

Young Women's Health: Supporting Adolescents, Young Adults & Their Families

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Eunice Kennedy Shriver National Institute
of Child Health and Human Development

Healthy pregnancies. Healthy children. Healthy and optimal lives.



Objectives

- Background
- Scientific interests
- Vision
 - As leader - new Clinical Director
 - New scientific initiatives and programs
 - Aligning with NICHD Strategic Plan



My Story



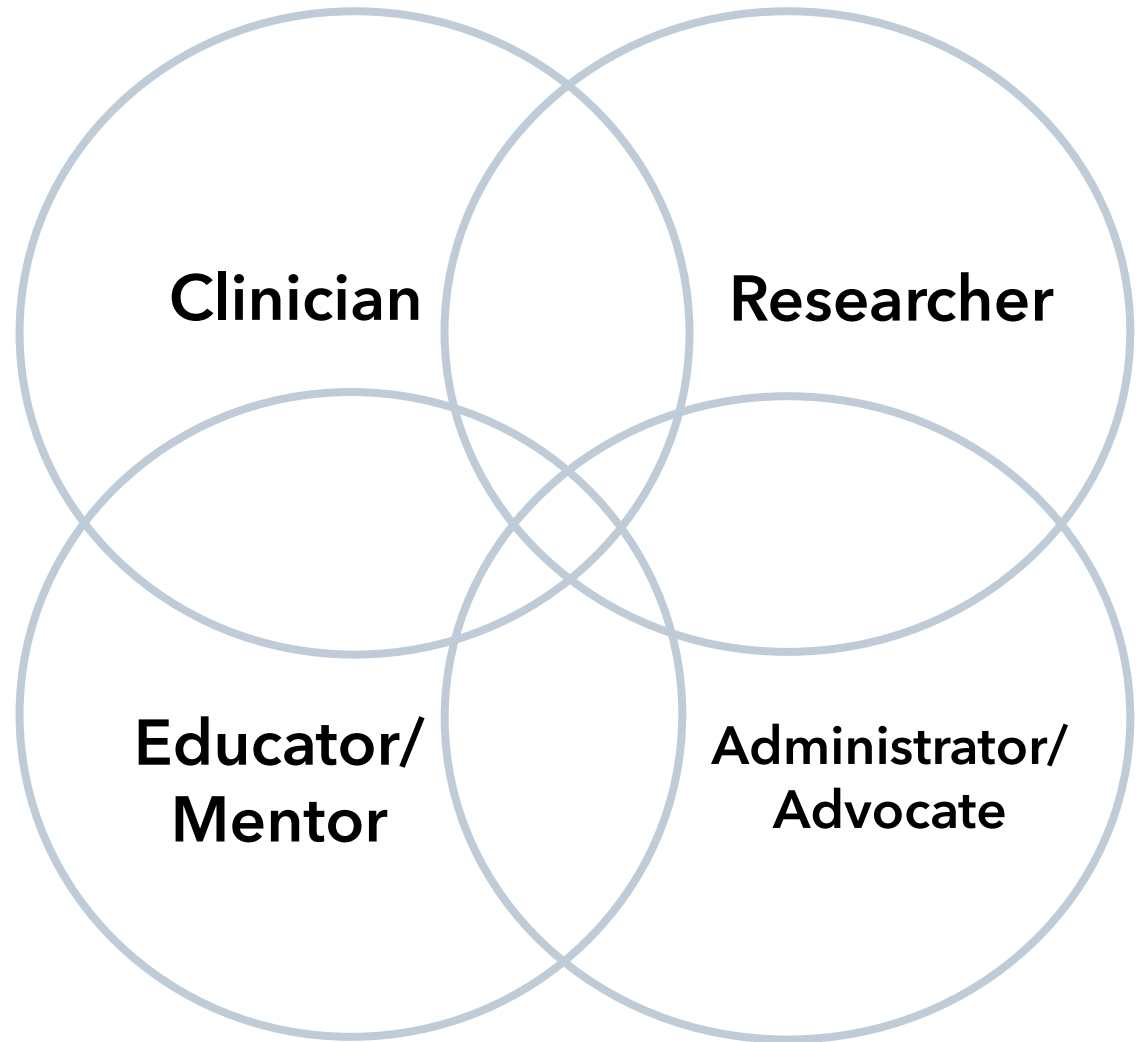
- Originally from North Carolina
- Both parents were teachers
 - Law professor & high school English teacher
- BS - Biochemistry - NC State University (Caldwell Scholar)
- MD - UNC-Chapel Hill (NIH-funded stipend to pursue year in basic laboratory)
- Pediatrics residency - Boston Children's Hospital (BCH)
- Dual fellowship - Pediatric Endocrinology/Adolescent Medicine - BCH
- MS - Clinical Investigation - Harvard Medical School



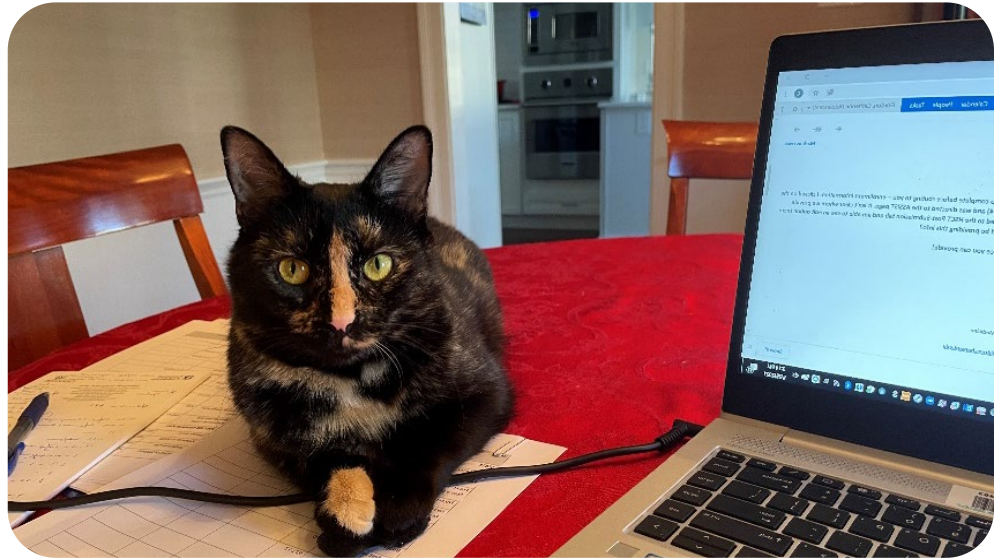
Down my memory lane...

- Summer intern at the National Library of Medicine (college student)
- Volunteer in Building 10 - NIH Clinical Center
- Confirmed my interest in career in medicine and research

**Catherine
Gordon,
MD, MS**



My Family

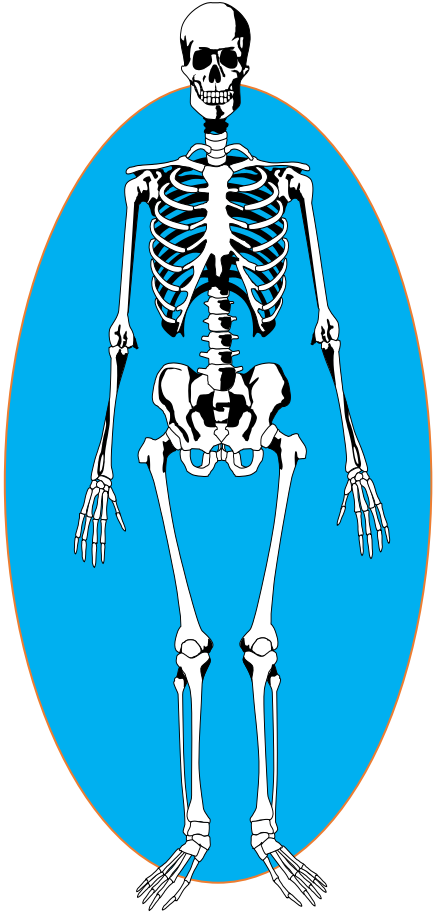
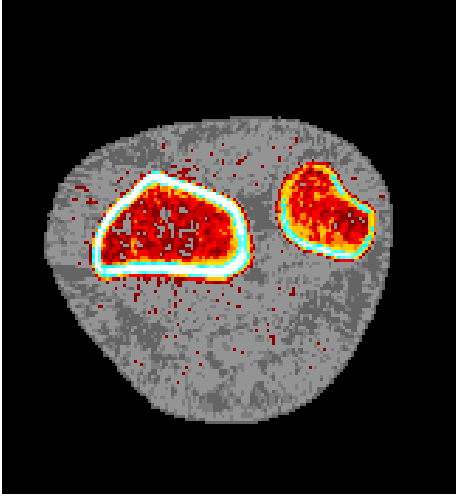


- Sensitive to work/life balance issues
- Caregiving vs. career demands (rewarding & challenging)
- For both junior/senior scientists
 - Promoting career development + wellness

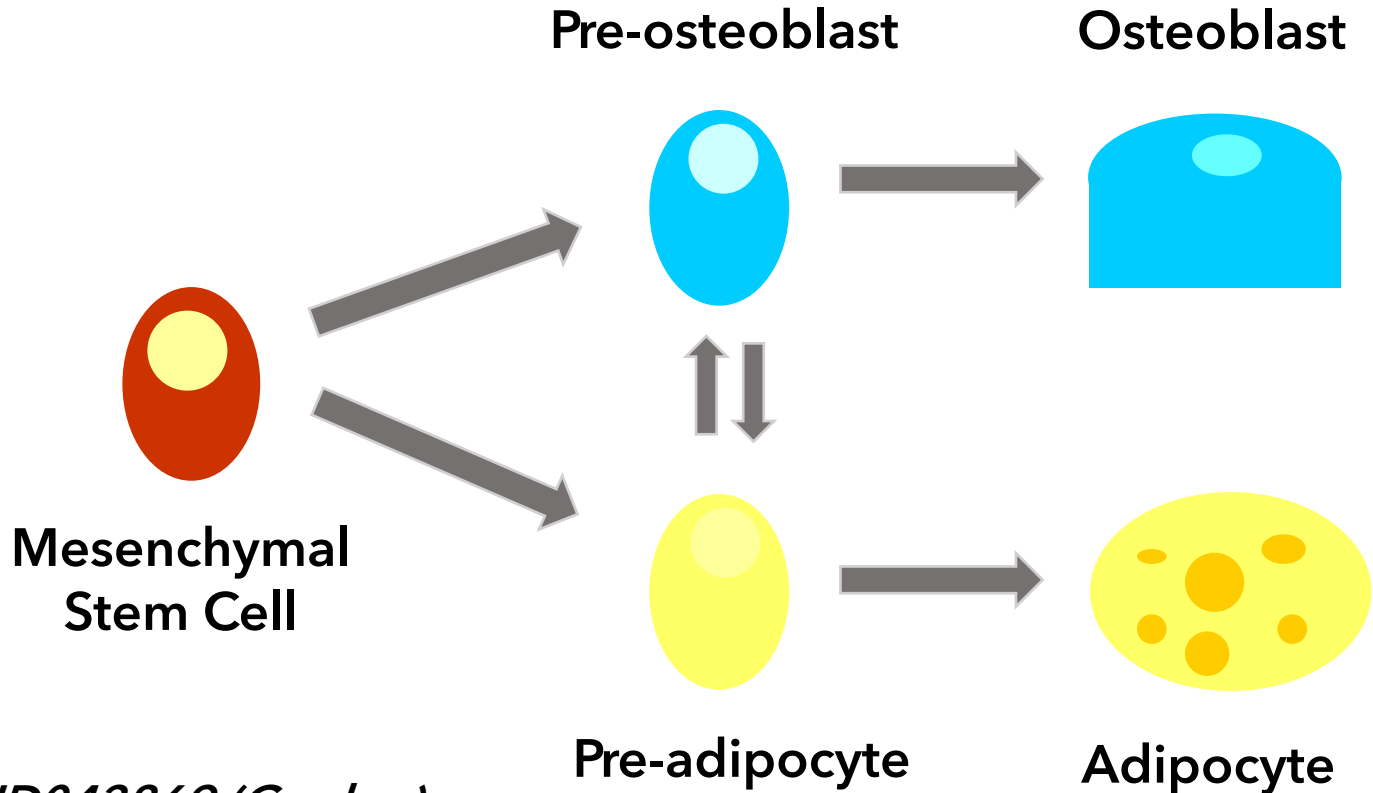
My scientific interests...



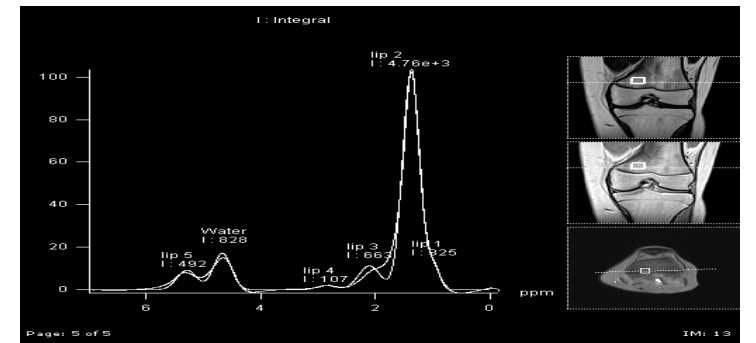
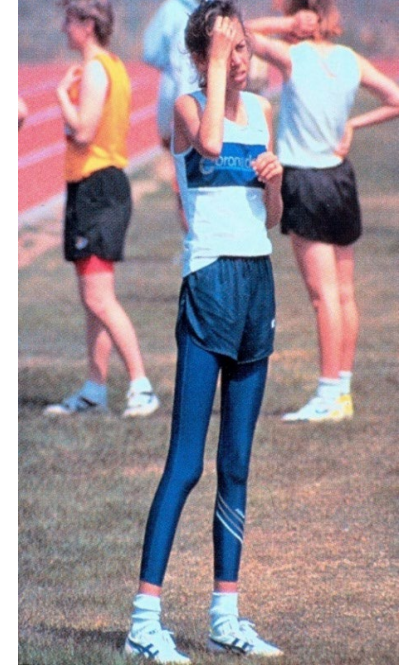
Pediatric/Adolescent Bone Health (new field in pediatrics)



Anorexia Nervosa

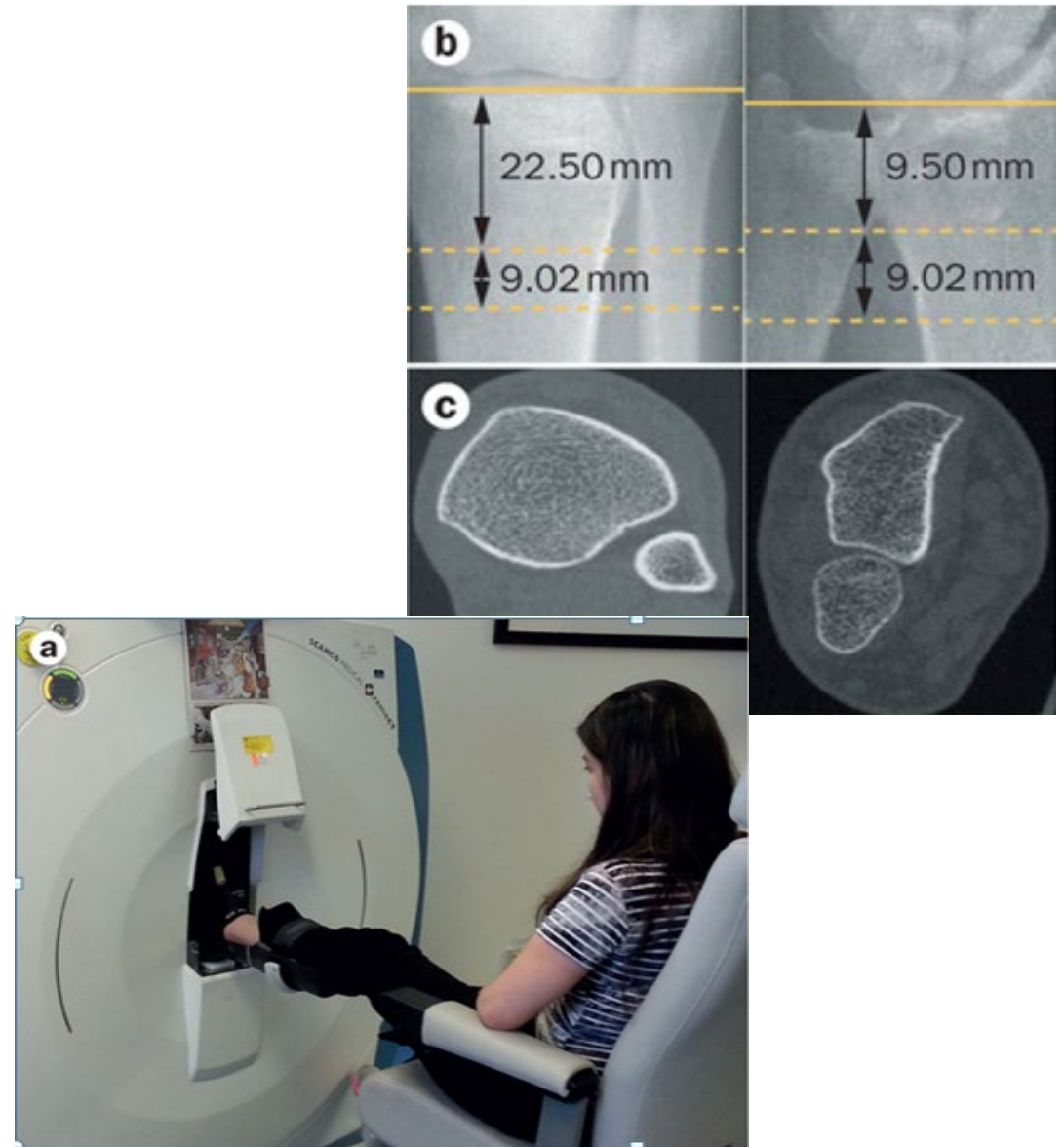


RO1 HD043869 (Gordon)
R01 AR060829 (Gordon)
K23 HD06006 (DiVasta)



HRpQCT

- Virtual bone biopsy
- Assess cortical + trabecular compartments (3D)
- Insight into microarchitecture of peripheral skeleton
- Coming soon to NIH!

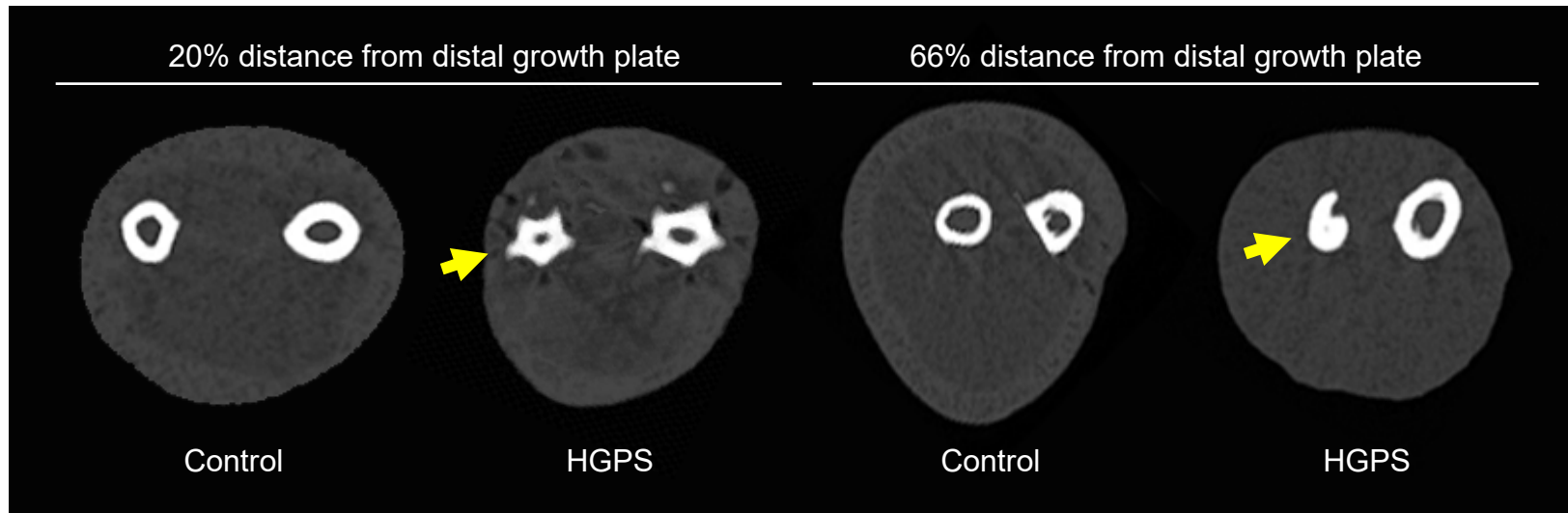
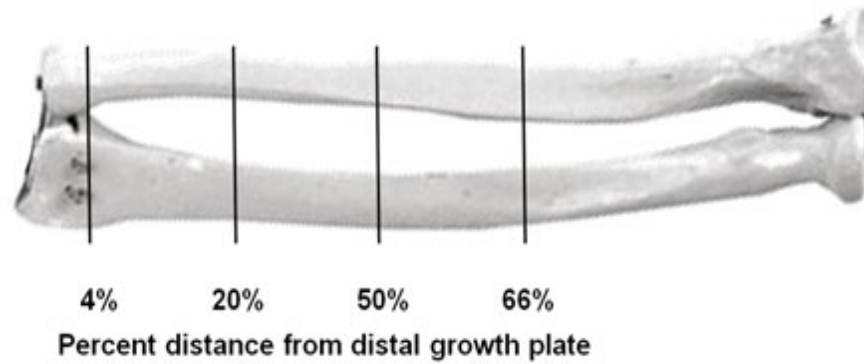


Hutchinson-Gilford Progeria Syndrome

- Rare, fatal genetic condition (1 in 4 million)
 - Appearance of accelerated aging
 - No developmental delay or cognitive deficits
- Strikingly similar phenotype
- Mutation creates cryptic splice site in LMNA
 - Normal lamin A + "progerin"
 - Nuclear membrane distortion
 - Other cellular defects

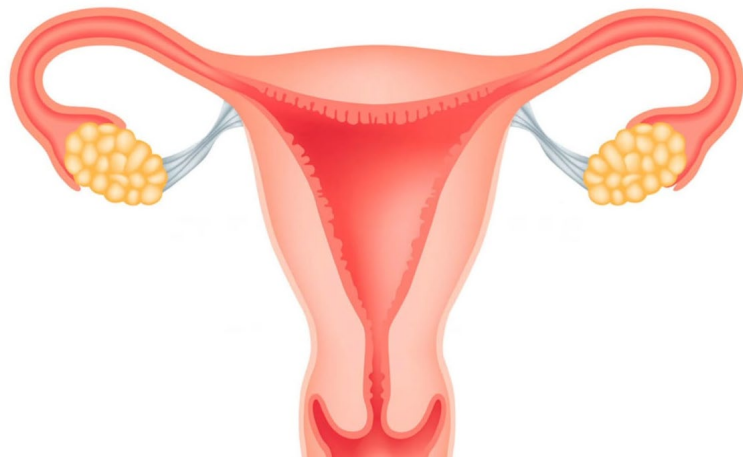


Abnormal Skeletal Morphology by pQCT

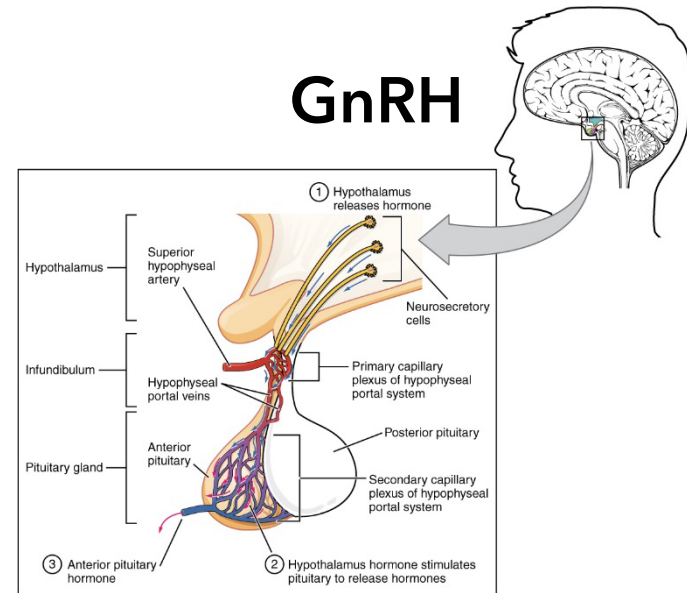
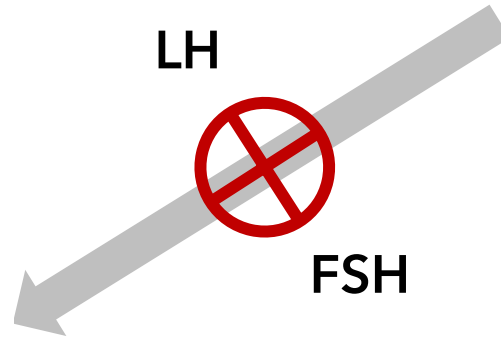


Gordon CM et al, *J Bone Miner Res* 2011;
Gordon CM et al, *Bone*, 2019

Pubertal Blockade In Transgender Youth



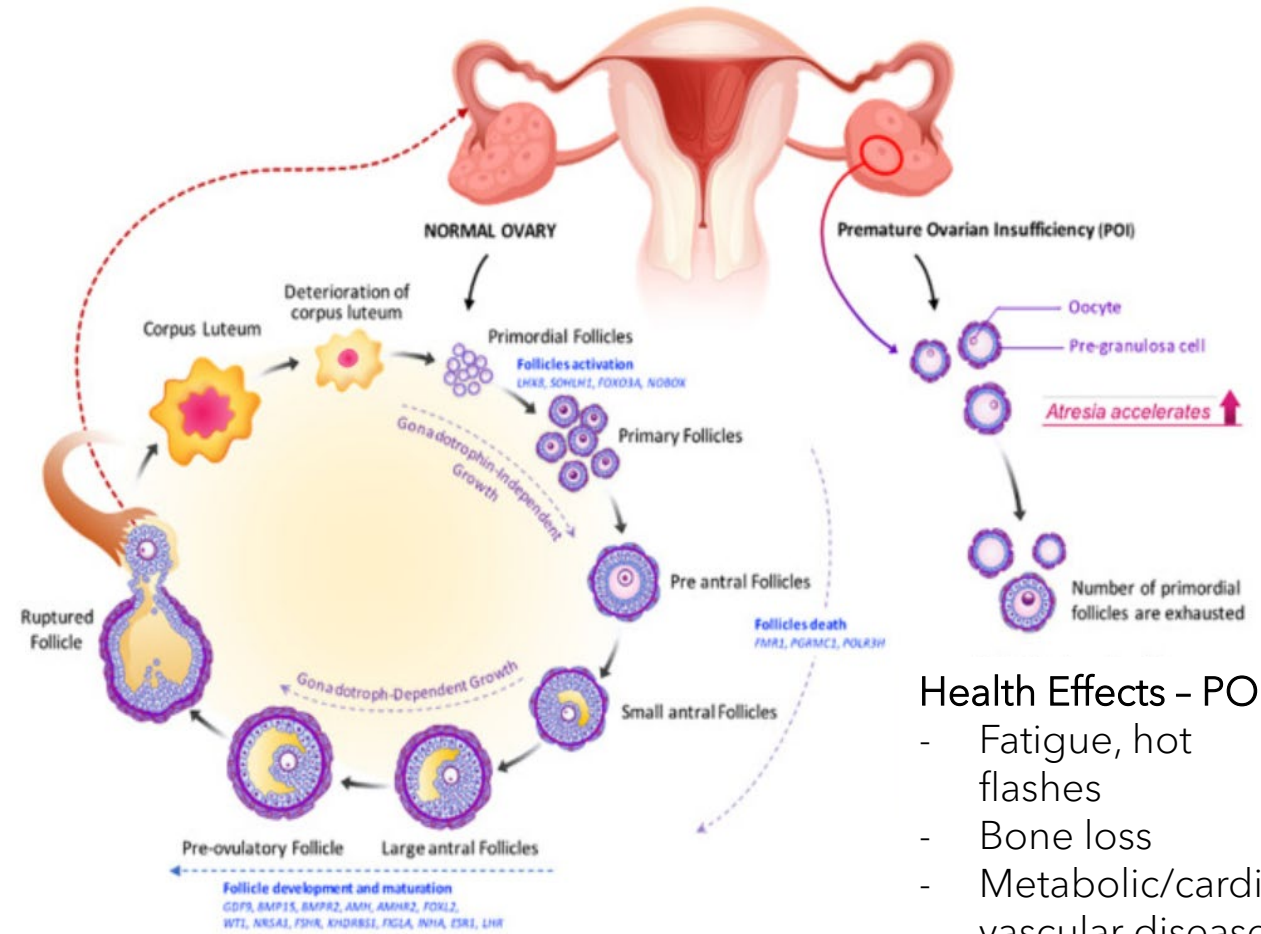
R01 HD101421 (DiVasta/Kalkwarf)



Gonadotropin-releasing hormone (GnRH) agonist :

- Blocks signaling hormones, LH + FSH
- Decreased sex steroid secretion from gonads (ovaries or testes)
- Arrests/blocks pubertal development
- Effect on bone density?

Premature Ovarian Insufficiency



Health Effects - POI

- Fatigue, hot flashes
- Bone loss
- Metabolic/cardiovascular disease

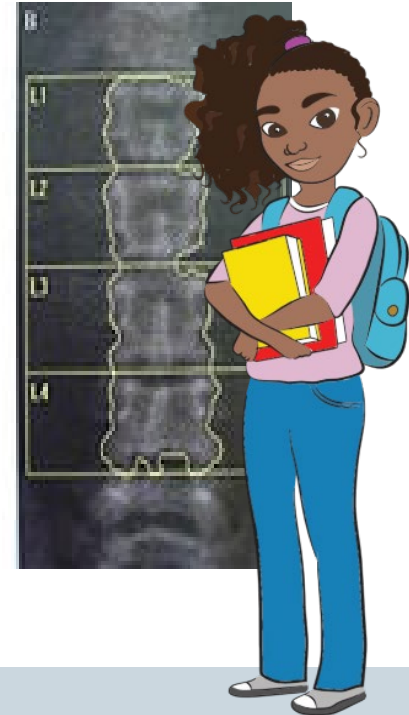
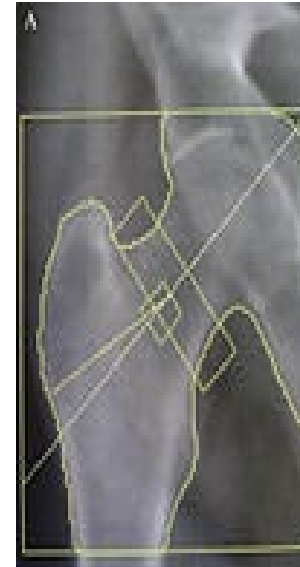
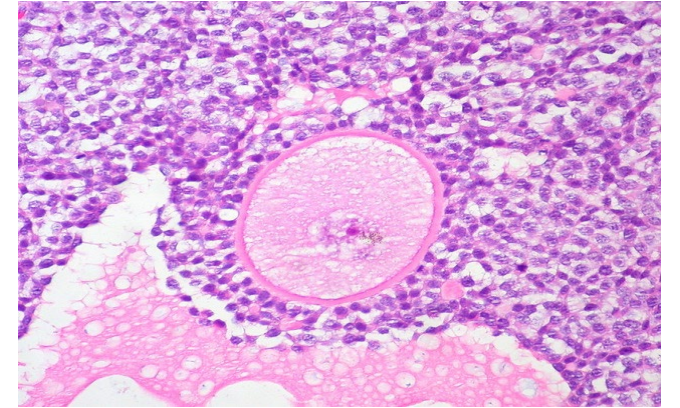
Chon SJ et al., *Front Cell Div Biol* 2021

Wasserman HM et al., *J of Ped and Adol Gyn* 2023

Premature Ovarian Insufficiency

Vision: NICHD - #1 research "destination center" - POI

- Known center - adult women
 - Expand research in adolescents
 - Resource for patients/families
- Knowledge gaps re: optimal estrogen replacement for teens
- Low bone density, fatigue, delayed puberty, irregular menses, etc.
- Idiopathic; chemotherapy-related; genetic causes, etc.
- Opportunity - engage pediatricians and gynecologists within NICHD
 - Research (including genetic underpinnings)



Postpartum Depression (PPD)

- Not well-understood in teenage mothers
 - Particularly long-term mental health impact
- Prevalence of PPD appears to be double that seen in adult mothers
 - Biological and psychological risk factors
 - BMI, social determinants of health
 - Few studies overall in teens...
- May see more teenage pregnancies after overturn of *Roe v. Wade*
- Resonates with Theme: *Setting Foundation for Healthy Pregnancies...*



Support of Clinical Research Pipeline/Pathway

- Key to success of top research institutions: Attract outstanding trainees and junior faculty who “grow up” to be scientific leaders
- Need to build infrastructure that allows trainees and junior scientists to succeed
- Important to target: Underrepresented in Medicine (URiM)
 - Women
 - Underrepresented minorities
 - These groups may not have the same early opportunities...



Where does one begin to tackle the academic pipeline (and prevent it from leaking)?

- High School (or earlier)?
- Undergraduates
- Medical School
- Residents
- Subspecialty Fellows
- Junior Faculty



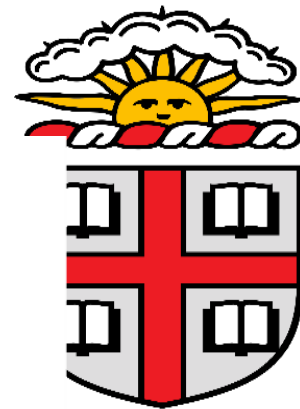
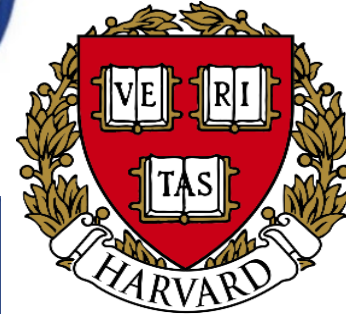
- * *Where does one see optimal "return on investment"?*
- * *Can provide opportunities for community engagement...*

Previous Leadership Roles

- **Co-Founder & Director**, Bone Health Program
 - Boston Children's Hospital
- **Division Chief** (Providence, Cincinnati, Boston)
- **Department Chair and Pediatrician-in-Chief**
 - Baylor and Texas Children's Hospital
- **Co-Director**, Harvard-wide clinical/translational research fellowship program (Harvard/MIT/Pfizer/Merck)
- **Medical Director**, Clinical & Translational Study Unit
 - Boston Children's Hospital
- **Co-Founder/Director**, Lifespan Clinical Research Center
 - Lifespan Healthcare System (Rhode Island)
 - **Vice-Chair** for Clinical Research/Brown University



Cincinnati
Children's™



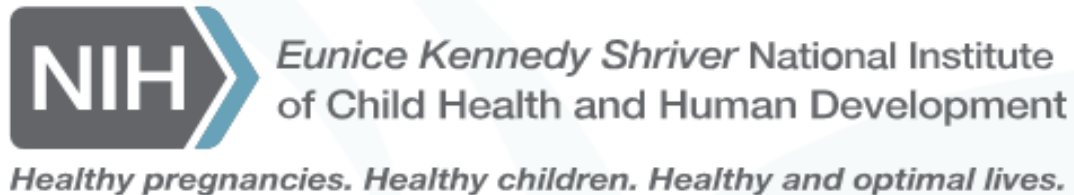
Other Experience

- Served on **NICHD Advisory Council** 2016-2020
 - Opportunity to develop mission/vision statements + review NICHD Strategic Plan
- Served as scientific mentor for >40 trainees in independently funded research group
- Chair or member - Data Safety and Monitoring Boards
- Experience with FDA



My Vision for Clinical Research at the Eunice Kennedy Shriver NICHD:

Under my leadership, the Division of Intramural Research (DIR) will work together to advance the health and well-being of children, adolescents and their mothers by engaging in cutting-edge research that advances care and training the next generation of scientists and leaders. We will also seek out opportunities to advocate for the broad community whom we serve: infants, children, adolescents and women (and inclusive of pregnancy and lactation).



My vision is grounded in the NICHD mission and vision statements:

NICHD's mission: To lead research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all

NICHD's vision: Healthy pregnancies. Healthy children. Healthy and optimal lives.

My Broad Goals as Clinical Director



Theme: Advancing Safe and Effective Therapeutics and Devices for Pregnant and Lactating Women, Children, and People with Disabilities

- Enable young children, pregnant women, and lactating mothers to be seen in the Clinical Center
- Ensure excellent inpatient services (subspecialty)
- Partner with local hospitals
 - Key partners: CNMC, Hopkins, Univ of MD
 - Broad medical coverage: inpatient, outpatient, anesthesia, critical care, etc.
 - Would allow tighter compliance with protocols
- Contribute to **Precision Nutrition** efforts
 - Use of nutrition “to improve health and to prevent or combat diseases” including behavioral health



Equity/Diversity/Inclusion: Theme - Strategic plan

- Envision **Mentorship Program** for Junior Scientists (URiM)
- Identify **EDI "Champion"** for DIR - Clinical Research
 - Named inaugural Vice Chair - **JEDI** (Baylor)
 - JEDI Advisory Committee (Boston & Houston)
 - Envision same as Clinical Director
- **Intentional outreach to applicants**
Focused recruitment efforts
 - Trainees
 - Junior and senior investigators
 - Second look visits
 - Connect with current trainees/faculty



Faculty Development & Wellness

- Interest in **faculty development and coaching**
 - Also in mentoring vs. coaching vs. sponsorship
 - Co-Chaired American Pediatric Society Career Support Committee
 - Have been considering these issues on both local (as leader) and national level (APS Council Member & Executive Team)
- Focus on **four key areas** in career development:
 - Productivity
 - Satisfaction
 - Advancement
 - Retention



Vision: Career Development & Wellness

- **Evaluate current** NICHD programs
 - Programs that rejuvenate team members
- Identify **DIR Clinical Research "Champion"** to ensure regular offerings
- **Seminars and training opportunities**
 - Negotiation, Scientific writing, Starting a lab, Hiring, etc.
- **Leadership development** for "rising stars"
 - Equitable selection process for opportunities
 - Passionate about **professionalism** (and development in this realm and impact on team morale)
- Opportunities for affinity groups/sections to **network and socialize**
- **Team morale** is important for optimal productivity
 - Teams are tired post-pandemic (opportunity to "reinstate the magic")



Vision: “Enhance development of its workforce”

- **Early Career Investigators (Clinical Scientists)**
 - Orientation + identification of mentor for each
 - Review of expectations (for new hires)
 - Career Development Committee (scientific oversight)
 - Develop on-boarding “toolkit”
- **Senior/Established Investigators (Clinical Scientists)**
 - Evaluate career advancement and satisfaction
 - Leadership Development (coaching, retreats, networking)
 - Training: professionalism, communication
 - Advisory Committee (with content experts/mentors)
 - Never too old to have mentor! Reverse mentoring...



Theme: Improving Child & Adolescent Health and the Transition to Adulthood

- **Aligning efforts** with goals of NICHD Strategic Plan
- **Transition of health care:** Major obstacle to smooth continuity of care for older adolescents and young adults
- **Public health implications** - needs to be done correctly
 - NICHD - leader in this arena
- Need to **further develop/refine algorithms, metrics** (including “readiness for transition” and identifying appropriate outcome measures, which allow for collation of data across sites, as well as program evaluation)

Vision: Expand Research - Transition of Care

- **Need more evidence** to inform clinical guidelines
- “Hot topic” among children/teens with chronic disease (**many** patients)
- Carefully consider **patients with disabilities**
 - Young adults with medical complexity
 - Many are non-ambulatory
 - Extensive experience as a pediatric bone health specialist
 - Both physical and mental health needs must be assessed
 - Hope, as Clinical Director, to help NICHD to emerge as national leader



Vision: Enhance Clinical Research Infrastructure

- **Ensure excellent subspecialty care for participants on all subspecialty services**
 - Pediatrics - partnership with local hospitals
 - Developing hospitalist service for pediatric endocrine care - could serve as a model for other services
 - Service line of nurse practitioners
- **Model** - optimize sample/data collection on wards
- **Assessment tools** - expand ability to phenotype
 - DXA, HRpQCT, MRI (availability for research)
 - Partnering with other NIH institutes
- **Enhance opportunities:** multi-site collaborations
 - Across institutes and intramural/extramural
 - Bench-to-bedside collaborations

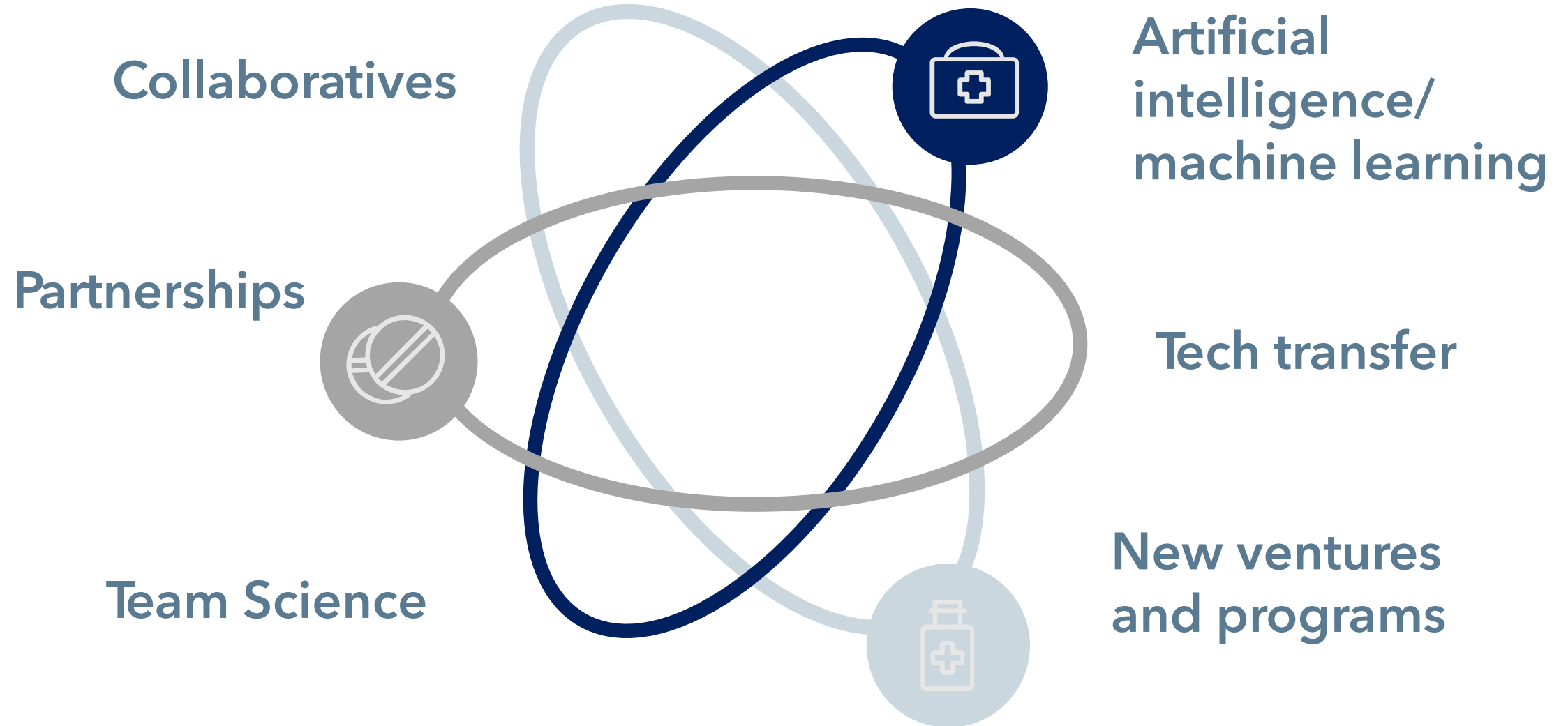


Vision: Community Engagement

- Expand screening for **social determinants** in new and ongoing studies - to easily identify health disparities
- **Community-based research** (vs. institutional CRC)
- **Contracts with local schools/programs**
 - Early exposure of students to science - “pipeline” programs
 - Expand opportunities for local fellows to perform their research at NICHD
- **Optimize access to trials/other clinical studies**
 - Quick referrals into research studies
 - Streamline process for IRB approval, CTAs, INDs, etc.
 - “Ask an expert” and seminars - create easy path for trainees/junior scientists to launch clinical studies (with NICHD)
- **Global health programs** - opportunities “global community”



Innovation: Clinical/Translational Research



Facilities and Infrastructure



Space Needs

Dry lab

Wet lab
(collaborative
research)

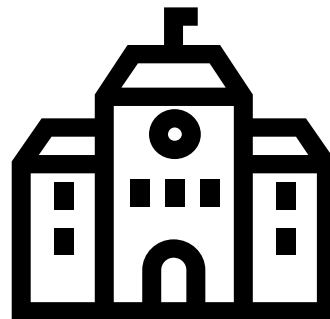
Core facilities

Support services

Expand / Modify

Clinical Center
(Building 10)

Other sites (including
in community)?



New Locations

Community based CRC –
where in MD? DC? VA?

Integrate research into
local community
practices?

Partnerships with local
institutions
(research/training)

Challenges and Opportunities as New CD

- Starting a “listening tour” over next few weeks
 - Gather ideas and assess current needs as new leader
 - Establish priorities
- Work together to tackle many major challenges:
 - Behavioral health crisis and mental health “pandemic”
 - Childhood obesity and adolescent eating disorders
 - Opioid addiction among adolescents
 - Effect of climate change and environment on child health
 - Impact of “endocrine disruptors”
- Develop and nurture talented teams at NICHD, as “Team Science” and collaboration become our “special sauce”
 - Assure offerings that promote professionalism and wellness
- Commitment to hiring/retaining talent to realize goals of 2020 Strategic Plan...



Thank you!

- Look forward to striving together to develop a top-notch and diverse team
- "...to identify areas in which NICHD can lead, partner and collaborate..."
- Excited to work with you all, and meet the children, adolescents and their families who are part of ongoing studies

