



University of Colorado **Anschutz Medical Campus**

EHR-driven Support System to Enhance Functioning and Quality of Life (ESSENTIAL)



Research Team

Stephanie Grim, MS, MPH, Rodger Kessler, PhD, Don Nease, MD, Glen Kotz, MD, Connie Van Eeghen, PhD, George Runger, PhD, Cat Halliwell, BS, Alexander Kotz, BS

Community Partners



Problem Statement

Primary care clinicians lack tools to efficiently and effectively identify patients at risk for poor health-related quality of life (HRQoL), who might otherwise remain unidentified until a health crisis occurs

Primary care providers are aware and engaged but many translational hurdles remain



Research Project Description

HRQoL is a patient-reported measure of well-being and functional status that encompasses physical, mental, and social domains¹

Not only important to patients, but a strong predictor of clinical, economic, and social consequences of health and disease, including response to treatment, future health, cost of healthcare, return to work, work productivity, job loss, and mortality^{2,3}

Ability to predict which patients are at-risk for poor quality of life is important to community-based primary care providers who wish to intervene early

Research Project Description

No broadly utilized, evidence-based method exists to identify patients at high risk for poor health related quality of life (HRQoL) in early stages of poor or lost function

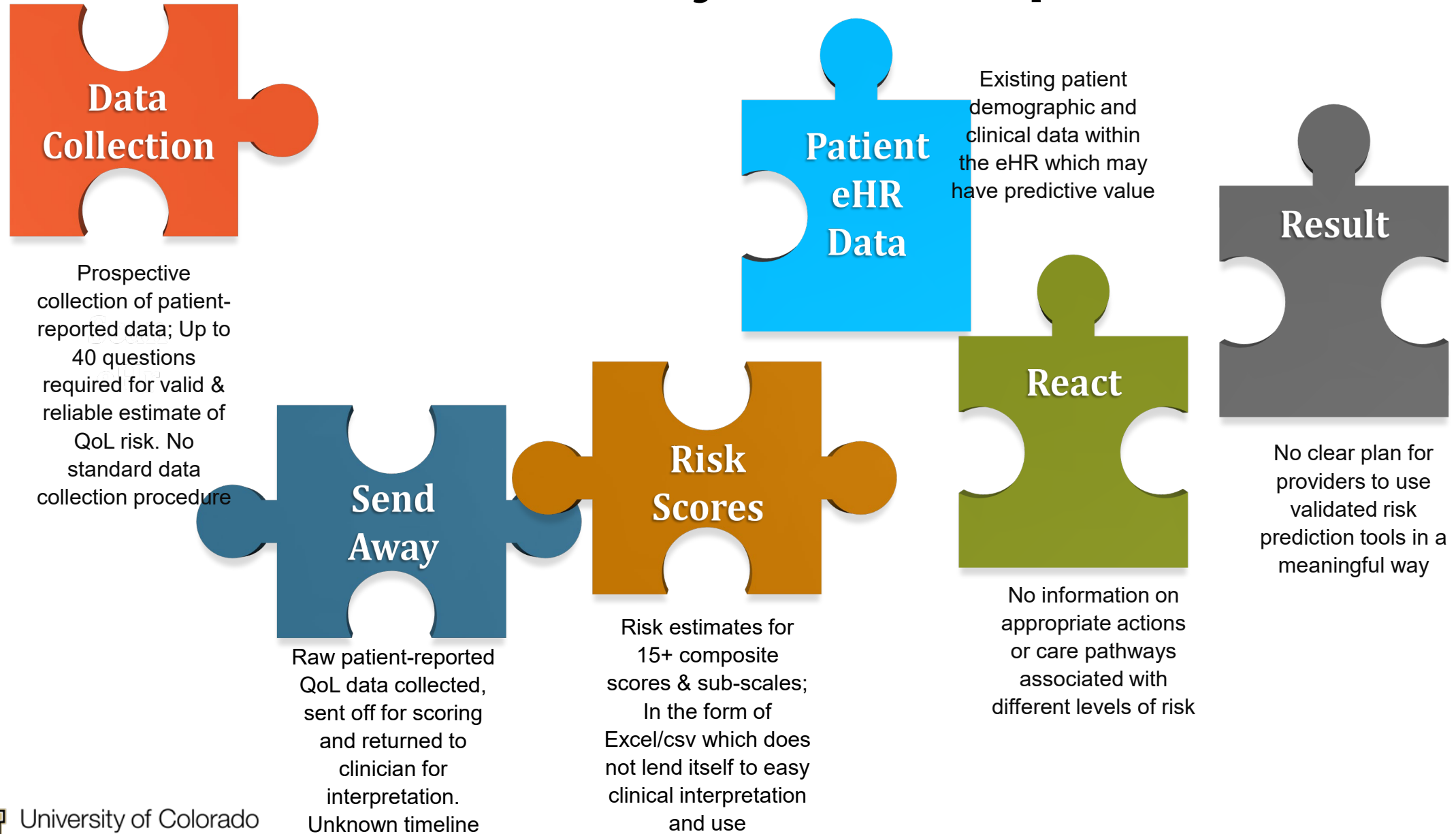
Patient-reported quality of life data are infrequently used to inform care delivery and improve outcomes, despite their predictive value⁴

Existing Quality of Life (QoL) screeners are validated but

- not free to use or score
- require patients to fill out fairly length surveys
- do not make use of data which already exists in electronic health records
- do not provide results in real-time
- do not offer clinical guidance based on scores
- are not integrated into provider workflows



Research Project Description



Research Project Description

ESSENTIAL Pilot



Scan eHR

Leverage any patient demographic or clinical data already living in the eHR to create an initial panel of at-risk patients

Initial Risk

Forwarded to clinician through eHR messaging for review. Determine which patients warrant additional attention

Outreach

List of patients to outreach forwarded to clinic schedulers through eHR messaging. Collect additional data from patients identified in previous step and enter data into eHR

Update Risk

Integrate the prospectively collected data into risk prediction algorithm embedded in eHR. Allows for updated risk estimates in-real-time

Inform

Updated risk estimates are made available to clinicians through eHR. Providers can schedule as needed

React

Clinician has updated risk estimates available at the time of patient visit and can launch reactive care plan as appropriate



University of Colorado
Anschutz Medical Campus

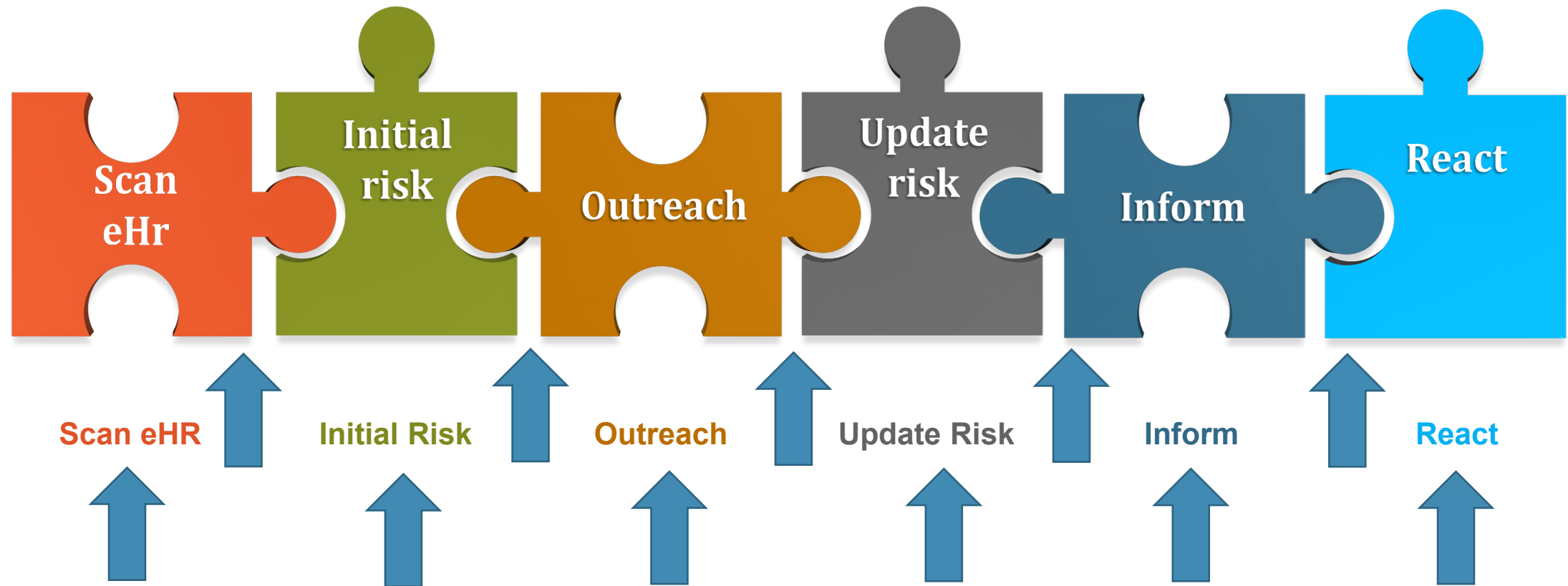
Translational Impact

Review Efficacy and Adoptability



At each stage, we will investigate facilitators and barriers to implementation and adoptability

Translational Impact Scale-Up Learning Collaborative



Repeat implementation at 4 additional sites. Repeat review of effectiveness and adapt the model as needed

Equity Impact

Systematically identify the top 20% of panel at high risk for poor medical outcomes and use that data to improve access and generate early intervention upstream, affecting disease course

We know that SDOH impact development of chronic conditions and poor quality of life compounds the affect on marginalized populations

Gain entry to and to receive services from primary care, regardless of race, ethnicity, age, income, ability, sex, gender, sexual orientation, geographic location, or health status

Respond appropriately



TSBM Benefits



Diagnostic algorithm will allow for early identification individuals at risk for poor quality of life and worsening clinical outcomes



Racial/ethnic minorities and those who live in poverty are more likely to have chronic comorbidities and health disparities that place them at higher risk for morbidities



Early intervention could reduce morbidity and mortality which decreases the cost burden on healthcare system



Our learning collaborative will test initial algorithms and align efforts for meaningful implementation which can be used to inform policy



Built into existing eHR-solutions to streamline access to the risk prediction for clinician



Lessons Learned

It is critical that we find solutions that providers will use!

Many community-based practices are not equipped to systematically collect or use patient data

There are often limited resources to collect and use eHR or other patient data

There is an inherent inclusion bias against at-risk patients who do not often attend regular appointments and thus are not represented in our risk prediction work



References

1. National Health Council. (2021, June 15). What is the difference between health-related quality of life (hrqol) and patient-reported outcomes? National Health Council. <https://nationalhealthcouncil.org/webinars/coa-series-what-is-the-difference-between-health-related-quality-of-life-hrqol-and-patient-reported-outcomes/>
2. Agborsangaya CB, Lau D, Lahtinen M, Cooke T, Johnson JA. Health-related quality of life and healthcare utilization in multimorbidity: results of a cross-sectional survey. *Qual Life Res.* 2013 May;22(4):791-9. doi: 10.1007/s11136-012-0214-7. Epub 2012 Jun 9. PMID: 22684529.
3. Anderson G. Chronic care: making the case for ongoing care. Princeton (NJ): Robert Wood Johnson Foundation; 2010.<https://www.rwjf.org/en/library/research/2010/01/chronic-care.html>. Accessed January 6, 2020.
4. McEntee ML, Gandek B, Ware JE. Improving multimorbidity measurement using individualized disease-specific quality of life impact assessments: predictive validity of a new comorbidity index. *Health Qual Life Outcomes.* 2022 Jul 12;20(1):108. doi: 10.1186/s12955-022-02016-7. PMID: 35820890; PMCID: PMC9277868.

