IMPLEMENTING PATIENT-CENTERED INTERVENTIONS IN PRACTICE:
CASE STUDY OF ACUTE KIDNEY INJURY

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WHAT IT’S LIKE TO BE A CLINICIAN
WHAT IT’S LIKE TO BE A PATIENT
OBJECTIVES

• Articulate the current gaps in acute kidney injury (AKI) survivor care
• Contrast existing care delivery models for AKI survivors
• Discuss solutions to improve AKI care
SPECTRUM OF KIDNEY HEALTH

NKD: No kidney disease
AKI: Acute kidney injury
AKD: Acute kidney disease
CKD: Chronic kidney disease

ACUTE KIDNEY INJURY

Risk factors

• Chronic: Age, CKD, liver disease, heart disease/heart failure, high blood pressure, diabetes mellitus
• Acute: Sepsis, surgery, shock, dehydration, mechanical ventilation, exposure to toxic medications, blood loss

Common, detrimental and costly

• 20-67% incidence in the hospital; greater in ICU
• 6.5-fold increase in risk of death
• 3.5-day increase in length of stay
• Incremental cost: $150 million/year

CKD: Chronic kidney disease
SOME FATES WORSE THAN DEATH

80-90% an AKI episode

CKD/ESRD 15-30%

CVD 1.9-fold

Readmission 49%

↓ QOL

CKD: Chronic kidney disease
ESRD: End-stage renal disease
CVD: Cardiovascular disease
QOL: Quality of life


GAPS IN CARE QUALITY

Patient Awareness and Education
Communication
Care Transitions Support
SURVIVOR SURVEY

“Did you experience AKI while in the hospital?”

20% Aware

7% of Unaware received dialysis

AKI: Acute kidney injury
Image copyright Shutterstock
SURVIVOR SURVEY

Knowledge of AKI Risk Factors

- **Infection** (~50%)
- **Volume depletion** (~50%)
- **NSAIDs** (~50%)
- **Iodinated contrast** (~50%)
- **Phosphate cathartics** (~50%)

DISMISSAL SUMMARY ADEQUACY

- Occurrence
- Cause
- Course
- Care plans
- Follow-up

Greer, et al. BMC Health Serv Res 2016;16:449
DISMISSAL SUMMARY ADEQUACY

Occurrence: 44%
Cause: 43%
Course: 31%
Care plans: 15%
Follow-up: 80%

GAPS AT CARE TRANSITIONS

Lack basic clinical and laboratory follow-up in 30-days

30%

GAPS IN CARE TRANSITIONS
NEPHROLOGIST FOLLOW-UP

Nephrologists’ Opinions

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<td>&gt;60% above baseline</td>
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<td>Full recovery</td>
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<td>Pre-existing CKD</td>
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Observed Practice

- 95% CI

DISCUSSION

• What really is the problem in this scenario? Does it need solving?
• What are the contributors to the gaps in care?
• What are some solutions for the identified gaps?
Participants in AKI rehabilitation program
• Provided inpatient AKI education + self-management training
• Expedited outpatient AKI clinic appointment provided within 1-3 weeks of discharge

AKI clinic visit, ideally within 1-3 weeks of discharge
• Education reinforced, medication reconciliation, additional support, specialist referrals, goals of care discussion, dialysis education
• Focus on electrolyte and volume management, and nephrology relevant discharge recommendations

Case management services where needed:
• Phone calls at least once a week for 1 month
• At least monthly phone calls for 2 months if patient not transitioned

Monthly visits x 3 if needed

Transition care to CKD nephrology clinic or primary care

DISCUSSION

• What are the pros/cons of this care delivery model?
PATIENT BARRIERS
E.G. FUSION RCT

Patients eligible to participate n=269

Randomized n=71

Reason for declining (n=198)
65 Hospitalization-related fatigue
59 Too many doctors
40 Travel time
34 Other

AKI follow-up clinic (n=34)
24 visited clinic (of which 4 were within 30-days and 22 were within 90-days)
Included in analysis of primary outcome (n=34)
3 Lost to follow-up
1 Withdrawn
MAKE at 1 Year 44%

Usual care (n=37)
3 saw a nephrologist (of which 0 were within 30-days, 2 were in 90-days)
Included in analysis of primary outcome (n=37)
4 Lost to follow-up
MAKE at 1 Year 43%

Redrawn from Silver S et al: CJASN 2021;16(7):1005-14
PROVIDER BARRIERS

TIMELINESS
“Well, I’d probably have [nephrology] involved earlier than what currently happens, but the availability of nephrology is so bad that I often end up doing things, caring for patients probably way too long before they can get into nephrology.”

GOALS OF CARE
“…In my geriatric population, I personally have very rarely referred to Nephrology… I think initial follow-up can easily be done in primary care with repeat labs and with good education with the patient and making sure that they’re not on the medicines they shouldn’t be on.”

CONTINUITY
“I feel pretty strongly that, if my patient has been admitted to the hospital, I would like to see them in the outpatient setting because I’m the one that knows them and should be coordinating their care…I think for something like this, to avoid dropped balls, having continuity is really important.”

ACUTE KIDNEY INJURY IN CARE TRANSITIONS (ACT)

Control group (usual care)
- Non-standard AKI identification
- No formal kidney education
- Follow-up per provider preference if at all

Intervention group (AKI in Care Transitions; ACT)
- EHR trigger Detects AKI
- Inpatient nephrology nurse visit
  Education, care coordination
- Coordinated follow-up
  Laboratory assessment
  PCP/PharmD visit
  +/- Nephrologist

Mixed methods study of the feasibility, fidelity, and acceptability
THEORETICAL FRAMING AND ANALYSIS STRATEGY

• Mixed methods: Quantitative (trial metrics, surveys), qualitative (interviews, video recordings of encounters)

• Consolidated Framework for Implementation Research

• Core implementation outcomes
  • Feasibility
  • Fidelity
  • Acceptability

PRELIMINARY DATA

Feasibility
• 42% of patients approached agreed to be randomized (N = 50)
  • Declines cited concerns about time commitment and feeling overwhelmed
• 1 withdrawal

Fidelity
• >75% of intended follow-up occurred

Acceptability
• Favorable survey and interview responses
• Difficult to distinguish from usual practice (uncertain relative advantage); perhaps due to behind the scenes work by study team
MAKING CARE FIT

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• Identify a health problem relevant to your team
• Discuss solutions that consider diverse perspectives (i.e., patient, clinician, system)
• Integrate theory where possible
• Propose next steps