STFC Global Challenge Network in Advanced Radiotherapy

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• Overview of Network
• Successes and Achievements
• Challenges
• Tips
• What I would do differently
• Conclusions
Background

• One in 2 people develop cancer during their lifetimes

• Radiotherapy is used in 60% of cancer treatments and is involved in 40% of cancer cures

• Can we bring together the STFC and clinical communities to improve radiotherapy delivery and outcomes?
Research Pipeline

- **Basic research**: Underlying basic research; physics, biology, chemistry (TRL 1-2)
- **Developing research**: Application of basic research to address advanced radiotherapy research questions (TRL 2-4)
- **Translational research**: Application of basic and preclinical research to address real clinical issues (TRL 4-6)
- **Clinical trials**: Clinical trials (TRL 5-9)
- **Patient benefit**: Patient benefit

The pipeline illustrates the progression from basic research to patient benefit, with each stage representing a different level of translation and application.
Partners
STFC Advanced Radiotherapy Network

- Grand Challenge Sandpits (3)
  3 held ✔✔✔
- Impact Sandpit Feb 19
- Fact sheets ✔

- 3 PhDs (50% of funding) ✔
- Early career travel grants ✔
- Network meetings ✔
Sandpits

- Sandpit topics chosen at Network meetings
- Elevator pitch + votes (STFC, clinical)
- Research need and clinical pull
- Broad area which can generate a number of projects
- Apply to attend Sandpits
- 30-40 people
- ~£100k available at each Sandpit
Sandpits

- Imaging, Monitoring and Verification Technology for Radiotherapy Feb 17 (London)
- Multi Scale Monte Carlo models for Radiotherapy March 17 (Manchester)
- Big Data for Radiotherapy Feb 18 (Manchester)
- Attendees define rules
- Presentation
- Votes

Further Information: https://www.advanced-radiotherapy.ac.uk/
Sandpit Projects

• Short project specification (slides)
• Milestones and Deliverables
• M1 has to be reached before funding released and 2\textsuperscript{nd} tranche of funding dependent on reaching M1 and released when final M achieved
• Regular reviews
Impact Sandpit

- Take research to higher TRL
- partner funding or “in-kind”
- Dragons Den
- Apply on-line
PhDs

• 50% Funding
• Multi-disciplinary (clinical + academic partner)
• First 2 years fees + stipend only
• Rest of funding needs to be guaranteed
• PhDs started in October 17
Early Career Travel Grants

- STFC Futures Early Career awards
- Multi-disciplinary
- Break down language barriers between disciplines
- Build international collaborations
Fact Sheets and Roadmap

• Fact Sheets on Advanced Radiotherapy; Proton Therapy
• Working with patient groups (CTRad)
• Contribute to Foresight study and roadmap working with PPRIG and CTRad
Network Meetings

• With CTRad and PPRIG
• Members can suggest a topic and host a meeting
• Every 6 months
• Bring clinical and STFC communities together with industry and stakeholders
Extra funding

- Opportunities
- Be prepared
- Quick turnaround
- Test bed treatment planning
- Benefits sandpit projects
- STFC £100k
- Varian >£160k
- Thank you
Key Successes and Achievements

• New collaborations
• Pump-primed 21 projects
• 3 PhDs
• Working with other funders: CRUK, EPSRC
• Clinical and patient engagement
• Informing clinical trials
• National research and training roadmap
Key Successes and Achievements

- Projects applying for funding
- Publications (5 from one project)
- PhDs present at international conferences
- Fact sheets are national resource
- Exciting cross disciplinary research
- Formed a new community
Challenges

• Pump-priming grants: 80%; we do not pay travel and FEC, concern from Finance over 20%
• Setting up contracts v time consuming
• Also time consuming for attendees: sorting out finances and setting up
• People don’t like getting money once they have met M1 (I would not change this)
Challenges

• Problem solving
• Some projects slow to start
• Some projects frustrated by set up time to get started
• Keeping on top of progress of a range of projects (large spreadsheet)
Tips

• Need excellent (funded) project manager
• Funding for web site and involve a good team and include social media
• Sandpits are a good way of distributing funds
• Be prepared for where you could use additional funding
• Look for collaboration and spot the lazy!
• More funded PhDs
What I would do differently

• More funded PhDs

• Setting up small projects, resource intensive, is there a smarter way to do this?
Conclusions

- Flexibility, means we can grasp opportunities as they arise
- Enthusiasm for Network has been amazing
- Strong partnerships and engagement
- Bridge between academia and the clinic
- Are there smarter ways to do this?
Thank you for listening

Questions?