancers, vascular abnormalities, and other findings. Any incidental finding may require further diagnostic workup and sometimes invasive interventions such as biopsies and surgeries. It is therefore possible that participants may be harmed, incur additional expenses, pain, and hardship as a result of incidental findings uncovered here. This risk is particularly high for healthier individuals with a lower baseline risk of disease, in whom a positive finding is statistically more likely to be a false positive. Longevity Metrics is not responsible for performing or paying for any additional workup related to incidental findings and recommends that participants pursue further evaluation through their primary care provider. Additionally, incidental findings may create a risk of discrimination from insurance providers, employers, or other third parties who become aware of a medical diagnosis. Participants concerned about these risks may decline specific screening tests at any time.

9.6 Predictive Information

Learning your predicted death age or disease risk estimates may cause anxiety or distress. You may ask your physician not to share specific predictions if you prefer not to know them.

9.7 Video and Audio Recording

Your recordings are stored permanently and analyzed by AI. Recordings are also used to train future AI models, including models that may be used for screening other participants or made available to third parties as model files (without your raw recording). There is a risk recordings could be accessed in a data breach. Encrypted storage and access controls minimize this risk. There is a small theoretical risk that information specific to you could be inferable from a model trained partly on your recording, although standard de-identification and aggregation practices minimize this risk.

9.8 Privacy

Although we de-identify your data before research use, there is always a small risk that de-identified data could be re-identified, particularly as analytical methods improve over time. We use HIPAA Safe Harbor de-identification standards and strict access controls.

9.9 Sensitive Laboratory Tests

Optional tests (semen analysis and others) may reveal sensitive information about fertility, aging status, or disease risk. Results are reviewed in a physician consultation and stored under the same privacy protections as all other data.

10. Benefits — In-Person Participants

You will receive a comprehensive health assessment, a detailed report of your biological measurements, and AI-assisted longevity predictions with physician review. There is clear scientific evidence that knowing your cardiorespiratory fitness level and acting on it can significantly reduce your risk of premature death. However, we cannot guarantee any particular health outcome.

Society may also benefit from the research this study generates, through better understanding of the determinants of longevity and through the development of more accessible preventive health services for rural and underserved communities.

11. Health Ahead Comparative Effectiveness Study

All in-person participants are also enrolled in the Health Ahead Comparative Effectiveness Study, a sequential platform of comparative effectiveness studies testing how preventive screening is delivered. Comparisons within the platform examine factors such as the AI diagnostic pipeline being off versus on, static versus interactive personalized reports, mobile (Health Ahead Bus) versus fixed-site (Boulder lab) delivery, physician-led versus hybrid AI-assisted delivery, and other delivery models added by IRB-approved amendment over time. Your specific visit may fall into one or more comparisons depending on when and where you are seen. The clinical content of your visit is unchanged by which comparison you fall into. Participants enrolled during the early protocol-validation phase contribute to feasibility and methods development rather than to a specific comparison.

You will be asked to complete a validated brief health and engagement survey at two time points:

- At the beginning of your screening visit (before any tests), and
- By email or online survey 6–12 months after your visit.

The survey takes approximately 3–5 minutes. Your responses help us learn whether comprehensive longevity screening increases your engagement with your own health, and whether mobile delivery to rural communities produces equivalent outcomes to fixed-site delivery.

12. Human Observatory Study

Your de-identified (anonymized) health data will be analyzed alongside publicly available population health datasets that Longevity Metrics imports and integrates into our Human Observatory research models. Your data is not added to any public database. The Human Observatory studies how environment, social conditions, and biology interact to affect health and longevity across communities globally and beyond.

Your de-identified data may be linked to: environmental monitoring data (air quality, wildfire smoke, water quality at your geographic location); social determinants data (community-level education, income, housing, and healthcare access); and state and national mortality records.

Your name, address, date of birth, and other directly identifying information will not be shared. Your data is assigned a research ID number, and your location data is converted to geographic area codes before linkage. This process reduces, but does not eliminate, the risk that your data could ever be re-identified. Observatory data will be used for research and may be published in academic journals. Published results will present group-level statistics, not individual data.

The Human Observatory dataset is not publicly searchable. Access is granted under data use agreements to qualified researchers, partner entities, and government bodies with valid scientific or public health purposes.

13. Lifetime Follow-Up and Death Records

This study follows you for your entire lifetime. Periodically — and no less than once every 5 years — we will contact you to ask brief questions about your health. This longitudinal contact allows us to track whether our predictions were accurate. This will most often be done via email.

After you die, we will access your death records through state vital statistics, the Social Security Death Index, and other public mortality databases to find out what you actually died from and when, so we can compare the outcome to our predictions made at enrollment.

Death record access is permanent. We retain the right to access your death records even if you withdraw from all other parts of the study. This permission is permanent and cannot be revoked by withdrawal. The only way to prevent death record access is to not participate in the study at all.

Because we need to find your death records after you are gone, we ask you to provide: (1) your Social Security Number (for mortality record matching), stored separately from your research data in an encrypted, access-controlled file used only for mortality record linkage and patient validation should records be requested at a future time by yourself or by another individual for whom you have given consent; and (2) an emergency contact who can be notified in a medical emergency and contacted for death record verification.

14. Your Data

You co-own your health data. You have the right to access all data collected about you at any time. We will not sell your identifiable health data to third parties. Your de-identified data may be used for research, shared with collaborators under data use agreements, or contributed to open-access research databases — always without direct identifiers.

Your data may be used to train machine learning models used to generate longevity predictions for future participants. This is a core purpose of the study.

Your de-identified data and biospecimens may be used for future research, including research not specifically described in this consent form, without additional consent.

If future research analysis of your stored data or biospecimens identifies a clinically actionable finding, Longevity Metrics will make reasonable efforts to notify you, but does not guarantee individual disclosure of all research findings.

Longevity Metrics does not currently use participant biospecimens or data for commercial profit. In the future, your biospecimens and the data derived from them may be used for commercial purposes, including the development of products or services from which Longevity Metrics may profit. You will not share in any commercial profit derived from your biospecimens or data.

15. Genetic and Microbiome Testing

Longevity Metrics does not currently perform genetic or microbiome testing as a standard service but anticipates offering both within the next one to two years. Genetic and microbiome data represent important health information highly relevant to aging, longevity, and disease prediction. By signing this consent, you agree in advance to participate in genetic and microbiome testing when these services become available, using collection methods appropriate at that time. You will be notified before any genetic or microbiome collection begins and may decline at that time without affecting any other part of your study participation.

Your biological samples may undergo whole genome sequencing or other comprehensive genetic analysis. Genetic and microbiome data will be analyzed alongside all other health data collected and used to uncover insights about the relationships among genetics, the microbiome, environment, behavior, and lifespan. All genetic and microbiome data will be fully de-identified for research use. Identifiable genetic or microbiome data will not be shared with any third party.

All genetic and microbiome data is co-owned by you and Longevity Metrics. You retain the right to access your own data at any time. If you withdraw from the study, your genetic and microbiome data will continue to be held securely and remain available to you.

Risks include potential misinterpretation of results, sequencing or analytic errors, the theoretical risk of future discrimination based on genetic background (mitigated in part by the Genetic Information Nondiscrimination Act, GINA — note that GINA does not currently extend to microbiome data, life insurance, disability insurance, or long-term care insurance), and the discovery of variants or microbial findings of clinical significance that may have implications for both you and your biological relatives or close contacts. Microbiome composition may also reveal information about diet, hygiene, environmental exposures, and certain health conditions. Whether to share findings with family members or others is entirely at your discretion. Longevity Metrics is not equipped to provide genetic counseling. If genetic counseling is desired, you should seek a qualified genetic counselor independently.

16. Costs and Payment

You pay a non-refundable service fee for your screening visit. This fee covers the cost of your clinical assessment, physician consultation, biomarker testing, and other services you receive. Payment terms, scheduling rules, and the 5% processing and data handling fee are described in the Consent for Patient Care in this packet.

You will not be paid for participating in the research. You will not be reimbursed for travel, time, or other costs associated with participating.

If you are injured as a result of participating in this study, Longevity Metrics does not provide compensation for research-related injuries, accidents, or any other adverse or unforeseen events. You may seek treatment through your own health insurance or personal resources. You do not give up any legal rights by signing this consent.

17. Voluntary Participation and Withdrawal

Participation in this study is completely voluntary. You may decline to participate or withdraw at any time without penalty. You may decline any specific test during your visit.

If you withdraw from the study, we will stop collecting new data from you and stop our annual contacts. However:

- We retain the right to use data already collected before your withdrawal in research and publication.
- We retain the right to access your death records after you die, even if you have withdrawn from all other parts of the study. This death record access permission is permanent and cannot be revoked by withdrawal.

18. Alternatives

You may choose not to participate in this study. Other entities offer health screenings and medical care that do not involve research enrollment. All participants at Longevity Metrics are enrolled in the 100-Year Human Aging Study as a condition of receiving services. Participants who do not wish to participate in research should seek care elsewhere.

19. Limitations

This study is not a substitute for regular medical care. Our screening does not replace annual checkups, preventive screenings recommended by your doctor, or management of existing health conditions. Any concerning findings need to be confirmed and managed by a licensed healthcare provider familiar with your full medical history.

Our predictions and recommendations are based on population-level statistical models and may not apply accurately to your individual situation. Our AI models are experimental. We make no warranty that our analysis is correct.

PART B — REMOTE / ONLINE PARTICIPANTS (COLORADO HUMAN OBSERVATORY)

This section applies to participants who submit data to the Human Observatory Study through longevitymetrics.org or humanobservatory.org without an in-person visit. No procedures, no blood draws, no physical risk. In-person participants are also enrolled in the Observatory and should read this section as well.

20. Purpose — Online / Remote Participation

The Human Observatory Study collects data from people who have not had an in-person visit to build a population-scale picture of how environment, social conditions, family history, and self-reported health behaviors interact to affect longevity across communities globally and beyond. Your responses contribute to a research dataset used to generate causal health intelligence at individual, neighborhood, city, and state scales.

21. What We Collect — Online / Remote Participants

- Geographic and environmental history: current home address and work location (collected for neighborhood-resolution environmental linkage and converted to geographic area codes for research storage; street address is retained only in an access-controlled identity file), geographic residential history, known environmental exposures
- Personal and family medical history
- Self-reported health behaviors: dietary patterns, physical activity, sleep habits, tobacco and alcohol use
- Socioeconomic and demographic information: educational attainment, household income bracket, insurance status, employment status, housing tenure
- Validated health and wellbeing questionnaires covering mood, stress, perceived health, and social connection
- Optional: consent to obtain medical history from validated healthcare data sharing networks

22. Risks — Online / Remote Participants

The online screener poses minimal risk. There are no physical procedures. The primary risks are loss of confidentiality (mitigated by HIPAA Safe Harbor de-identification and geographic generalization), psychological distress from questions about family deaths or personal health, and privacy risk from mortality follow-up contact.

23. Benefits — Online / Remote Participants

Online participants receive an individualized report tailored to their local environment and their questionnaire responses, summarizing modifiable exposures and behavioral risk factors relevant to their longevity. The primary benefit is contributing to population health science that may benefit Colorado communities and beyond.

24. Online Data Use and Follow-Up

Annual follow-up contact (no less than once every 5 years) will be initiated by email. Online participants may optionally consent to death record access for mortality follow-up; this is not automatic for online-only participants and will be presented as a separate opt-in during the screener process.

De-identified online data may be published in academic journals and shared with qualified researchers, partner entities, and government bodies under data use agreements for valid scientific

or public health purposes. The Human Observatory dataset is not publicly searchable. All published results will present group-level statistics.

PART C — APPLIES TO ALL PARTICIPANTS

25. Contact Information

Study Team — Questions about the study or your health	**Ethics Board — Questions about your rights as a research participant**
William E. Brandenburg, MD info@longevitymetrics.org (303) 501-0016 3020 Carbon Place, Suite 101, Boulder, CO 80301	Longevity Metrics Ethics Board IORG0012336 / IRB00014601 info@longevitymetrics.org *Independent from the research team.*

Your signature on the Unified Patient Agreement acknowledges receipt of and agreement to this 100-Year Human Aging Study Clinical Research Consent Form.