Agricultural Communities

CKD

Identify causes and individual susceptibilities

Environmental exposures
Water, Pesticides, Metals, Smoke, Climate

Drugs: NSAID, anti-helminths

Occupations

Genetics
Epigenetics

Drug treatments

Animal studies
For causation

Rodents, Fish
Insects, organoids, chips

Screening
Toxicology

Prevention

Population based intervention

Key questions

What are exposureS?

What is the natural historyS?

Other animals with syndromeS

Timing of exposure and life stage of exposure

Role of acute vs chronic exposure? AKI?

Why are hot spots hot? Cold spots (Cuba)

Do improved work practices decrease risk?

What has changed

What are gaps

Identify causeS and individual susceptibilitieS

Tools needed

Engagement: Multiple levels

Laboratory biomarkers

Mechanistic/Toxicological biomarkers

Recognize and Reduce bias

Early BM

Blood and urine samples for future BM

Renal biopsy

Nephron endowment

Clinical research

Walk through

Longitudinal cohort

Progression

Prognosis

Who

Adolescents

Adults

Other Family members (who gets disease)

Other features

Case/Cohort

Case definitions
CDE

Ethics / Trust

Engagement:
Multiple levels

Tools needed

Sensors: wrist, fluid, remote, ..

Community assessment

Recognize and Reduce bias

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Blood and urine samples for future BM

Renal biopsy

Nephron endowment

Community based

Case/Cohort

In USA? Spouses

What to measure?

Renal biopsy

Nephron endowment

Leveraging existing studies with new designs

Identity controls (future cases?)

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