**Online Resources for**

**Readmission Risk Modeling**

1. **Nationwide Readmissions Database**

<https://www.hcup-us.ahrq.gov/nrdoverview.jsp>

The Nationwide Readmissions Database (NRD) is a set of inpatient databases in the HCUP family designed for readmission analyses. These HCUP databases are created by AHRQ through a Federal-State-Industry partnership.

1. **AHCA / Readmissions**

<https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/Hospital-Readmissions.aspx>

American Health Care Association’s landing page for resources relating to hospital readmissions.

1. **STAAR**

<http://www.ihi.org/Engage/Initiatives/Completed/STAAR/Pages/default.aspx>

Terminated, 4-year [2009-2013] program called State Action on Avoidable Rehospitalizations led by the Institute for Healthcare Improvement and applied in MA, MI and WA.

1. **QIO**

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityImprovementOrgs/Downloads/9thFactSheet_CareTrans.pdf>

Medicare Quality Improvement Organizations and Opportunities for improved care transition.

1. **PCCI, Dallas Information Exchange Portal, PIECES, e-Model for HF (multiple links)**

<https://www.nihcollaboratory.org/Pages/GR%20Slides%2001-16-15.pdf>

<http://www.pccipieces.org/the-dallas-information-exchange-portal-dallas-iep/>

<http://healthcare.dmagazine.com/2012/12/10/young-parkland-physician-makes-a-splash-with-predictive-modeling-software/>

<http://www.healthleadersmedia.com/finance/how-predictive-modeling-cuts-hospital-readmissions>

Parkland Hospital system in Dallas, TX has been at the nexus of efforts to share data across the region & to use predictive modeling to assign patients real-time readmissions risk scores and allow staff to allocate resources for intervention with highest risk patients. They’ve been very successful (lowered risk of readmission in heart failure patients by ~25%). The effort includes several aspects: data sharing (PIECES), predictive analytics (e-Model), and app-development. Peer-reviewed work is available (see Nathalie’s pdf library).

1. **Kaggle Competitions**

<https://www.kaggle.com/c/predicting-30-day-hospital-readmissions>

In-class modeling competition. Sample data (see what the sponsor chose to include). Few contestants. No discussion. Rudimentary benchmarking for our in-house models.

<https://www.kaggle.com/c/diabetes-hospital-readmission>

Virginia Commonwealth University data on diabetes. Sample data. No contestants.

<https://www.kaggle.com/c/hhp>

Heritage Health Prize. Admissions (not readmissions). No data (removed). Many contestants. Active forum.

<https://www.kaggle.com/general/12463>

Refers to several open sources databases RE readmission. Can help in early model development (data cut; quick performance test; upload to test Cloudera set-up).

1. **Articles on the subject (links, no pdf available)**

From M. Pirritano

<http://www.healthleadersmedia.com/technology/explainable-ai-could-reduce-readmissions-and-win-clinicians-trust?spMailingID=12757543&spUserID=MTY3ODg4NTcxNzYyS0&spJobID=1321478257&spReportId=MTMyMTQ3ODI1NwS2>

On risk of monitoring providers (and why ML as support is preferable): <https://www.nytimes.com/2018/01/01/us/at-veterans-hospital-in-oregon-a-push-for-better-ratings-puts-patients-at-risk-doctors-say.html>

Other

<https://www.kff.org/medicare/issue-brief/aiming-for-fewer-hospital-u-turns-the-medicare-hospital-readmission-reduction-program/>

<https://www.ahcancal.org/quality_improvement/qualityinitiative/Pages/Hospital-Readmissions.aspx>

<https://www.cms.gov/About-CMS/About-CMS.html>

<http://www.ihi.org/Engage/Initiatives/Completed/STAAR/Pages/default.aspx>

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityImprovementOrgs/Downloads/9thFactSheet_CareTrans.pdf>

<https://www.hcup-us.ahrq.gov/nrdoverview.jsp>

<https://www.healthwatch.co.uk/safely-home-peoples-experiences-leaving-care>

<http://nexushealthresources.com/readmissions/the-research-on-social-risk-factors-and-hospital-readmissions/>

3M

<https://www.medicaid.ms.gov/wp-content/uploads/2014/03/100112_3M-Presentation.pdf>

<https://www.google.ch/patents/WO2015142709A1?cl=en>

<https://multimedia.3m.com/mws/media/765833O/3m-crgs-measuring-risk-managing-care-white-paper.pdf>

LACE

<https://www.besler.com/lace-risk-score/>

eModel 🡪 see Dalla group

Co-Morbidity models

<http://mchp-appserv.cpe.umanitoba.ca/concept/Elixhauser%20Comorbidities%20-%20Coding%20Algorithms%20for%20ICD-9-CM%20and%20ICD-10.pdf>

<http://mchp-appserv.cpe.umanitoba.ca/Upload/SAS/_ElixhauserICD10.sas.txt>

Rothman Index 🡪 see Rothman group

Open source data

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareFeeforSvcPartsAB/MEDPAR.html>

<https://www.i2b2.org/NLP/DataSets/>

Readmission vs. mortality systems analyses

<http://www.healthleadersmedia.com/quality/lower-readmissions-linked-higher-risk-death?page=0%2C2>

<http://www.healthleadersmedia.com/quality/researcher-disputes-link-between-lower-readmissions-higher-mortality?page=0%2C2>

<http://www.healthleadersmedia.com/health-plans/during-tax-bill-debate-senator-cites-readmissions-mortality-link?nopaging=1>