

QIN ECOG-ACRIN Data Sharing

Overview

This site is a central reference for several image and data collections on TCIA that came from oncology imaging trials conducted by the ACRIN and ECOG-ACRIN NCI-funded cooperative groups.

As a brief history, the American College of Radiology Imaging Network (ACRIN) started in 1999 as National Cancer Institute (NCI) funded clinical trials cooperative group. The motivation for forming ACRIN was the growing importance of imaging to cancer care [1]. Major trials included the National Lung Screening Trial (NLST, listed as ACRIN 6654) [2] and The Digital Mammography Screening Trial (DMIST, listed as ACRIN 6652) [3]. However, in total there were roughly 50 imaging trials, all with clinical data and outcomes. Imaging modalities included MRI, CT, x-ray, mammography, and PET. In 2012 ACRIN merged with the Eastern Cooperative Oncology Group (ECOG) to become ECOG-ACRIN and imaging based trials have continued. Upon request, ACRIN (and now ECOG-ACRIN) provides access to data, after publication of the primary aim.

A full list of clinical trial imaging data sets that originated from the NCI [National Clinical Trials Network \(NCTN\)](#) that are available on TCIA are listed [here](#).

In 2015, ECOG-ACRIN was awarded a grant from NCI for "ECOG-ACRIN-Based QIN Resource for Advancing Quantitative Cancer Imaging in Clinical Trials" to support research resources for the NCI-funded Quantitative Imaging Network (QIN). The QIN is a collective of NCI funded groups from roughly two dozen centers with a technical and clinical focus of developing robust methods to predict and/or measure response to therapy and encourage their broad dissemination within the imaging, oncology, and device industry communities [4].

As part of this ECOG-ACRIN-QIN resource, images and data from selected trials for each modality are being collated and made available to QIN on The Cancer Imaging Archive (TCIA). After a 1 year embargo period, these data sets are being made available for anyone from TCIA via open-access (no login required).

The ACRIN and ECOG-ACRIN trials are unique image data sets as both the image and clinical data are curated and also includes outcomes. In addition there are Published aims, findings, and descriptions.

List of ECOG-ACRIN data sets available on TCIA

The list below contains links to the available data sets. Each site provides substantial information on the trial, the data formats and types, and links to further information. As more imaging trial collections become available on TCIA they will be added to this list.

ACRIN-FMISO-Brain (ACRIN 6684)

Kinahan, Paul; Muzi, Mark; Bialecki, Brian; Coombs, Laura. (2018). Data from ACRIN-FMISO-Brain. The Cancer Imaging Archive. <https://doi.org/10.7937/K9/TCIA.2018.vohlekok>

ACRIN-DSC-MR-Brain (ACRIN 6677/RTOG 0625)

Kinahan, P., Muzi, M., Bialecki, B., Herman, B., & Coombs, L. (2019). Data from ACRIN-DSC-MR-Brain [Data set]. The Cancer Imaging Archive. DOI: <https://doi.org/10.7937/tcia.2019.zr1pjf4i>

ACRIN-NSCLC-FDG-PET (ACRIN 6668)

Kinahan, P., Muzi, M., Bialecki, B., Herman, B., & Coombs, L. (2019). Data from the ACRIN 6668 Trial NSCLC-FDG-PET [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/tcia.2019.30ilqfcl>

ACRIN-FLT-Breast (ACRIN 6688)

Kinahan, Paul; Muzi, Mark; Bialecki, Brian; Coombs, Laura. (2017). Data from ACRIN-FLT-Breast. The Cancer Imaging Archive. <https://doi.org/10.7937/K9/TCIA.2017.ol20zmxg>

ACRIN-HNSCC-FDG-PET/CT (ACRIN 6685)

Kinahan, P., Muzi, M., Bialecki, B., & Coombs, L. (2019). Data from the ACRIN 6685 Trial HNSCC-FDG-PET/CT[Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/K9/TCIA.2016.JQEJZZNG>

ACRIN-Contralateral-Breast-MR (ACRIN 6667)

Kinahan, P., Muzi, M., Bialecki, B., Herman, B., & Coombs, L. (2021). ACRIN-Contralateral Breast MR (ACRIN 6667) [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/Q1EE-J082>

References

- [1] B. J. Hillman and C. Gatsonis, “The American College Of Radiology Imaging Network--clinical trials of diagnostic imaging and image-guided treatment.,” *Semin. Oncol.*, vol. 35, no. 5, pp. 460–469, Oct. 2008.
- [2] D. R. Aberle, A. M. Adams, C. D. Berg, W. C. Black, J. D. Clapp, R. M. Fagerstrom, I. F. Gareen, C. Gatsonis, P. M. Marcus, and J. D. Sicks, “Reduced lung-cancer mortality with low-dose computed tomographic screening.,” *N Engl J Med*, vol. 365, no. 5, pp. 395–409, Aug. 2011.
- [3] E. D. Pisano, C. Gatsonis, E. Hendrick, M. Yaffe, J. K. Baum, S. Acharyya, E. F. Conant, L. L. Fajardo, L. Bassett, C. D’Orsi, R. Jong, M. Rebner, Digital Mammographic Imaging Screening Trial (DMIST) Investigators Group, “Diagnostic performance of digital versus film mammography for breast-cancer screening.,” *N Engl J Med*, vol. 353, no. 17, pp. 1773–1783, Oct. 2005.
- [4] L. P. Clarke, R. J. Nordstrom, H. Zhang, P. Tandon, Y. Zhang, G. Redmond, K. Farahani, G. Kelloff, L. Henderson, L. Shankar, J. Deye, J. Capala, and P. Jacobs, “The Quantitative Imaging Network: NCI’s Historical Perspective and Planned Goals.,” *Transl Oncol*, vol. 7, no. 1, pp. 1–4, Feb. 2014.

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