15th February 2019

Key Date:
Outline Applications by **Friday 5th April 2019** for shortlisting

2019 Research Grant Call

£3 million Grant Call for research into improved treatment for and survival from childhood and young person cancer and into improved quality of ongoing life

Children with Cancer UK's Aims include:

- To improve knowledge of the genetic and environmental causes and biological mechanisms of paediatric and young person cancers
- To identify diagnostic and prognostic biomarkers for paediatric and young person cancers to help develop targeted treatments and discover causal factors
- To optimise and develop more effective and less toxic treatments for children and young people with cancer, with a special focus on those forms of cancer that still carry a poor prognosis
- To understand the long-term health implications of paediatric and young person cancer and its treatment

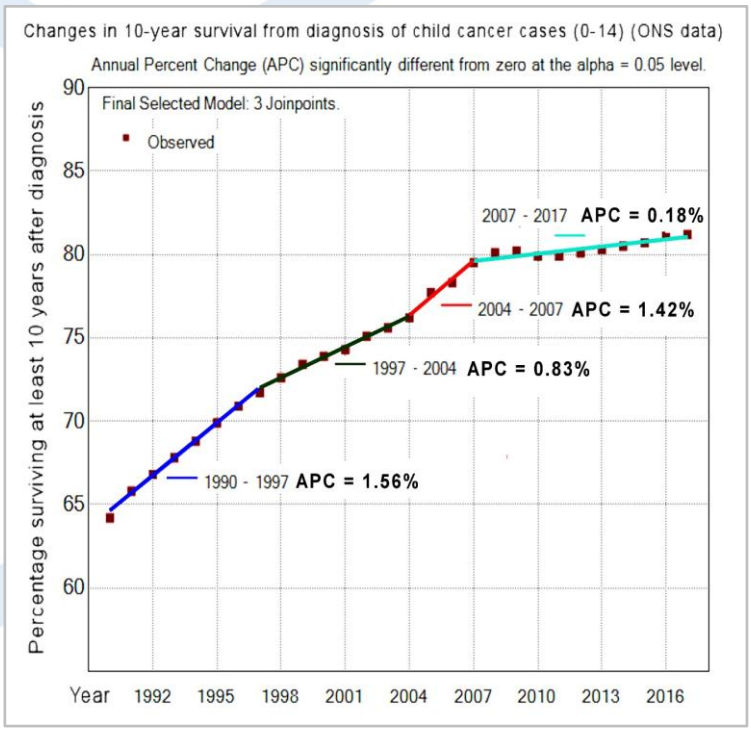
In 1987 Eddie and Marion lost their 14 year-old son Paul who died from leukaemia. Eddie and Marion, started fundraising with the aim of supporting three-fold action against child cancer: "Cause, Care and Cure".

In 1988, Diana, Princess of Wales, persuaded Eddie and Marion to start their own charity so that they could really focus their funding on these actions.

Since then, Children with Cancer UK has raised over £240m to help do just that. Over that time treatment has greatly improved and overall survival has increased from 60% to 80% of children who develop cancer. Treatments have also become kinder, resulting in fewer long-term adverse health impacts in those who survive.

But, as shown on the graph, despite all the enormous amount of research into treatment, improvement in long-term survival has slowed over the last ten years.

The overall war against cancer is stalling.



Following our recent call to fund projects related to causation and prevention we now call for applications to support research into improved survival and quality of survival. We will support both project grants and training fellowships.

Children with Cancer UK 51 Great Ormond Street London WC1N 1JQ 0207 404 0808
Registered Charity Number 298405 Inaugurated by Diana Princess of Wales www.childrenwithcancer.org.uk

The uncomfortable facts

The Cancer Genome Atlas sequenced 10,000 malignant tumours and found 10,000,000 cancer related mutations, reducing the likely large-scale effectiveness of drugs targeting these mutations, although alternative novel targeting strategies may play a key role in better, less toxic, treatments. (TCGA, 2006-2015)

Despite the success of some anticancer drugs, such as Imatinib (Gleevec), a systematic study of new cancer drugs approved by the European Medicines Agency found that many had no evidence of better survival or quality of life. (2017, doi:10.1136/bmj.j4530)

Personalised cell-based immunotherapy offers exciting new opportunities. Importantly the UK Government is funding some early trials but cost and concerns about long term efficacy may limit application.

This Grant Call is open to submissions seeking to investigate improved survival and quality of survival after cancer in children, teenagers & young adults (up to age 24).

We are particularly keen to support research in areas of ongoing unmet clinical need, including sarcoma and CNS tumours as well as the amelioration of late effects of therapy.

What can the funding be used for?

Here are *some* of the specific areas that we are particularly interested in funding.

1. Brain and CNS tumours

Under our existing Brain Tumour Initiative we currently core-fund the Children's Brain Tumour Drug Delivery Consortium (CBTDDC). http://www.cbtddc.org/cbtdd-consortium.aspx. We have provisionally earmarked at least £1m for suitable projects in brain and CNS tumour treatment including the amelioration of late effects of therapy. Ideas for research include: Developing GP tools to help early diagnosis; Targeted drug delivery; Brain tumour metabolism, mitochondrial health, ketone bodies, glycolysis and KATP channels

2. Osteosarcoma

We are separately starting to core-fund an osteosarcoma consortium to help drive forward research into better treatment of this under-funded cancer. We have provisionally earmarked about £500,000 for suitable projects in this area.

See: http://www.bcrt.org.uk/information/information-by-type/osteosarcoma

Areas of interest include:

1. Metastasis of osteosarcoma – understanding drivers of this and identifying targets for treatment
2. In Vivo models of osteosarcoma
   - using in vivo models to screen novel compounds
   - using in vivo models to develop new imaging techniques to be used in surgery to better predict margins
   - develop more sophisticated in vivo models of osteosarcoma such as patient derived xenografts
3. Biomarker discovery
   - Identification of biomarkers within the primary tumour
   - Identification of circulating biomarkers for measuring response to treatment, identifying drivers of metastasis

3. Cancer risk in survivors of childhood and young person cancer

It has been shown that childhood cancer survivors (CCS) have somewhere between a 5- and 50-fold increased risk of developing a different cancer after 10 or more years apparent event free survival. In a recent 5.6 year follow up study in Korea, Yu et al 2018 reported that CCS were found to be at a 20-fold higher risk of developing new malignant neoplasm compared to the general population. Ishida et al 2018, in a retrospective study of over 10,000 CCS survivors in Japan who were diagnosed between 1980 and 2009, found a high increased incidence of secondary cancer.

Suggested research area

What are the corresponding figures for the UK? If similar increases in risk are found, how can these risks be mitigated against by less toxic treatment and better follow-up monitoring and care?

References:

1/. US National Cancer Institute (NCI) Childhood Cancer Survivor Study. https://dceg.cancer.gov/research/who-we-study/cohorts/childhood-cancer-survivors

2/. Ishida Y, Maeda M, Adachi S. et al. Secondary cancer after a childhood cancer diagnosis: viewpoints considering primary cancer, Int J Clin Oncol (2018) 23: 1178. https://doi.org/10.1007/s10147-018-1303-6 https://link.springer.com/article/10.1007/s10147-018-1303-6

3/. Yu et al 2018. Second malignant neoplasms after childhood cancer: A nationwide population-based study in Korea. PLoSONE 13 (11): e0207243. https://doi.org/10.1371/journal.pone.0207243

4. Liquid biopsies

For identifying biomarkers in the blood (and maybe saliva and urine) to aid early diagnosis and monitoring of treatment progress.

5. Repurposing of existing drugs

The repurposing of existing well-known and well-characterised adult cancer and non-cancer drugs for use in paediatric and young-person cancer treatment.

6. Clinical trial

We have some money to help towards one clinical trial in leukaemia or lymphoma treatment.

Please apply via our Grant Application Portal: cwc.flexigrant.com

Key Dates:

Outline Applications by Friday 5th April 2019 for shortlisting
Shortlisted for Full Applications by Friday 3rd May 2019
Full Applications to be received by Tuesday 4th June 2019
Awards to be announced by end of November 2019

PLEASE NOTE:

Our project grants are intended to provide funds for the employment of suitably qualified staff and the purchase of essential equipment and consumables for projects lasting up to three years that address the objectives outlined above. In line with other UK medical charities, we do not contribute towards the cost of tenured posts nor can we contribute towards institutional overheads.

Our training fellowships will support both existing research scientists and practicing clinicians undertaking a project aimed at award of a PhD. We do not fund recent graduates under this scheme. We will only cover salaries up to NHS level ST2 plus London Weighting. Candidates at higher pay scale points will either need to adjust their paid hours or carry out their study part-time with the approval of their institution.

The maximum amount that can be applied for under this call is up to £250,000 for applications from a single institution, or up to £350,000 for collaborations involving more than one institution, though most grants will be for less than this. **Applications for smaller grants, up to around £50,000, to fund pilot investigations to test hypotheses, will also be considered.**

Proposals must usually be submitted by a UK academic institution (university, hospital or research institute). We will consider funding international collaborations where researchers from a UK institution play a significant role. If that is not possible or practical then please contact us for specific permission to Apply. We can allow some exceptions where the expertise required and interest to carry out appropriate research is primarily at overseas institutions.

Dr Nick Goulden (Medical Director), Professor Denis Henshaw (Scientific Director), Joseph Bryan (Grants Manager) and Alasdair Philips (Trustee) Children with Cancer UK

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