Cancer Grand Challenges
Challenge consultation workshop
24 October 2022
AGENDA

Welcome (5 minutes)

Cancer Grand Challenges introduction (15 minutes)

Session 1: Discussion of ideas (15 mins per idea)

Break (10 minutes)

Session 2: Discussion of Challenge ideas (15 mins per idea)

General discussion and feedback (10-15 minutes)

Close
SUGGESTED WORKSHOP FORMAT

1. Each person has up to 5 minutes to present their idea
2. Collective feedback and 10-minute discussion after each idea is presented
3. Break
4. Repeat
5. General discussion

Suggested ground rules
• Listen to and build on the ideas of others
• Defer judgement but be provocative
• Encourage ambitious ideas

Refer to our workshop guide for further guidance on running your workshop.
Introduction to the Cancer Grand Challenges initiative
• **2015**: CRUK Grand Challenge established in response to community feedback as a global, challenge-based funding initiative

• **2016 - 2019**: Seven teams funded to work on six challenges – supported by CRUK and three major partners

• **2019**: CRUK and NCI recognised the opportunity to partner and fund a challenge-based initiative to fund teams outside of their normal geographies

• **2020**: CRUK and NCI announce a long-term, foundational partnership to establish Cancer Grand Challenges – 10-year partnership to support 12 teams

• **2022**: In June, four new teams are announced supported – supported by CRUK, NCI and three major partners
A simple funding model provides global teams with flexible funding at scale:

- £20m (c. $25m) awards (direct costs)
- Flexible duration
- Teams must be international, <70% funding in any team to one country - No requirement for UK or US participants
- Teams can have commercial partners
- Teams encouraged to be multidisciplinary
- Teams encouraged to include junior faculty
- Teams can change directions, and new team members can be added
- Host Institutions own arising IP, but a commercial policy ensures IP is not fragmented, with Cancer Research Horizons leading on commercialisation
## Autumn 2022: Community consultation

- Consultation process to develop and articulate the challenges
- International workshops with key thought leaders in cancer research
- Online platform for researchers to submit ideas
- CGCSC will meet to select round 4 challenges
- CRUK and NCI agree and announce challenges

## March 2023: Round 4 launch

- Round 4 challenges launched
- EOI deadline – likely late May 2023
- Full application deadline – likely October 2023
- Similar overall application, review and funding process to round 3
- Launch new teams March 2024
14 INDIVIDUAL CHALLENGES ACROSS ROUND 1 AND ROUND 2

- Cancer causes
- Microbiota
- Tissue specificity
- 3D tumour mapping
- Lethal versus non-lethal cancers
- Macromolecules
- Prevention vaccines
- Unusual mutation patterns
- Eradicate EBV cancers
- Targeting Myc
- Dormancy
- Tumour vaccinology
- Artificial intelligence
- Treatment regimens
NINE CHALLENGES SET IN ROUND 3

**Cachexia**
Understand and reverse cachexia and declining performance status in cancer patients

**ecDNA**
Understand the biology of ecDNA generation and action and develop approaches to target these mechanisms

**Normal phenotypes**
Understand how cells and tissues maintain ‘normal’ phenotypes whilst harbouring oncogenic mutations and how they transition to become tumours

**Dormancy**
Identify and target dormant cancer cells

**Inflammation**
Determine how inflammation causes cancer

**Senescence**
Understand and exploit senescence to improve cancer treatment

**E-cigarettes**
Determine the potential benefits and risks of e-cigarette use

**Macromolecules**
Systemically deliver macromolecules to intracellular targets for therapeutic benefit in cancer

**Solid tumours in children**
Develop novel therapies to target unique features in solid tumours in children
An international collaboration

11 global teams
10 challenges
10 countries
700+ researchers
£200+ invested
Definition of a cancer grand challenge:

“An important and complex problem in cancer research, which, if solved, could have significant benefit for patients and/or the wider public in the long term; solving such a problem requires multiple scientific, technological and intellectual barriers to be overcome.”

Key features:

• Challenges can be related to any problem relevant to understanding, preventing, detecting and/or treating cancer.

• Challenges can be new problems, or ones that have existed for many decades.

• The scale of the problem must require a multidisciplinary, global team science approach.

• The scale of the problem must mean that it couldn’t be addressed through standard research funding mechanisms.

• Any approach to addressing the challenge should require significant technical innovation.
HOW DO WE DEFINE A CANCER GRAND CHALLENGE

- Too broad (e.g. cure cancer)
- Too narrow (e.g. programme grant/ ROI level question)

GRAND CHALLENGE ‘SWEET SPOT’
**EXAMPLES – PREVIOUS CHALLENGES**

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<thead>
<tr>
<th>EARLY DETECTION</th>
<th>MICROBIOTA</th>
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<tr>
<td>Detect all cancers early</td>
<td>Understand the role of the microbiota in cancer</td>
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<tr>
<td>Distinguish between lethal cancers that need treating, and non-lethal cancers</td>
<td>Improve treatment responses by manipulating the composition and status of the microbiota</td>
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<td>that don’t</td>
<td>Define the role of the microbiome in colorectal cancer and how to manipulate this to improve response to immunotherapy</td>
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<td>Use imaging to detect the pre-neoplastic to neoplastic switch</td>
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Break
Session 2
Discussion and Feedback
What is cancer's toughest challenge?
Join the conversation and help to shape the future of cancer research.
Thank you for your time

Stay in touch

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