

June 28, 2024

To Whom It May Concern:

The Radiological Society of North America (RSNA) is a non-profit organization representing over 48,000 medical imaging professionals in 31 radiology subspecialties from 160 countries around the world. Founded in 1915, our mission is to promote excellence in patient care and health care delivery through education, research, and technological innovation.

Medical imaging plays a central role in healthcare and various imaging modalities are essential in enabling diagnosis and assessment; treatment planning; monitoring; preventative care; and emergency care. As a leading medical society with expertise in medical imaging, health informatics, and data science, RSNA appreciates the opportunity to provide comments in response to NIH's Request for Information on "Future Data Linkages within the Center for Linkage and Acquisition of Data for the *All of Us* Research Program" (NOT-PM-24-003).

Given the foundational role that medical imaging-related data play in understanding health and disease, RSNA strongly recommends that the *All of Us* Research Program incorporate linkages to imaging/waveform databases like the NIH-funded Medical Imaging and Data Resource Center (MIDRC). We would rank multimedia linkages, including to imaging data, among the highest-value medical assets for research, public health monitoring, and improvements in disease detection and patient care and thus encourage making their incorporation a high priority for the *All of Us* Research Program.

MIDRC is a collaborative initiative co-led by RSNA, the American College of Radiology (ACR), and the American Association of Physicists in Medicine (AAPM) and hosted at the University of Chicago. MIDRC ingests medical images and associated metadata through intake portals hosted by RSNA and ACR and then uses the Gen3 Data Ecosystem to provide a single public access point for data discovery. Imaging data is collected from multiple sources, including academic medical centers and community hospitals. To date, over 177,000 imaging studies have been ingested and published on the MIDRC platform (<https://data.midrc.org/>) where 873 users have registered to gain access to over 14 terabytes of data.

Linkage to imaging data via MIDRC would be of particularly high value in supporting research in the use of machine learning and artificial intelligence (AI) to detect and classify disease and measure health outcomes. Linking imaging data with other data sources in the *All of Us* program, such as electronic health records, genomic data, biosamples, and survey data would enable expanded research and analysis across biology, environment, and lifestyle. RSNA stands

ready to work with the *All of Us* Research Program on operational issues related to establishing a data linkage with MIDRC.

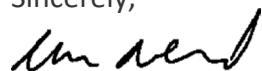
Current limitations in deployed technology and data standards constrain linkage to imaging data to episodic efforts. Pilot projects in specific high-value use cases have the potential to produce meaningful research outcomes and to establish methods that can enable more ubiquitous real-time data linkages. For example, data collected from lung screening programs can be correlated with genomic data and outcomes data from electronic health records to make evaluation of risks from lung disease more precise. Pilot projects to link patient imaging studies and diagnostic reports with their electronic health records could greatly reduce the effort required to extract and curate data in order to reliably establish such correlations.

RSNA has built a record of developing ground truth datasets for AI-focused research through organizing and conducting ten AI challenges since 2017 to advance the use of imaging data for disease detection and classification. Through the MIDRC project, we have built up processes for collection and curation of imaging and electronic health record data to populate a data commons that organizes key elements of patient longitudinal medical history. Included in this work has been collection and publication of privacy protecting data linkages that connect a subject's imaging data with multimodal data contained in other data repositories. We would welcome the opportunity to expand this approach to enhance the utility of data collected for RSNA's research efforts.

RSNA has also worked to advance the state of standards-based sharing of imaging data. The RSNA Image Share network, an NIBIB-funded pilot project from 2009-2015, established a network for secure sharing of imaging data for patients and care providers that extended to a dozen sites and more than 30,000 patients. In the final year of the Image Share program, RSNA developed a joint pilot with *All of Us* to explore the use of patient portals, common authentication frameworks (SMART on FHIR) and patient consent mechanisms to incorporate sharing of imaging data in the *All of Us* data architecture. We would be eager to explore expanding this approach in light of evolving standards and capabilities in the US healthcare system.

Since its establishment in 2016, the *All of Us* Research Program has sought to transform the field of personalized medicine to enable better prevention, treatment, and healthcare. Medical imaging data is essential to understanding health and disease and we urge the *All of Us* Research Program to incorporate linkages to imaging/waveform data via MIDRC. Please contact RSNA's director of government relations, Libby O'Hare (eoohare@rsna.org) for further information.

Sincerely,



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Cc: Adam Flanders, MD, RSNA Board Liaison for Informatics
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