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Leveling the Field: Introduction to research concepts and terms

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Board of Directors, **Kidney Health Initiative**
Associate Medical Director, **Naphcare**

Disclosures: None

Design

- Identify problem(s)
- Formulate research question(s) and hypotheses
- Design strategy
  - cohort study, clinical trial, interview/focus group(s)
- Develop proposal outlining the protocol (plan)
  - recruitment, data collection, analysis, and dissemination plans
  - consider obtaining dialysis organization input
- Secure research funding
- Obtain Institutional Review Board (IRB)
- Obtain dialysis organization approval to conduct study in clinic(s) including legal contracting

Conduct

- Train clinic staff on protocol
- Obtain Informed Consent, then recruit study participants
- Collect study data
  - Medical record information, blood samples, interviews
- Analyze study data and interpret findings
- During conduct, consider need for re-trainings of clinic staff and/or updates to participants and facilitators

Disseminate

- Share key findings with important stakeholders (e.g., patients, clinicians, administrators, policymakers)
  - Manuscripts published in journals
  - Presentations, conferences, and meetings
  - Tools and resources
  - Websites, social media
- Provide follow-up to participants and facilitators
- Identify areas for future research and potential collaborators, funders

Courtesy of Dr. Jenny Flythe

Key Steps in the Dialysis Research Process

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Definitions

- Clinical study = research using human volunteers (aka participants, subjects) with the goal of adding to medical knowledge & public health

- Intervention = the thing being tested, like a new medication, procedure or program
  - If the intervention is a substance or drug, we refer to it as an Investigational Product, or IP

Types of Clinical Studies

Interventional Study (aka Clinical Trial)	Observational Study	Qualitative Research
Patients get assigned, or randomized, to an intervention group, and the intervention may be a: 1. a drug or device 2. Procedure 3. Changes to a participant's behavior, e.g. Diet	Assess health outcomes according to groups, who are *not assigned to an intervention* as part of the protocol…but they are grouped by the intervention **as part of routine medical care**	**Uses observation to collect data** in the form of truthful reporting, quotations, interviews, focus groups, surveys
Goal: determine the **safety & efficacy** (how well it works)	Goal: learn more about the **effects of an intervention**	Goal: gain a deeper understanding of **behavior or patterns in a group of people**
Ex: compare a **new phosphate binder** to one that is already approved, like sevelamer Outcome of Measure: phosphorus levels	Ex: we looked at the last 200 patients **who got either an AVG or HD catheter placed**, to understand infection rates within the first 60 days after placement Outcome of Measure: # of infections	Ex**: interview FSGS patients** to understand their symptoms, and develop Patient Reported Outcome Measures (e.g. leg swelling) Outcome of Measure: symptoms

https://www.clinicaltrials.gov/ct2/about-studies/learn and https://web.csulb.edu/~msaintg/ppa696/696quali.htm accessed on 1 April 2018

Clinical Studies

- **Who conducts them?**
  - Research teams (MD, RN, social workers, healthcare professionals), led by the Principal Investigator (usually an MD)
- **Where are they performed?**
  - Outpatient clinic, Dr.'s office, hospital, dialysis unit
- **How are they performed?**
  - According to the protocol, which receives input from the FDA, and must approved by IRBs (Institutional Review Boards)

https://www.clinicaltrials.gov/ct2/about-studies/learn accessed on 1 April 2018

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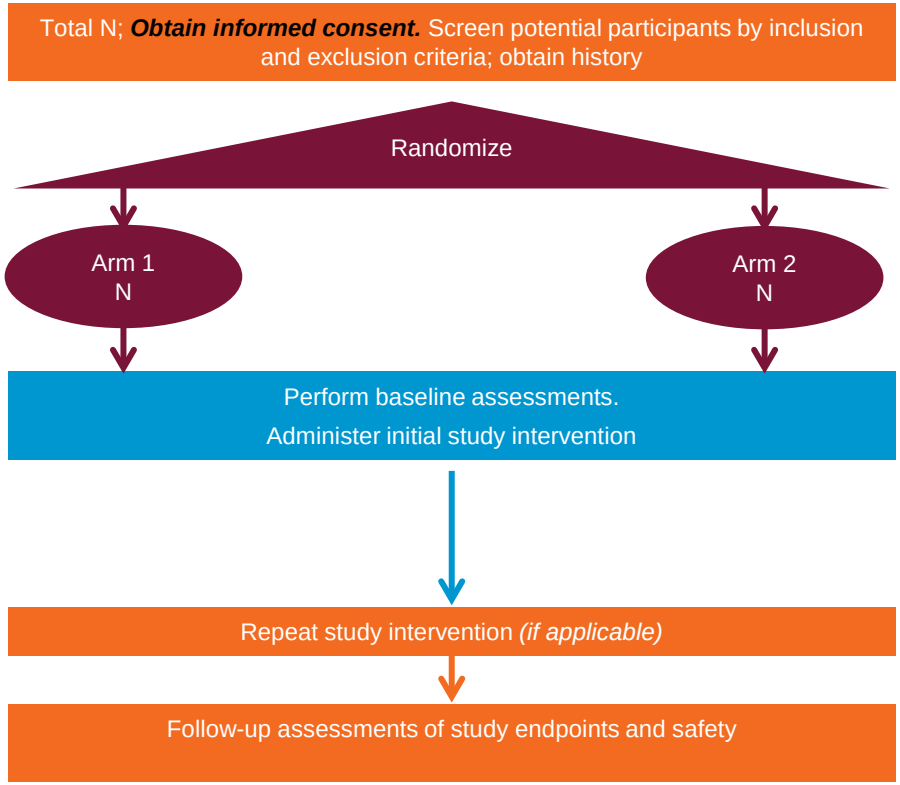
Prior to Enrollment



Visit 1 Time Point

Visit 2 Time Point

Visit 3 Time Point

*The Protocol describes the **why, who, what, and how** of the study*

https://www.niams.nih.gov/sites/default/files/files/Protocol_Template_V1.0_040717.pdf accessed on 1 April 2018

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"The Rights, Safety, and Well-being of the Trial Subjects Are the Most Important Considerations and Should Prevail Over Interests of Science and Society"

From FDA's Guidance on Good Clinical Practice

US Federal Agencies	Informed Consent Form (ICF)	Institutional Review Board (IRB)	Independent Data Safety & Monitoring Boards (DSMB)
• FDA & NIH oversee most medical research • **Inspect** institutions, individuals, research sites, drug manufacturing sites, IRBs • Selected **FDA Guidance documents that cover Good Clinical Practice & Clinical Trials**: n=50 (12 just for ICF/IRB)	• Information provided by researcher • **Explains risks & potential benefits** • its really a ***process*** to ensure patient understands	• MDs, researchers, community members • Role: **ensure trial is ethical & rights and welfare of subjects are protected** • **Review protocol & will suggest changes to ICF** • Risks are minimized & reasonable compared to potential benefits	• In many studies but not all • Meet at pre-specified intervals to **review data on subjects** during the trial • Can recommend if a trial needs to be stopped early

https://www.ciscrp.org/wp-content/uploads/2017/08/Should-I-Participate-3.pdf accessed on 1 April 2018
https://www.clinicaltrials.gov/ct2/about-studies/learn accessed on 1 April 2018
https://www.fda.gov/ScienceResearch/SpecialTopics/RunningClinicalTrials/ucm219433.htm#IRBs and
https://www.fda.gov/downloads/Drugs/Guidances/UCM464506.pdf accessed on 2 April 2018

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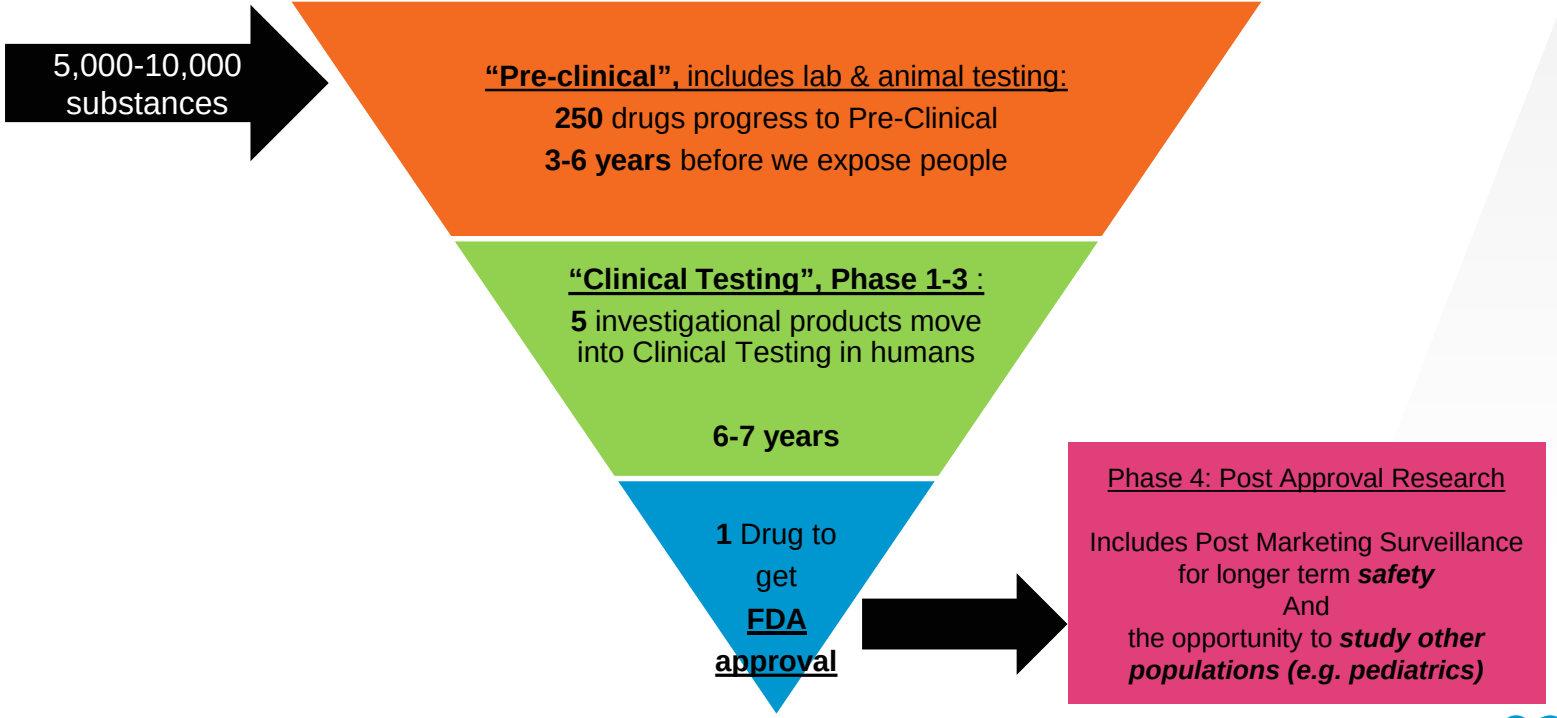
Path to Drug Approval is Costly ($2.6 billion) and Long (10+ years)



http://houghear.org/wp-content/uploads/2016/04/FDA-Clinical-Trial-Chart.jpg
accessed on 1 April 2018

Amicus brochure 2018, courtesy of Jayne Gershkowitz

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We conduct trials to answer questions

- New drug **safe and effective**?
- How does new intervention **compare to existing** treatment?
- **New way to use an old treatment** if easier, less side effects, more effective?
- Use of a treatment in other populations, like kids who were initially not tested

Potential *benefits* of Trial Participation?

- **Access** to novel and cutting edge research treatments
- Receive expert medical care and get **monitored more closely than usual**
- Receive care that **may not be covered** by insurance
- Empowerment: **Help other patients** like you in the future

Potential *risks* of Trial Participation?

- **Not all information is known** about investigational treatments
- Safety profile is emerging; new intervention may not be as effective as we thought
- Undergo **more tests or procedures** than usual
- **Time commitment**

https://www.ciscrp.org/wp-content/uploads/2017/08/Should-I-Participate-3.pdf accessed on 1 April 2018

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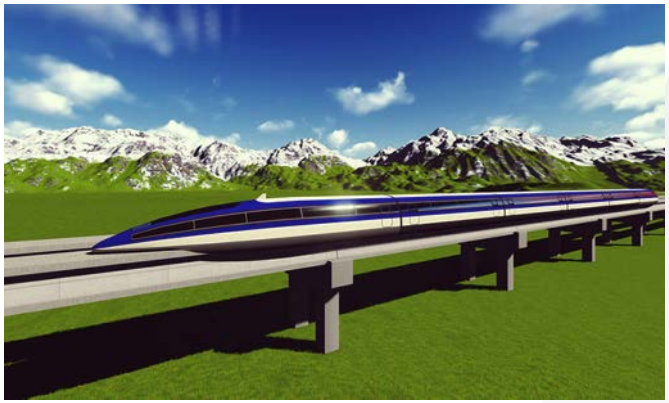
Build on the momentum



Global kidney health 2017 and beyond: a roadmap for closing gaps in care, research, and policy

*Adeera Levin†, Marcello Tonelli†, Joseph Bonventre, Josef Coresh, Jo-Ann Donner, Agnes B Fogo, Caroline S Fox, Ron T Gansevoort, Hiddo J L Heerspink, Meg Jardine, Bertram Kasiske, Anna Köttgen, Matthias Kretzler, Andrew S Levey, Valerie A Luyckx, Ravindra Mehta, Orson Moe, Gregorio Obrador, Neesh Pannu, Chirag R Parikh, Vlado Perkovic, Carol Pollock, Peter Stenvinkel, Katherine R Tuttle, David C Wheeler, Kai-Uwe Eckardt†, on behalf of the ISN Global Kidney Health Summit participants**

Table 9: **Theme 9, develop novel therapeutic interventions to slow CKD progression and reduce CKD complications**

Table 10: **Theme 10, increase the quantity and quality of clinical trials in CKD**

"As a stretch goal for the community, we propose that 30% of patients with CKD should be involved in relevant clinical trials by 2030."

Levin et al, Lancet 2017 (based on ISN's CKD Summit in July 2016)

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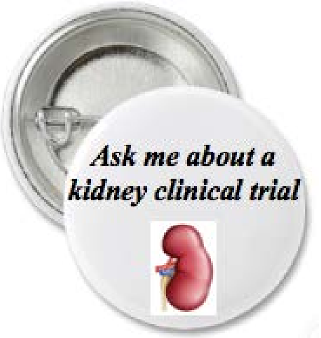
Ask me about a
kidney clinical trial


I participated in a
kidney clinical trial


thank you
danke
謝謝
ngiyabonga
teşekkür ederim
gracias
спасибо
Баярлалаа
рахмат
dank je
tapadh leat
mochchakkeram
go raibh maith agat
dziękuję
bedankt
obrigado
sukriya
kop khun krap
terima kasih
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