A Preliminary Evaluation of the KidneyWise Clinical Toolkit For Primary Care

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Evidence-Informed Clinical Practice
Disclosure

I have the following relevant financial relationships to disclose:

• Consultant for: CCO – Ontario Renal Network
It isn’t that hard to create a guide or tool to enhance health care
What’s hard is getting people to use it.
This is the story of our journeys with KidneyWise and the CKD pathway so far, and what we’ve learned along the way.
About the Ontario Renal Network

• Responsible for overseeing and funding the delivery of chronic kidney disease (CKD) services across Ontario

• A ‘network’ of all the kidney care programs in Ontario

• Delaying the progression of CKD to end stage kidney disease, while improving access to care and services for those living with the disease in Ontario is a main priority

• Ontario Renal Plan II is a roadmap that outlines how the Ontario Renal Network (ORN) will try to improve the lives of those living with CKD
Why Should CKD Be Important to Primary Care?

• ~ 90% of CKD cases are at low risk of progression and can be followed by a Primary Care Provider (e.g. family physician, nurse practitioner)

• Early identification and treatment can prevent/delay End Stage Renal Disease (ESRD)

• Comorbid cardiovascular disease risk reduction/management (e.g. DM, CAD/CHF)

• Referral of patients at increased risk of progression to advanced stages of CKD to nephrology
Why Develop a CKD Clinical Tool for Primary Care?

- CKD resources required based on feedback from:
  - 2012 Primary Care Provider (PCP) needs assessment
    - 340 respondents were interested in improving their CKD knowledge
    - Access to reference tools/ decision aids centered on evidence-based clinical practice guidelines was ranked highly
  - 2013 environmental scan
    - Completed to review clinical toolkits available to PCPs
    - As a result, a gap in CKD resources for PCPs became apparent
Why Develop a CKD Clinical Tool for Primary Care?

• Feedback from nephrologists suggests a gap in CKD knowledge
  • Suboptimal medication, CKD testing, # of referrals
  • Anecdotal evidence

• In response, the ORN KidneyWise Clinical Toolkit was created
Key Features of An Effective Tool

Point of care tool

Practical
- Enhance patient care
- Integrate into clinical care

Pathway Characteristics
- Harmonize with other Canadian CPGs
- Feasible

EMR compatible

Target primary care
KidneyWise Clinical Toolkit

- **Clinical Algorithm** that helps with identification, detection, and management of patients with CKD and guidance on which patients may benefit from referral to a nephrologist

- **Evidence Summary** that offers further clinical detail regarding the algorithm content, including references to clinical guidelines that were used in the development of the toolkit

- **Outpatient Nephrology Referral Form** that provides referral guidance by outlining clinical scenarios that would require consultation with a nephrologist along with the appropriate investigations that should accompany the referral
Identification, Detection, and Management of CKD in Primary Care

**IDENTIFY**

Identify patients in your practice with elevated risk of CKD based on the following:
- Hypertension
- Diabetes mellitus
- Age 60-75 with cardiovascular disease (CV)

**DETECT**

- CKD detection should be done in the absence of acute intercurrent illness. Low eGFR (estimated Glomerular Filtration Rate) in such scenarios may reflect acute kidney injury and require more rapid evaluation.
- Test with eGFR and urine ACR (Albumin to Creatinine Ratio).
- Note: eGFR calculation needs to be adjusted for black patients (multiply eGFR by 1.21).
- If eGFR < 60mL/min/1.73m², repeat test in 3 months, or sooner if clinical concern dictates (i.e. rapid decline from previous eGFR result or very low eGFR).
- If urine ACR ≥ 3mg/mmol on initial testing, repeat 1 or 2 more times over the next 3 months (at least 2 out of 3 random urine ACRs must be elevated in order to be considered abnormal).
- Always consider reversible causes prior to re-testing (e.g. recent treatments with NSAIDs, recent use of contrast dye for diagnostic imaging, BPH/urinary retention).

**Results after 3 months**

**Box A eGFR < 30 or ACR > 60**
- Patient has CKD
- Based on above parameters, consider seeking consultation from nephrology

**Box B eGFR 30–59 and/or ACR 3–60**
- Patient has CKD
- See Manage box below for management
- Check urine R+B, electrolytes
- Follow eGFR & urine ACR every 6 months

**Box C eGFR ≥ 60 and ACR < 3**
- Patient does not have CKD
- Re-test annually for patients with diabetes, less frequently otherwise, unless clinical circumstances dictate more frequent testing
- If eGFR stable for 2 years, follow eGFR and urine ACR every 12 months

**Implement measures to modify CV risk factors**
- Lifestyle modification, smoking cessation
- Lipid management for patients with CKD (see KDIGO guidelines for further details):
  - If with diabetes, age ≥ 18 → treat with a statin
  - If without diabetes, age ≥ 50 → treat with a statin
  - If without diabetes, age 40-79, has known coronary artery disease, prior stroke, or 10-year Framingham risk ≥ 10% → treat with a statin
- For patients with diabetes, target HbA1c to appropriate level (see CDA guidelines)

**Minimize further kidney injury**
- If possible, avoid nephrotoxins such as NSAIDs, IV and intra-arterial contrast, etc. (if eGFR < 60)
- If contrast is necessary, consider oral hydration, withholding diuretics
- Refer to Sick Day Medication List (see Evidence Summary)

**Implement measures to slow rate of CKD progression**
- BP and RAAS blockade (repeat creatinine and potassium 7 weeks after initiation of ACEI or ARB use):
  - If with diabetes, target BP < 130/80, otherwise target BP < 140/90
  - If with diabetes and with ACR > 3, start use of an ACEI or ARB as first-line therapy. If BP already < 130/80, use ACEI or ARB cautiously, monitoring for signs and symptoms of hypotension
  - If without diabetes, ACR > 30 and BP > 140/90, start use of an ACEI or ARB as first-line therapy

**Contact**
kidneywise.ca
Outpatient Nephrology Referral Form

Date of referral: __/__/__

Is this a re-referral? [ ] Yes [ ] No
Name of previously seen nephrologist: _______________________

Recommended Reason for Referral:
- eGFR < 30 ml/min/1.73m² on 2 occasions, at least 3 months apart
- eGFR < 45 ml/min/1.73m² and urine ACR between 30 and 60 mg/mmol on 2 occasions, at least 3 months apart
- Rapid deterioration in renal function (eGFR < 60 and decline 5 ml/min within 6 months, confirmed on repeat testing within 2-4 weeks on 2 occasions)
- Proteinuria (urine ACR > 60 mg/mmol on at least 2 of 3 occasions)
- Hematuria (> 20 RBC/hpf or RBC casts)
- Resistant or suspected secondary hypertension
- Suspected glomerulonephritis/renal vasculitis
- Metabolic work-up for recurrent renal stones
- Other: _______________________

Additional comments: _______________________

Co-morbid Conditions:
- Diabetes mellitus
- Coronary artery disease
- Hypertension
- Frailty
- Previous stroke
- Cognitive impairment

Lab Values:
Please fill out below if applicable; refer to the ORN KidneyWise Clinical Algorithm for suggested investigations

<table>
<thead>
<tr>
<th>Date</th>
<th>eGFR</th>
<th>Creatinine</th>
<th>Urine ACR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date 2</td>
<td>eGFR</td>
<td>Creatinine</td>
<td>Urine ACR</td>
</tr>
<tr>
<td>HbA1c</td>
<td>Hgb</td>
<td>K+</td>
<td>Ca²⁺</td>
</tr>
<tr>
<td>PO₄⁻³</td>
<td>Albumin</td>
<td>PTH</td>
<td>Hematuria (dipstick):</td>
</tr>
</tbody>
</table>

Other (or attach): _______________________

Current Medications:

<table>
<thead>
<tr>
<th>Referring practitioner/address/phone/fax:</th>
<th>Referring billing #:</th>
</tr>
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</table>

Signature: _______________________

Ontario Renal Network
Accessing KidneyWise

kidneywise.ca
Chronic Kidney Disease (CKD) Clinical Pathway

Testing should be targeted for individuals at increased risk of developing CKD.

Who is at Risk
- Hypertension
- Diabetes Mellitus
- Family history of Stage 5 CKD or hereditary kidney disease
- Vascular disease (prior diagnosis of CVD, stroke/TIA or PVD)
- Multisystem disease with potential kidney involvement (e.g. SLE)

Go to www.CKDPathway.ca to diagnose CKD
Dissemination and Engagement Strategy

Provincial leadership

Regional leadership (kidney programs)
Dissemination and Engagement: Provincial (May-Dec 2015)

- 41 tweets
- 31 LinkedIn posts
- 7 event booths
- 6 presentations
- 4 articles
- 1 email blast

Come visit ON Renal Network KidneyWise booth #708. Get CKD toolkit for primary care. Learn more Nov. 14 11:15 Rm401 https://t.co/UW3zLPMj0p

#PrimaryCare Providers: Did you know the #KidneyWise Toolkit is available in #App format? https://t.co/sWgCkWuzms https://t.co/lvbNnv34wH

Ontario Renal Network
Dissemination and Engagement: Regional (May-Nov 2015)

- Presentations to primary care
- Mail-outs
- Partner with primary care networks
- Share with students / residents
- Share with nephrologists
- Tell primary care providers (1:1)
- Referral feedback
Evaluating KidneyWise

• We are evaluating adoption and impact of the KidneyWise Toolkit
• The evaluation is being led by credentialed evaluators at Cathexis Consulting Inc.
• The evaluation will help us improve both the Toolkit and our dissemination/engagement strategy

Core evaluation methods

Tracking dissemination activities

- Website analytics
- Interviews with regional leads
- Nephrologist survey
- Pilot research project
What We Have Learned

Continued efforts are needed to:

1. **Raise awareness** among primary care providers
2. **Convince them** that KidneyWise is important
3. **Make it easy** for them to integrate it into their practice
1. Raising Awareness Requires Intensive, Varied and Sustained Effort

- No single method is effective on its own.
- Continued, intensive promotion is needed to sustain interest.

Page views from May to December 2015
2. A Direct Ask From a Nephrologist is Powerful

There was a marked difference in uptake of the KidneyWise referral form, depending on whether a nephrologist had told PCPs about KidneyWise.

58% of nephrologists who had told PCPs about KidneyWise had received referrals using the KidneyWise form

Compared with 21% of nephrologists who hadn’t shared KidneyWise with PCPs

Data from November 2015 nephrologist survey
3. Connecting With Primary Care Leaders is Key

**Barrier:** Few pre-existing channels for communicating with primary care providers in the regions

**Enabler:** Engage regional program leaders to leverage their relationships and credibility with primary care providers

*Data from November 2015 interviews with regional leads*
4. Integration Into Day-to-Day Tools Would Be Ideal

- Primary care providers appreciate that KidneyWise is available in different formats.
- Embedding KidneyWise into EMRs would make it easier for providers to use it.

Data from November 2015 interviews with regional leads.
Enhanced communication between:

(i) primary care team members
(ii) the primary care team and specialist / specialty clinic, and
(iii) healthcare providers and patients.

Providers saw the pathway as a credible tool that provided knowledge and training to help facilitate behaviour change in the care of patients.

81% of healthcare providers reported increased knowledge and confidence in the care of patients with CKD (screening, diagnosis, management, and referral).

94% of healthcare providers agreed/strongly agreed that the CKD pathway provided useful information.
CKD Clinical Pathway – Preliminary Evaluation

The TOP 5 web-pages of interest:

- Home
- Diagnose
- Medical Management
- Who and How to Test
- Referral

Data from November 2014 to December 2015

- 64% New Users
- 36% Return Users

- 82% from Canada
- 8% from Indonesia
- 3% from USA
Next Steps

EMR Integration

- Integration of the ORN Outpatient Nephrology Referral Form into major primary care EMRs
  - PS Suite, Nightingale, OSCAR, Accuro
- Integration of Alberta CKD Pathway with e-Referral
  - Hyperlink with lab results in EMRs

ORN Regional Primary Care Engagement Plans

- Promote KidneyWise and CKD care among primary care providers
- Enhance relationship between primary care providers and nephrologists to appropriately manage patients with advanced stages of chronic kidney disease
Visit us!

kidneywise.ca

www.ckdpathway.ca
Thank you

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