Improving Evidence-Based Primary Care for Chronic Kidney Disease

Walter L. Calmbach MD MPH
South Texas Ambulatory Research Network (STARNet)
Learning Objectives

1. be familiar with the clinical relevance of managing chronic kidney disease (CKD) in primary care;

2. recognize the importance of automated electronic reminders systems in the management of CKD; and

3. be aware of research initiatives by other electronically-linked PBRN’s around the country.
Improving Evidence-Based Primary Care for Chronic Kidney Disease

- PI: Chet Fox MD
  - Upstate New York Research Network (UNYNet)

- Funding Agency: NIDDK
- Dates: 04/01/2012 - 03/30/2016
STARNet Research Priorities

- Diabetes
- Health Information Technology
- NIDDK
- AAFP NRN
- Academic Detailing (mentoring)
Background

- In the US, the prevalence of chronic kidney disease (CKD) is steadily increasing, causing sig. morbidity and mortality
- Evidence suggests that specific actions by primary care physicians can delay CKD and reduce mortality
- However, CKD is under-recognized and under-treated in primary care offices
- Clinical Decision Support (CDS) for CKD may promote effective, evidence-based care, but CDS alone may not be enough to improve quality of care
- Diabetes studies have shown improvement from a combination of CDS plus practice facilitation
The purpose of this EMR-enabled practice-based study is to conduct an intention-to-treat and process analysis between the Clinical Decision Support practices with facilitation, versus practices that only receive the Clinical Decision Support, with regard to 1) CKD progression, 2) all-cause mortality, and 3) overall cost per quality-adjusted life year (QALY)
Methods

- The practice facilitation intervention is based on an effective approach to implement the Chronic Care Model.
- Clinical Decision Support (CINA) plus having practice facilitators work with on-site teams led by physician champion.
- In addition, each practice will be assigned an academic mentor and have routine audit and feedback of key elements of evidence-based chronic kidney disease care.
- Compare Clinical Decision Support (CINA) practices with facilitation (Intervention) vs the CDS-only practices (control) on 1) CKD progression 2) all-cause mortality., and 3) overall cost per quality-adjusted life year.
Duties, Control practices

- Free CKD treatment reference guide including Glomerular Filtration Rate (GFR) treatment chart
- Point-of-Care decision support by CINA based on analysis of practice electronic health record
- Give practice consent
- Keep CINA informed of any questions or concerns in regard to the Clinical Decision Support rec’s
- Complete Human Subjects Training online course
Duties, Intervention Practices

- Clinical Decision Support *plus* Practice Facilitation
- Point-of-Care decision support by CINA
- Videoconferencing with AAFP practice facilitators
- Academic Mentoring c PI (Chet Fox, Joe Vassaloti)
- Audit and feedback of patient-level outcome reports generated by CINA
- Case studies of CKD treatment improvements
- “Best-practice” shared with all facilitated-Clinical Decision Support sites
Timeline of Activities
(Intervention practices)

- Practice Facilitation calls monthly
- Academic Mentoring calls monthly (prn)
- Audit Data Review quarterly
- Performance Enhancement semi-annually
- Report
Clinical Informatics Collaborative (Project CLIC)

- Supplement to institution’s CTSA grant
- Provided 2-year support to:
  - Recruit practices with compatible EMR’s
  - Start-up costs for CINA implementation
  - Demonstrate feasibility thru 3 clinically relevant “data queries”:
    - pediatric obesity
    - pre-diabetes
    - hypertension
3 Major Innovations

1) TRANSLATE:
Adapting the TRANSLATE method for implementing the Chronic Care Model that was effective in diabetes care to CKD.

<table>
<thead>
<tr>
<th>FULL TRANSLATE</th>
<th>PROVIDED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>CINA</td>
</tr>
<tr>
<td>Registry/Reminder</td>
<td>CINA</td>
</tr>
<tr>
<td>Administrative buy-in</td>
<td>Informed consent of practices</td>
</tr>
<tr>
<td>Network information systems</td>
<td>CINA</td>
</tr>
<tr>
<td>Site coordination</td>
<td>Practice Facilitation</td>
</tr>
<tr>
<td>Local Physician Champion</td>
<td>Practice Facilitation</td>
</tr>
<tr>
<td>Audit and Feedback</td>
<td>Practice Facilitation</td>
</tr>
<tr>
<td>Team approach</td>
<td>Practice Facilitation</td>
</tr>
<tr>
<td>Education</td>
<td>Practice Facilitation</td>
</tr>
</tbody>
</table>
TRANSLATE elements used in all participating practices:

- **Target** (e.g., BP <130/80, HbA1c < 7.0, LDL< 100, use ACE inhibitor or Angiotensin II Receptor Blocker (ARB), refer to nephrologist for GFR < 30, smoking cessation, avoid NSAIDS or COX-2 inhibitors)
- **Registry, reminder**
- **Administrative buy-in**
- **Network information systems**
TRANSLATE elements used in facilitated practices:

- Site coordination
- Local MD champion
- Audit and Feedback
- Team Approach
  - Quality Improvement team
- Education
  - “Academic Mentoring”
Audit and Feedback

- CINA will generate practice-, clinician-, and patient-level outcome reports for intervention practices on 7 performance measures:
  - BP, HbA1c, LDL, use of ACEI/ARB, referral to a nephrologist, smoking cessation, and avoid NSAID or COX-2 inhibitor
- Quarterly reports reviewed with National Research Network practice facilitator by videoconference:
  - Share practice-level performance data
  - Share “what works” at other participating sites
Clinical Decision support

2) Generalizable Clinical Decision Support system: the point-of-care computerized decision support protocol engine is integrated with multiple EHRs
Practice Facilitation

- Managed by AAFP NRN staff
- Monthly conference calls with site coordinator, MD champion, QI cmte
- Quarterly performance reports
- Shared “best practices”
- Access to “academic mentoring” as needed
DARTNet (Distributed Ambulatory Research and Therapeutics Network)

3) DARTNET: Tracking in an efficient & longitudinal manner a very large population over a long period of time in “real world” practices through DARTNet allows both group level randomized RCT’s as well as population-based economic analyses, conducted in the same study.
CINA (Clinical Integration Networks of America)

- CINA software collects, standardizes and synthesizes data from multiple EHR vendors.
- CINA provides a set of tools for clinical decision support, quality improvement, and data aggregation for reporting.
- The Point-of-Care reminder system provides a synthesis of data for each pt using >30 algorithms based on the US Preventive Services Task Force guidelines and evidence-based guidelines for multiple chronic diseases (HTN, DM, CHF, etc.)
AAFP National Research Network Center of Excellence

- Funded by the Agency for Healthcare Research & Quality (AHRQ)

**Specific Aim 1:** Advance two national, multi-vendor, electronic health record data-enabled practice-based research networks, eNQUIRERENet and CoNNECT

**Specific Aim 2:** Advance the DARTNet Collaborative, a group of national and regional networks using EHR’s and standardized data to improve research methods.

**Specific Aim 3:** Engage clinicians in both national and regional networks in projects that do not require the DARTNet Collaborative data systems.
Future Directions

- Enable more STARNet practices to choose and adopt an EMR
- Assist practices with “Meaningful Use” and Pay-for-Performance initiatives
- Help practices implement the Patient Centered Medical Home
- Use Integrated Data Repository to assist researchers on campus address clinical issues of interest to member physicians
- Continue partnership with AAFP NRN / DARTNet