BEAT [CHILDHOOD] AML.

The Leukemia & Lymphoma Society has recently launched the “Beat AML” campaign. Fundraising for phase I has been successfully completed, with phase II plans and fundraising in progress.

Current research activities related to this initiative appear to focus on AML in older adults. This presentation will provide key considerations, input and ideas to expand the scope to include children and young people, whose disease differs biologically from seniors, devastates entire families and can result in years of suffering.

#targetpediatricAML #survive≠thrive

prepared by | Julie Guillot, advocate + momcologist
scientific input from | Soheil Meshinchi, MD, Phd, Children’s Oncology Group [COG] Biology Chair

BEAT [CHILDHOOD] AML.

THE TIME IS RIGHT TO FOCUS ON BEATING AML IN YOUNG PEOPLE.

- LLS PEDIATRIC PORTFOLIO HAS BEEN FOCUSED ON ALL (and rightfully so), yielding tremendous breakthroughs.

- "BEAT AML" IS NOW A HIGH PROFILE INITIATIVE. Donors are often inspired by children – added focus could boost entire campaign.

- LLS HAS INVESTED MILLIONS IN NEW, TARGETED THERAPIES. Understanding AML disease biology in young people will maximize use of new weapons [via improved targeting] for this population.

- AML IN PEDIATRICS AND YOUNG PEOPLE IS DEVASTATING. Patients endure multiple rounds [even years] of intense therapy [incl. transplants] and cure rates are unacceptably low. Those who survive struggle with costly, life-limiting side effects including significant cardiac issues, secondary cancers, and more. Survive ≠ thrive.

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AML IN EARLY LIFE IS DEVASTATING – ZACH'S STORY.

Poor prognosis AML @ age 5.

3 bone marrow transplants over 4 years [3 top hospitals] and multiple intense induction cycles.

Endured horrific side effects and long hospital stays, often in isolation.

Died in ICU at age 9 following 3rd bone marrow transplant of chemotherapy toxicity [VOD/blood loss].

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AML IN EARLY LIFE IS DEVASTATING – ALLISTAIRE'S STORY.

Therapy cost to date exceeds $7M.

Long stays in ICU.

440 inpatient days and counting.

Relapsed AML, fighting since toddler, now age 5.

Intense therapy resulted In heart damage, severely limiting treatment options.

Even if she survives, she would likely require a heart transplant.

She fights on today, but her prognosis is very poor, as chloromas ravage her body.

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AML IS BIOLOGICALLY DIFFERENT IN YOUNG PEOPLE.

- TREATMENT OF YOUNG PATIENTS HISTORICALLY DRIVEN BY ADULT-CENTRIC DATA.

- GENOMIC, EPIGENOMIC, TRANSCRIPTOMIC MAKEUP OF AML IN THE YOUNG DIFFERS SIGNIFICANTLY FROM ADULTS
  - Mutations common in adults/seniors are not seen in children [ages 0-5 have unique variants, ages 5-35 share similarities].
  - Newly discovered mutations in children are not seen in adults
  - COG AML leadership can present supporting data [new papers to be presented at ASH]

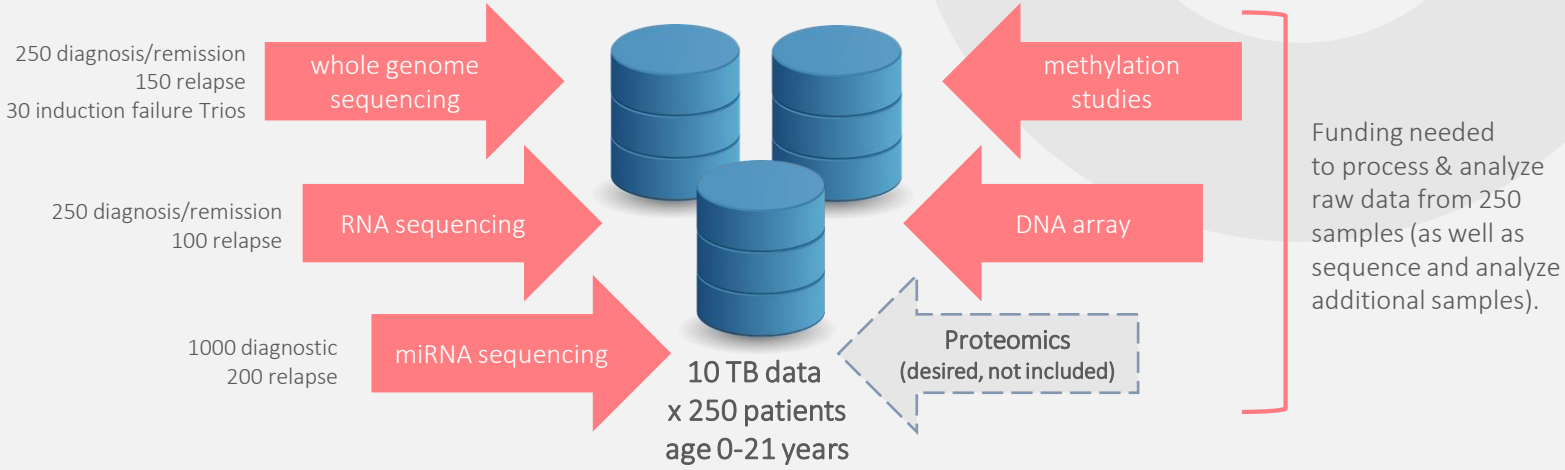
- **STUDIES LIMITED TO ADULT AML MAY NOT YIELD BREAKTHROUGHS** FOR YOUNGER AML PATIENTS.

The Children's Oncology Group [COG] is the world's largest organization dedicated exclusively to pediatric and adolescent cancer research.

BEAT [CHILDHOOD] AML.

SKILLS + SAMPLES READY TO UNRAVEL DISEASE BIOLOGY.

- COG AML BANK HAS WELL ANNOTATED SPECIMENS FROM OVER 5000 PATIENTS (diagnostic, remission and relapse – largest repository in the world in Seattle, WA).
- NCI RECENTLY FUNDED SEQUENCING OF 250 PATIENTS AS PART OF "TARGET PROJECT", yielding 2500 terabytes of data ready for analysis.



BEAT [CHILDHOOD] AML.

WE ARE READY TO HELP BEAT AML – FOR EVERYONE.

- COG IS READY TO MEET, STRATEGIZE AND COLLABORATE TO "BEAT AML" in INFANTS, CHILDREN, AND YOUNG ADULTS (see attached letter).

- VOLUNTEER RESOURCES CAN BE IMMEDIATELY MOBILIZED TO ASSIST IN ALL ASPECTS, especially with hands-on collateral prep and fundraising (teaming with LLS, lead by Julie Guillot).

- A RAPID, POTENTIALLY HIGH-IMPACT "WIN" FOR STRONG CONSIDERATION IS THE **#target**pediatricAML PROJECT, AN EFFORT TO:
  - interrogate a large cohort of childhood AML specimens (age 0-21 years) to identify key disease drivers.
  - define and validate full complement actionable targets.
  - utilize targets to leverage existing agents + devise rationally designed, targeted therapeutics.
  - design and implement [more efficient] clinical trials using novel therapeutics.
  - take the first steps toward precision medicine / tailored therapy for younger patients.

BEAT [CHILDHOOD] AML.

COMPREHENSIVE TARGET DISCOVERY CAN MAXIMIZE OLD + NEW THERAPIES, WITH QUICK WINS POSSIBLE.

LLS HAS BEEN INSTRUMENTAL IN DEVELOPING CUTTING-EDGE WEAPONS AGAINST AML.

Methodical analysis of pediatric samples/data can maximize use of existing agents, direct development of new therapies & efficient trials, and help tailor therapy to reduce toxicity and improve cure rates.

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SYNERGISTIC OPPORTUNITIES MAY EXIST [AND WILL BE EXPLORED] IF LLS CAN TAKE THE LEAD.

- SYNERGIES WITH DRUKER LAB [computing horsepower, biostatistics and other infrastructure].

- SYNERGIES WITH OTHER INSTITUTIONS & FOUNDATIONS
  - gift/grant matching, collaboration, work sharing with other cancer foundations and institutions can be explored.

- ENERGIZED VOLUNTEERS.
  - hands-on logo, fundraising collateral and film creation; social media campaign, t-shirts, creative fundraising plan, etc. can be contributed.
  - personal visits to potential donors, group presentations & fundraising events.
  - lead volunteer, Julie Guillot, has a proven track record of energizing donors and fundraising.

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REQUESTED NEXT STEP – CREATE A DETAILED PROPOSAL.

JULIE GUILLOT + COG LEADERSHIP, TEAMING WITH LLS, CAN CREATE DETAILED PROPOSAL INCLUDING:

- multiple options for LLS participation
- **#target**pediatricAML research vetting, scoping, phasing, cost estimates and detailed project plans
- funding / fundraising plan
- collaboration / synergistic funding plans leveraging other organizations & institutions

JULIE GUILLOT, volunteer advocate
+ AML mom
julie@bestrongfighton.com

p: 512.497.6495

SOHEIL MESHINCHI, MD, PhD
COG Biology Chair
smeshinc@fhcrc.org

p: 206.667.4077