

# DATA TRANSFER AGREEMENT WITH TRACKED CHANGES - RP2 Document

LEGEND: ~~Red strikethrough text~~ = deleted text; Blue text = added text

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## DATA SHARING AGREEMENT

[Provider legal name, description of entity and address details]

(hereinafter “the Data Provider”)

and

Wits Planetary Health Research Division a Division of Wits Health Consortium (Pty)  
Ltd

Registration Number: 1997/15443/07

31 Princess of Wales Terrace, Parktown, Johannesburg, 2193, South Africa

(hereinafter “the Data Recipient”)

## WHEREAS:

## THEREFORE, THE PARTIES AGREE AS FOLLOWS:

## DEFINITIONS

1.21 “Azure Cloud Platform” means the Microsoft Azure cloud computing service that will serve as the HE<sup>2</sup>AT Center Primary Repository.

1.22 “Cloud Migration” means the process of transferring the Original Study Data and any derived data sets from the existing on-premises infrastructure to the Azure Cloud Platform.

1.23 “Data Access Committee or DAC” means the committee established by the HE<sup>2</sup>AT Center to review and approve data access requests from external researchers according to established criteria and protocols, which shall continue to function after the conclusion of the HE<sup>2</sup>AT Center Project. This Agreement shall commence on the Commencement Date and ~~{{shall terminate on completion of the HE2AT Project}}~~ {shall remain in effect in perpetuity with respect to the Post-Project Data Use provisions set forth in Section 2.21 of

this Amendment, unless terminated earlier in accordance with the provisions of this Agreement. The Data Provider specifically acknowledges and agrees that the Post-Project Data Use provisions shall survive the termination of the HE<sup>2</sup>AT Center Project.}

1.24 "Data Access Levels" means the tiered access system implemented by the HE<sup>2</sup>AT Center consisting of: • Level 0: Original Study Data - Raw, unprocessed data with restricted access to Core Data Team only • Level 1: Consortium Shared Data - Processed data shared only among HE<sup>2</sup>AT Center Consortium partners • Level 2: De-identified Data - Retained by HE<sup>2</sup>AT Center for approved external researcher access • Level 3: Inferential Data - Aggregated and anonymized data available for open access

1.25 "External Researcher" means any qualified researcher who is not a member of the HE<sup>2</sup>AT Center Consortium but who has been approved by the Data Access Committee to access Level 2 data for specific research purposes.

1.26 "Post-Project Data Use" means the continued storage, access, and use of the data after the conclusion of the HE<sup>2</sup>AT Center Project in accordance with this Amendment.

1.27 "Successor Governance Entity" means any entity or institution that assumes responsibility for the governance, maintenance, and oversight of the Post-Project Data Repository after the conclusion of the HE<sup>2</sup>AT Center Project.

## **TRANSFER AND USE OF DATA**

## **RESPONSIBLE PARTY STATUS**

For purposes of this Agreement, the Data Recipient is the Responsible Party and the Data Provider is neither the Responsible Party nor an Operator.

## **RIGHTS OF DATA SUBJECTS**

## **SAFEGUARDS**

Notices under this Agreement will be given by personal delivery, certified mail, or recognized overnight courier service to the person designated below:

If to Data Recipient Principal Investigator:

Attention: Matthew Francis Chersich (Research Professor)

Wits Planetary Health Research

27 St Andrews Road

Parktown 2193

Email:

If to Data Recipient (Legal):

Attention: Alfred Farrell (CEO)

Wits Health Consortium (Pty) Ltd, 31 Princess of Wales Terrace, Parktown, Johannesburg, 2193

Email: ceo@witshealth.co.za

If to Data Provider Investigator:

If to Data Provider (Legal):

[Provider legal contact details]

Attention:

Address:

Email:

## GENERAL

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### 2.19 Cloud Storage Infrastructure and Data Migration Authorization

2.19.1 The Data Provider hereby irrevocably authorizes the Data Recipient to: (a) migrate the Original Study Data from on-premises infrastructure to the Azure Cloud Platform; (b) store and process the Original Study Data and all derived data sets in the Azure Cloud Platform; and (c) implement the tiered Data Access Levels system described in this Amendment.

### 2.20 External Researcher Access Authorization

2.20.1 The Data Provider hereby explicitly and irrevocably authorizes and grants permission for appropriately de-identified data derived from the Original Study Data (Level 2 Data) to be made available to External Researchers who are not members of the HE<sup>2</sup>AT Center Consortium, subject to the following conditions: (a) All External Researcher access requests must be reviewed and approved by the Data Access Committee. (b) External Researchers must sign a legally binding Data Use Agreement. (c) External Researchers must commit to appropriate citation of both the HE<sup>2</sup>AT Center and the original data sources. (d) External Researchers will only have access to Level 2 data (de-identified). (e) All External Researcher

access will be monitored and logged. (f) The Data Access Committee shall maintain the right to revoke access for any External Researcher.

## 2.21 Post-Project Data Use and Long-Term Data Retention Authorization

2.21.1 The Data Provider hereby explicitly and irrevocably authorizes and grants permission that the data derived from the Original Study Data shall be accessible only to the ~~{{Core Team}}~~ {Core HE<sup>2</sup>AT Center Data Management Team} beyond the conclusion of the HE<sup>2</sup>AT Center Project as follows: (a) Level 0 Data (Original Study Data): Shall be retained for a period of 5 (five) years. (b) Level 1 Data (Consortium Shared Data): Shall be retained for a period of 10 (ten) years. (c) Level 2 Data (De-identified Data): Shall be retained indefinitely as a scientific resource. (d) Level 3 Data (Inferential Data): Shall be retained indefinitely as an open scientific resource. i/span;

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the ~~{{Effective Date}}~~ {Amendment Effective Date}. Still a freak yeah

DATA SHARING AGREEMENT  
[Provider legal name, description of entity and address details]

(hereinafter “the Data Provider”)

and

Wits Planetary Health Research Division a Division of Wits Health Consortium (Pty) Ltd Registration Number: 1997/15443/07 31 Princess of Wales Terrace, Parktown, Johannesburg, 2193, South Africa

(hereinafter “the Data Recipient”)

WHEREAS:

I. The Data Provider collected certain Original Study Data (as defined below) under the following studies: a. Project 1: [Title of Project to be inserted] b. Project 2: [Title of Project to be inserted]

II. The Data Recipient is a member of the HE<sup>2</sup>AT Center Consortium carrying out the research project titled “Developing Data Science Solutions to Mitigate the Health Impacts of Climate Change in Africa: the HE<sup>2</sup>AT Center” (“HE<sup>2</sup>AT Project”) which is funded by the National Institutes of Health (NIH).

III. The Data Recipient has requested the Data Provider to transfer the Original Study Data collected by the Data Provider for the study in (i) above for purposes of the Data Recipient using the Original Study Data in the HE<sup>2</sup>AT Center Research Project 2, titled: “Innovative machine learning and multi-source data analysis towards the development of an urban heat-health Early Warning System for African cities” (“RP2 Study”), the details of

which are set out in Annexure “B” attached hereto.

IV. The Data Provider has agreed to provide the Original Study Data as set out in Annexure “A” hereto.

V. The Parties agree that the transfer of the Original Study Data will be done in accordance with the terms and conditions of this Agreement.

1.1. “the/this Agreement” shall mean this Agreement together with any Annexures hereto; 1.2. “Commencement Date” shall mean the date on which this Agreement shall become effective and binding upon the Parties;

{“Amendment Effective Date” shall mean the date on which this Amendment becomes effective and binding upon the Parties and shall be the date of signature of the last Party to sign this Amendment. For the avoidance of doubt, the Amendment Effective Date shall be the same as the effective date of this Agreement unless otherwise specified.}

{“Azure Cloud Platform” means the Microsoft Azure cloud computing service that will serve as the HE<sup>2</sup>AT Center Primary Repository.} {“Cloud Migration” means the process of transferring the Original Study Data and any derived data sets from the existing on-premises infrastructure to the Azure Cloud Platform.} {“Data Access Committee or DAC” means the committee established by the HE<sup>2</sup>AT Center to review and approve data access requests from external researchers according to established criteria and protocols, which shall continue to function after the conclusion of the HE<sup>2</sup>AT Center Project.} {“Data Access Levels” means the tiered access system implemented by the HE<sup>2</sup>AT Center consisting of: - Level 0: Original Study Data - Raw, unprocessed data with restricted access to Core Data Team only - Level 1: Consortium Shared Data - Processed data shared only among HE<sup>2</sup>AT Center Consortium partners - Level 2: De-identified Data - Retained by HE<sup>2</sup>AT Center for approved external researcher access - Level 3: Inferential Data - Aggregated and anonymized data available for open access} {“Extended Research Use” means the use of data derived from the Original Study Data by External Researchers for scientific research purposes that may extend beyond but remain consistent with the original aims of the HE<sup>2</sup>AT Center Project.} {“External Researcher” means any qualified researcher who is not a member of the HE<sup>2</sup>AT Center Consortium but who has been approved by the Data Access Committee to access Level 2 data for specific research purposes.} {“Geo-Distributed Storage Architecture” means the cloud architecture that enables data storage in specific geographic regions in compliance with applicable data protection laws.} {“Post-Project Data Repository” means the secure data repository that will maintain and govern access to the data after the conclusion of the HE<sup>2</sup>AT Center Project.} {“Post-Project Data Use” means the continued storage, access, and use of the data after the conclusion of the HE<sup>2</sup>AT Center Project in accordance with this Amendment.} {“Successor Governance Entity” means any entity or institution that as-

sumes responsibility for the governance, maintenance, and oversight of the Post-Project Data Repository after the conclusion of the HE<sup>2</sup>AT Center Project.} 1.3. “Responsible Party” means a public or private body or any other person which, alone or in conjunction with others, determines the purpose of and means for Processing Personal Data; 1.4. “Original Study Data” shall mean the health-related data listed in Annexure “A” hereto and any other data actually transferred by the Data Provider to the Data Recipient under this Agreement; 1.5. “Data Protection Legislation” shall mean any data protection or data privacy laws as may be applicable, including but not limited to POPIA, the Electronic Communications and Transactions Act 26 of 2005, the Consumer Protection Act 68 of 2008, and the General Data Protection Regulation (GDPR); 1.6. “Data Subject” means the person to whom Personal Data relates; 1.7. “RP2 De-identified Data” means data with the following information deleted; (1) information that identifies the Data Subject, (2) information that can be used or manipulated by a reasonably foreseeable method to identify the Data Subject or, (3) information that can be linked by a reasonably foreseeable method to other information that identifies the Data Subject; 1.8. “HE2AT Center Data Management Plan” means the data management plan applicable to the RP2 Study as may be amended and updated from time to time by the HE2AT Center Consortium; 1.9. “HE2AT Center Consortium” means the consortium members jointly working on the HEAT Center Project, as listed in Annexure “C”, as may be amended from time to time; 1.10. “Parties” shall mean the parties to this Agreement, namely the University of Cape Town and [provider institution]; and the term “Party” shall refer to either of them; 1.11. “person” means a natural or juristic person; 1.12. “Personal Data” means any information relating to an identifiable, living, natural person, and where it is applicable, an identifiable, existing juristic person; 1.13. “Processing” (or its conjugates) shall mean any operation or set of operations, which is performed upon Personal Data, whether or not by automatic means, such as collection, recording, organization, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, blocking, erasure or destruction; 1.14. “Operator” means a person who processes Personal Data for a Responsible Party in terms of a contract or mandate, without coming under the direct authority of that party; 1.15. “HE2AT Project” shall mean the project entitled “Developing Data Science Solutions to Mitigate the Health Impacts of Climate Change in Africa: the HE2AT Center” funded by the National Institutes of Health. 1.16. “RP2 Study” shall mean the specific study under the HE2AT Project titled: “Innovative machine learning and multi-source data analysis towards the development of an urban heat-health Early Warning System for African cities” as more fully described in Annexure “B” attached hereto; 1.17. “RP2 Study Data” shall mean all data resulting from processing of the Original Study Data during the RP2

Study, which includes but is not limited to, RP2 De-identified Data and Consortium Shared Data; 1.18. “POPIA” shall mean the South African Protection of Personal Information Act 4 of 2013 and regulations as amended from time to time; 1.19. “Consortium Shared Data” means data that has undergone initial harmonisation and includes, amongst other variables, a limited set of indirect identifiers that are required for the purposes of conducting the RP2 Study analysis as described in Annexure “B”. 1.20. Words importing the singular shall include the plural and vice versa, and words importing the masculine gender shall include females. The head notes to the clauses to this Agreement are inserted for reference purposes only and shall not affect the interpretation of any of the provisions to which they relate. 2. TRANSFER AND USE OF DATA 2.1. This Agreement shall commence on the Commencement Date and shall terminate on completion of the HE2AT Project. 2.2. Either Party may terminate this Agreement prior to the completion of the HE2AT Project by providing 30 (thirty) calendar days’ prior written notice to the other Party. On early termination of this Agreement, the Data Recipient shall, where possible, immediately discontinue use of the Original Study Data and upon the Data Provider’s instructions, either return all copies of same to the Data Provider, destroy all copies of the Original Study Data, or deal with the Original Study Data in any other manner requested by the Data Provider. The Data Provider acknowledges that the ability to retrieve or delete Original Study Data already incorporated into the RP2 Study Data may be limited due to (1) this being impractical or impossible, (2) the need to maintain the integrity of the RP2 Study Data, and (3) legal, operational, or regulatory requirements in accordance with applicable law. Where deletion is not possible, the Data Recipient shall, where practicable, anonymize or pseudonymize the Data to minimize any potential risks associated with its retention. The Data Recipient shall inform the Data Provider of any such measures taken. 2.3. Each Party shall pay its own costs incurred in the performance of this Agreement. Any given expense or cost can only be committed in writing by the Party responsible for the cost in question. In no case can one Party commit an expense on behalf of another Party without prior written consent. 2.4. ~~{~~Data Provider retains ownership of the Original Study Data and retains all rights to distribute the Original Study Data to other third parties. Data Provider warrants its authority and that it has obtained the necessary ethical and legal consent required to provide the Original Study Data to the Data Recipient.~~}~~ ~~{~~Data Provider retains ownership of the Original Study Data and retains all rights to distribute the Original Study Data to other third parties. The Data Provider hereby grants the Data Recipient a perpetual, irrevocable, worldwide, non-exclusive license to: (a) store the Original Study Data in the Azure Cloud Platform as part of the HE<sup>2</sup>AT Center’s Cloud Migration; (b) process and transform the Original Study Data to create derived data sets at Levels 1, 2, and 3; (c) retain the derived

data sets for Post-Project Data Use as specifically authorized in this Amendment; and (d) grant access to Level 2 data to External Researchers in accordance with the procedures set forth in this Amendment. This expanded license does not transfer ownership of the Original Study Data, which remains with the Data Provider.}

{The Data Provider acknowledges and agrees that initially the Original Study Data shall be accessible only to the Core HE<sup>2</sup>AT Center Data Management Team for purposes of pre-processing, harmonisation and integration to produce Consortium Shared Data as set out in the HE<sup>2</sup>AT Center Data Management Plan. Following the Cloud Migration, the Original Study Data will be classified as Level 0 data in the Azure Cloud Platform's tiered data access system and will remain accessible only to the Core HE<sup>2</sup>AT Center Data Management Team.}

2.X Cloud Storage Infrastructure and Data Migration Authorization

2.X.1 The Data Provider hereby irrevocably authorizes the Data Recipient to: (a) migrate the Original Study Data from on-premises infrastructure to the Azure Cloud Platform; (b) store and process the Original Study Data and all derived data sets in the Azure Cloud Platform; and (c) implement the tiered Data Access Levels system described in this Amendment.

2.X.2 The Data Recipient shall implement and maintain the following security and compliance measures in the Azure Cloud Platform: (a) AES-256 encryption for data at rest; (b) TLS encryption for data in transit; (c) Azure Active Directory Role-Based Access Control; (d) Conditional Access Controls; (e) Azure Key Vault for key management; (f) Continuous Monitoring (Azure Monitor); (g) Audit Logging (Log Analytics); (h) Threat Detection (Azure Sentinel).

2.X.3 The Data Recipient shall implement and maintain appropriate data security methods according to the Data Access Level, including but not limited to: (a) Level 0: Safe Harbor approach, Expert determination (b) Level 1: POPIA/GDPR compliance, Role-Based Access Control (c) Level 2: Location jittering, Population density-aware spatial k-anonymity (d) Level 3: Geographic aggregation to census areas

2.X.4 The Data Recipient shall maintain audit trails for all data access events regardless of access level.

2.X.5 The Data Recipient shall store data in compliant regions to prevent unlawful data transfer and shall implement appropriate geographic boundaries for data residency.

2.5. The Data Provider will transfer the Original Study Data as is without any warranties, express or implied, including without limitation, any warranty of fitness for a particular purpose. This Agreement does not grant any rights, license, or other proprietary interest to



the Data Recipient in the Original Study Data, save as provided for in this Agreement. 2.6. The Data Recipient is hereby authorized to transfer and/or share the Consortium Shared Data with the HE2AT Center Consortium members for purposes of conducting the RP2 Study. 2.7. The authorization above is subject to HE2AT Center Consortium members entering into a Data Transfer Agreement on terms no less restrictive than the terms as provided for herein. 2.8. It is anticipated that the addition of new members to the HE2AT Center Consortium may take place as the HE2AT Project progresses. The following is established to streamline the integration of new members into existing agreements: 2.9. The Data Recipient will provide written notice to the Data Provider of any new member/s to the HE2AT Center Consortium; {{ ... }} 2.10. The new member shall sign and be bound by the Data Transfer Agreement entered into by the existing HE2AT Center Consortium members as per Clause 2.7 2.11. Subject to the terms and conditions of this Agreement, the Data Provider grants the Data Recipient and the HE2AT Center Consortium the non-exclusive right to use the Original Study Data solely for purposes of the RP2 Study. The Data Recipient will report to the Data Provider on the results of the RP2 Study stemming from the use of the Original Study Data. 2.12. The Data Recipient undertakes not to attempt to identify any Data Subject to whom Personal Data relates. The Data Provider will not provide any encryption key that could be used to re-identify the Data Subject in any Original Study Data provided to the Data Recipient. 2.13. The Parties acknowledge their obligation(s) to comply with all applicable Data Protection Legislation and that violation of any applicable Data Protection Legislation may subject the non-compliant Party to fines, penalties, or claims imposed by regulatory authorities or third parties. 2.14. The Data Provider acknowledges and agrees that the HE2AT Center Consortium shall be entitled to publish or present the RP2 Study Data, which may have utilized and/or incorporated the Original Study Data provided under this Agreement. In no event shall any Personal Data relating to a Data Subject be published. The Data Recipient agrees that any publication or presentation referencing the Original Study Data shall follow the HE2AT Centre Authorship Policy included in Annexure “D” attached hereto and will appropriately acknowledge the Data Provider as the source of the data, in accordance with academic standards and practices. The HE2AT Centre Authorship Policy may be updated from time to time, which updates will be shared with the Data Provider. 2.15. {{The Data Provider acknowledges and agrees that RP2 De-identified Data may be made available by HE2AT Center Consortium members to third parties to support further research. Access to the RP2 De-identified Data shall be subject to a review and approval process managed by a Data Access Committee and shall be in accordance with the HE2AT Center Data Management Plan.}} jspan style='color: blue';

2.Y External Researcher Access Authorization

2.Y.1 The Data Provider hereby explicitly and irrevocably authorizes and grants permission for appropriately de-identified data derived from the Original Study Data (Level 2 Data) to be made available to External Researchers who are not members of the HE<sup>2</sup>AT Center Consortium, subject to the following conditions: (a) All External Researcher access requests must be reviewed and approved by the Data Access Committee according to established criteria; (b) External Researchers must sign a legally binding Data Use Agreement that restricts their use of the data to the specific approved research purpose and prohibits any attempt to re-identify individuals; (c) External Researchers must commit to appropriate citation of both the HE<sup>2</sup>AT Center and the original data sources in any publications; (d) External Researchers will only have access to Level 2 data (de-identified) and never to Level 0 or Level 1 data; (e) All External Researcher access will be monitored and logged, with periodic audits conducted to ensure compliance with usage terms; (f) The Data Access Committee shall maintain the right to revoke access for any External Researcher who violates the terms of their Data Use Agreement.

2.Y.2 The authorization for External Researcher access granted in Section 2.Y.1 shall extend beyond the conclusion of the HE<sup>2</sup>AT Center Project and shall continue in perpetuity as part of the Post-Project Data Use authorized in Section 2.Z.

2.Y.3 The Data Recipient shall provide to the Data Provider, upon request but not more than once annually, a summary report of all External Researcher access that has been granted to data derived from the Data Provider's Original Study Data. 2.16. ~~2.16. The Data Recipient may retain a copy of the Original Study Data in accordance with the HE<sup>2</sup>AT Center Data Management Plan for a period of 5 (five) years after the completion of the HE<sup>2</sup>AT Center Project for the purposes of concluding and correcting any analysis and publications resulting from the HE<sup>2</sup>AT Project. Any retention of Original Study Data beyond this 5 (five) year period will be further agreed with the Data Provider. The provisions of this Clause 2.14 shall not be applicable in the event of early termination in accordance with clause 2.2.}~~ ~~{The Data Recipient may retain the Original Study Data and derived data in accordance with the HE<sup>2</sup>AT Center Data Management Plan and the Post-Project Data Use provisions in Section 2.Z of this Amendment. Any retention of Original Study Data beyond the period specified in Section 2.Z.1(a) will require further written agreement with the Data Provider. For clarity and the avoidance of doubt, no further authorization or permission shall be required from the Data Provider for the retention and use of Level 1, Level 2, and Level 3 data as specified in Section 2.Z.}~~ 2.17. The Data Provider warrants and represents that it is the sole and exclusive owner of all rights, title, and interest in and to the Original Study Data provided under this Agreement and further warrants that it has full authority to transfer the Original Study Data to the Data Recipient for the purposes set forth in this

Agreement. 2.18. The Data Provider warrants and represents that the Original Study Data is free and clear of any liens, claims, encumbrances, or any other rights or interests of any third parties and that no third party has any ownership, license, or other rights in or to the Original Study Data that would interfere with the Data Recipient's use of the Original Study Data as contemplated in this Agreement. 2.19. The Data Provider agrees to indemnify, defend, and hold harmless the Data Recipient from and against any and all claims, damages, losses, liabilities, costs, and expenses (including reasonable attorney's fees) arising out of or related to any breach of the warranties set forth in the above-mentioned clause 2.15 and 2.16, including any claim by a third party that it has rights in the Original Study Data. 2.20. All ownership, rights, title, and interest in and to the RP2 Study Data and any results generated during the RP2 Study shall vest with the HE2AT Consortium Members in accordance with the Data Transfer Agreement entered into between the HE2AT Consortium Members. 3. RESPONSIBLE PARTY STATUS {{ ... }} 5. DATA SUBJECT WITHDRAWAL 5.1. The Data Recipient acknowledges that Data Subjects may withdraw their informed consent to the Processing of Personal Data at any time. The Data Provider shall promptly notify the Data Recipient of any such withdrawal, upon which the Data Recipient will immediately discontinue use of the Data Subject's Personal Data. 6. SAFEGUARDS 6.1. The Data Recipient will maintain a comprehensive privacy and security program designed to ensure that Personal Data will be used only in accordance with this Agreement and the HE2AT Center Data Management Plan, or as required by applicable regulations, including the appointment of a Data Protection Officer. The Data Recipient will apply adequate, commercially reasonable technical, physical, and administrative safeguards to protect the Personal Data. 6.2. Such safeguards shall be appropriate to the nature of the information to prevent any breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to Personal Data, or any other unauthorized or unlawful use, access, alteration, loss, or disclosure of Personal Data relating to this Agreement (collectively, "Security Breach"). The Data Recipient will also implement appropriate internal policies, procedures, or protocols to minimize the risk of occurrence of a Security Breach. 6.3. Once the Original Study Data has been transferred to the Data Recipient, the Data Recipient shall, in line with all applicable legislation and regulations, maintain a comprehensive privacy and security program to ensure the safekeeping and integrity of the Original Study Data.

6.4 Following the Cloud Migration, the Data Recipient shall ensure that all safeguards described in this section are implemented and maintained within the Azure Cloud Platform environment, leveraging the platform's security features including but not limited to encryption, access controls, monitoring, and audit logging.

6.5 The safeguards described in this section shall apply equally to all data access, including access by External Researchers and during Post-Project Data Use periods.

6.6 The Data Recipient and/or its Successor Governance Entity shall maintain these safeguards for as long as any level of data derived from the Original Study Data is retained.

7.3 The Data Recipient shall notify the Data Provider of any Security Breach affecting the Azure Cloud Platform within twenty-four (24) hours of discovery, regardless of whether the Security Breach directly impacts the Original Study Data. The Data Recipient shall provide the Data Provider with regular updates regarding the investigation and remediation of any such Security Breach.

7.4 The Security Breach notification obligations described in this section shall continue to apply during any Post-Project Data Use period for as long as any level of data derived from the Original Study Data is retained.

The Parties expressly acknowledge and agree that the provisions of Sections 2.Y and 2.Z of this Amendment regarding External Researcher Access and Post-Project Data Use shall survive the termination of the Agreement and the conclusion of the HE<sup>2</sup>AT Center Project.

7. SECURITY BREACH 7.1. The Data Recipient shall notify the Data Provider within twenty-four (24) hours of discovery of a potential or actual Security Breach. In the course of notification, the Data Recipient will provide feasible, sufficient information for the Data Provider to assess the Security Breach. The Data Provider will determine, in consultation with the Data Recipient, if notification to Data Subjects and/or government authorities is required by applicable regulations. Where the Data Provider determines that notification is required by applicable regulations, the Data Recipient shall be responsible for all reasonable costs and expenses associated with the provision of such notifications. The Data Recipient will also take immediate steps to consult with the Data Provider in good faith in the development of remediation efforts to rectify or mitigate the Security Breach. 7.2. The Data Recipient will undertake remediation efforts at its sole expense or will reimburse the Data Provider for the Data Provider's reasonable expenses incurred in connection with Data Provider-performed remediation efforts. In addition to any method of notice described in this Agreement, notice to the Data Provider of any Security Breach shall also be reported to \_\_\_\_\_; Telephone: \_\_\_\_\_ or Email: \_\_\_\_\_

8. PERSONNEL OBLIGATIONS 8.1. The Parties shall ensure that their respective personnel engaged in the Processing of Personal Data are informed of the confidential nature of the Personal Data, have received appropriate training on their responsibilities, and have executed written confidentiality agreements or are otherwise subject to professional obligations of confidentiality. The Parties shall ensure that access to Personal Data is limited to those personnel who perform services in accordance with this Agreement. {{ ... }}

shall maintain a written record of all Processing activities that are carried out under this Agreement. Such record shall contain, at a minimum, (i) the name and contact details of any Operators; (ii) the name and contact details of the Operators' data protection officers; (iii) the categories of Processing that are carried out; (iv) transfers to other countries or international organizations and documentation of the suitable safeguards that are employed; and (v) a general description of the administrative, technical, and physical security measures that have been taken to safeguard the Personal Data. The Data Recipient shall provide the Data Provider with a copy of such records upon request. 10. GOVERNMENT INSPECTIONS 10.1. The Data Recipient agrees to promptly, and in no case later than five (5) business days, notify the Data Provider of any inspection or audit by a government authority concerning compliance with applicable regulations governing the Processing of Personal Data to the extent related to this Agreement. 11. NOTICES Notices under this Agreement will be given by personal delivery, certified mail, or recognized overnight courier service to the person designated below:

If to Data Recipient Principal Investigator:

Attention: Matthew Francis Chersich (Research Professor) Wits Planetary Health Research 27 St Andrews Road Parktown 2193 Email: Matthew.Chersich@tcd.ie

If to Data Recipient (Legal):

Attention: Alfred Farrell (CEO) Wits Health Consortium (Pty) Ltd, 31 Princess of Wales Terrace, Parktown, Johannesburg, 2193 Email: ceo@witshealth.co.za

If to Data Provider Investigator:

If to Data Provider (Legal): [Provider legal contact details] Attention: Address: Email:

12. GENERAL 12.1. In no event shall the Data Provider be liable for any use by the Data Recipient of the Original Study Data or for any loss, claim, damage, or liability, of any kind or nature, that may arise from or in connection with this Agreement or the Data Recipient's use, handling, or storage of the Data. 12.2. 12.2 This Agreement does not constitute, grant, nor confer any license under any patents or other proprietary interests of one Party to the other, except as explicitly stated in this Agreement. 12.3. 12.3 This Agreement may be amended by written agreement between the Parties. 12.4. 12.4 This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. A signed copy of this Agreement delivered by electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement. 12.5. 12.5 The provisions of this Agreement that by their nature are intended to survive termination or expiration of the Agreement shall survive such termination or expiration and shall remain in full force and effect. 12.6. 12.6 The Data Recipient hereby acknowledges and accepts that the signatory of

this Data Transfer Agreement on behalf of the Data Provider represents and warrants that they have the full authority and capacity to enter into and bind the Data Provider to the terms of this Agreement. The Data Recipient shall not be held liable or responsible in any manner for any breach of authority or lack thereof by the signatory. Should it be determined that the signatory did not possess the requisite authority to execute this Agreement, the Data Recipient shall remain indemnified and free from any and all claims, liabilities, losses, damages, or expenses arising therefrom.

DATA PROVIDER DATA RECIPIENT

(signature)

(signature) Name: Name: Title: Title: Date: Date:

13. ANNEXURE A: DESCRIPTION OF DATA The list of variables below is indicative. Based on data availability and relevance, the final variable list shall be finalized and recorded between the Data Provider and Data Recipient. Data Source 1 • Project Title: [Full research project title] • Funder: [Original research funding details]. Data to be transferred: Individual participant data for a limited set of variables from the original dataset/s relating to urban heat exposure and its health impacts on vulnerable populations in African cities. Dataset includes these important variables: Essential variables: • Unique ID (study ID and participant ID) • Date of health event (e.g., hospitalization, mortality) • Location, at a minimum: city of event or follow-up (data on the location of household, health facility, or study clinic are preferable) Health outcomes (indicative list): • Heat-related illness or hospitalization • Cardiovascular events (e.g., heart attack, stroke) • Respiratory conditions exacerbated by heat • Mortality (including cause of death) • Admissions to intensive care units • Chronic disease exacerbations (e.g., diabetes, hypertension) Socio-economic and environmental variables (indicative list): • Housing type and quality (e.g., informal housing, presence of air conditioning) • Access to health services • Employment status (outdoor vs. indoor workers) • Socio-economic status indices • Neighborhood-level data (e.g., urban heat island effect, green space availability) Other variables: • Age, gender, and other demographic information • Date of interviews or examinations • Specific location of health facility or research site • Type of facility (e.g., clinic, hospital) • History of chronic diseases • Anthropometric data (e.g., weight, height, BMI) Associated metadata/documentation: • Study protocol • Codebooks • Do files • Documentation on definitions, components, and processing of the data Purpose of Data Transfer: The data will be used to advance the understanding of heat-health interactions in large African cities and to develop an Early Warning System for urban heat-health risks. Data Source 2: [Repeat as above for each dataset to be shared]

14. ANNEXURE B: DESCRIPTION OF STUDY Study title: Innovative Machine Learning and multi-source data analysis towards the development of an urban heat-health Early

Warning System for African cities Study rationale: African cities are experiencing rapid urbanization and significant increases in temperatures due to climate change, with dire health implications for vulnerable populations. However, data and understanding of heat-health outcomes, exposure, vulnerability, and potential solutions in these urban contexts are critically lacking. This study seeks to fill these gaps by leveraging advanced data science techniques to map and predict urban heat-health risks and inform public health interventions. Study objectives: The study's overall objective is to use innovative data science approaches to quantify the impact of heat exposure on health outcomes in urban African settings and develop a geospatial Early Warning System for urban heat-health risks. The specific objectives are: • To map intra-urban heat vulnerability and exposure across urban areas in large African cities. • To develop a collaboration between the HE2AT Center and local stakeholders, including urban planners, public health officials, and community leaders. • To link health outcome data spatially and temporally with weather, environmental, and socio-economic data. • To apply machine learning and other advanced analytical methods to predict adverse health outcomes related to heat exposure. • To develop and implement an Early Warning System to provide targeted alerts to vulnerable populations and guide public health responses. Methods: The study will systematically collect and analyze data from various sources, including longitudinal health studies, satellite imagery, and socio-economic surveys. Machine learning models will be used to identify patterns and predict heat-related health risks. The study will also involve developing a mobile application to disseminate heat warnings and collect user feedback. Ethical and legal considerations: The study has been approved by the Human Research Ethics Committee of the University of the Witwatersrand, South Africa. Data privacy and security will be ensured by removing participant identifiers, data encryption, and secure data storage. Funding acknowledgement: The study is funded by the Fogarty International Center and National Institute of Environmental Health Sciences (NIEHS) and OD/Office of Strategic Coordination (OSC) of the National Institutes of Health under Award Number U54 TW 012083.

15. ANNEXURE C: HEAT CENTER CONSORTIUM MEMBERS AS AT THE DATE OF SIGNING THIS DATA TRANSFER AGREEMENT: • Wits Health Consortium (Pty) Ltd, South Africa\* • University of Cape Town, South Africa\* • International Business Machines (IBM) Corporation through its Thomas J. Watson Research Center, USA\* • University of Peleforo Gon Coulibaly, Côte d'Ivoire\* • Centre for Sexual Health and HIV AIDS Research (CeSHHAR), Zimbabwe\* • University of Michigan, United States • University of Washington, United States

\*Only these HE2AT Center Consortium Members shall have access to the Consortium-Shared Data for the RP2 Study analysis purposes.

16. ANNEXURE D: 16.1. AUTHORSHIP GUIDELINES FOR STUDIES THAT CONTRIBUTE DATA Study Principal Investigators, Site Principal Investigators, and additional contributing study members will be invited to join the authorship group for any publications that use data from their study. • The authorship guidelines adhere to the ICMJE criteria for authorship, which include: • Substantial contributions to the conception or design of the work or the acquisition, analysis, or interpretation of data for the work; AND • Drafting the work or revising it critically for important intellectual content; AND • Final approval of the version to be published; AND • Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The authorship guidelines and study acknowledgements are based on an appreciation of the substantial contribution made by Principal Investigators in providing data from their study, and in recognition of the work involved in conducting the study. We will include one author per included study (usually the study PI), but additional country-PI will be included for multi-country studies. The listed authors of the studies contributing data will be named in alphabetical order by surname, from positions 4th author to second-last author. As such, authorships 1-3 and last authorship will be reserved for those who contributed most to the work, in line with ICMJE guidelines. Some journals may restrict the number of authors listed and require that additional authors be included as part of the ‘HE2AT Center Study Group’. In this situation, the HE2AT Center Steering Committee will have the right to decide on final authorship, taking into consideration the studies that contributed the most participants to the RP2 dataset. The study group will be published in an Appendix, where journals allow this or otherwise list it in the acknowledgement section. Here, listing will be done by role in the study and/or by Study/site. Any additional contributors from a study who adhere to ICMJE criteria will be listed as part of the ‘HE2AT Center Study Group’ in an Appendix where journals allow this or otherwise be listed in the acknowledgement section. The name of the funder of the contributing study and of other Principal Investigators will be included in the acknowledgements as relevant. Study Principal Investigators may be granted access to the RP2 De-Identified Data for secondary analyses, provided they complete the Data Request Forms, which will then be reviewed by the Data Access Committee (DAC). Decisions around data access are governed by the HE2AT Center’s Data Management Plan and the Publication Policy Standard Operating Procedures.