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Who funded the research behind the Oxford–AstraZeneca COVID-19 vaccine?

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ABSTRACT

Objectives The Oxford–AstraZeneca COVID-19 vaccine (ChAdOx1 nCoV-19, Vaxzevira or Covishield) builds on two decades of research and development (R&D) into chimpanzee adenovirus-vectored vaccine (ChAdOx) technology at the University of Oxford. This study aimed to approximate the funding for the R&D of ChAdOx and the Oxford–AstraZeneca vaccine and to assess the transparency of funding reporting mechanisms.

Methods We conducted a scoping review and publication history analysis of the principal investigators to reconstruct R&D funding the ChAdOx technology. We matched award numbers with publicly accessible grant databases. We filed freedom of information (FOI) requests to the University of Oxford for the disclosure of all grants for ChAdOx R&D.

Results We identified 100 peer-reviewed articles relevant to ChAdOx technology published between January 2002 and October 2020, extracting 577 mentions of funding bodies from acknowledgements. Government funders from overseas (including the European Union) were mentioned 158 times (27.4%), the UK government 147 (25.5%) and charitable funders 138 (23.9%). Grant award numbers were identified for 215 (37.3%) mentions; amounts were publicly available for 121 (21.0%). Based on the FOIs, until December 2019, the biggest funders of ChAdOx R&D were the European Commission (34.0%), Wellcome Trust (20.4%) and Coalition for Epidemic Preparedness Innovations (17.5%). Since January 2020, the UK government contributed 95.5% of funding identified. The total identified R&D funding was £104 226 076 reported in the FOIs and £228 466 771 reconstructed from the literature search.

Conclusion Our study approximates that public and charitable financing accounted for 97%–99% of identifiable funding for the ChAdOx vaccine technology research at the University of Oxford underlying the Oxford–AstraZeneca vaccine until autumn 2020. We encountered a lack of transparency in research funding reporting.

Key questions

What is already known?

- The Oxford–AstraZeneca vaccine relies on two decades of research and development (R&D) into the chimpanzee adenovirus-vectored vaccine (ChAdOx) technology at the University of Oxford.
- The Oxford–AstraZeneca COVID-19 vaccine plays an important role in the global vaccine rollout especially in resource-limited settings as it provides a cheaper alternative to the Pfizer/BioNTech and Moderna mRNA vaccines and does not require the same cold-chain management.

What are the new findings?

- Funders of ChAdOx platform research by grant mention in academic publications were 99% public and charitable bodies, of which 27.4% was overseas governments (including the European Union), 25.5% the UK government, 23.9% philanthropy, 19.6% research institution and 2.6% public–private partnership.
- Freedom of information (FOI) requests to the University of Oxford showed 97% public and charitable funding for the ChAdOx platform; the European Commission (34.0%), Wellcome Trust (20.4%) and Coalition for Epidemic Preparedness Innovations (17.5%) were the biggest funders of ChAdOx research until the start of the COVID-19 pandemic, but since January 2020, the UK government contributed 95.5% of identifiable R&D funding until October 2020.

What do the new findings imply?

- The scale of high-risk public funding for the R&D of the ChAdOx technology underlying the Oxford–AstraZeneca vaccine compels advocacy for global equitable access to the health technology beyond the favourable pricing currently implemented.
- Difficulty in identifying funding amounts from the academic literature compared with FOIs shows a severe lack of transparency in research funding reporting.

INTRODUCTION

The ChAdOx1 nCoV-19 vaccine, commonly known as the Oxford–AstraZeneca vaccine, Covishield, or Vaxzevira, is one of four vaccines that received conditional approval for the prevention of COVID-19 in the UK (November 2021)[1 2] The Oxford–AstraZeneca vaccine has been approved and licensed for use in over 170 countries, and approximately 1 billion doses have been administered globally as of late November 2021.[3 4] The vaccine makes use of a novel technology that relies on a chimpanzee adenovirus-vector (ChAdOx) to encode the production of the SARS-CoV-2

spike protein, which induces an immune response.[5] It is of particular importance in resource-limited settings as it does not require the same cold-chain management and is more affordable than the mRNA-based COVID-19 vaccines developed by Pfizer/BioNTech and Moderna.[6]

Although the Oxford–AstraZeneca vaccine itself was developed in response to the COVID-19 pandemic, the underlying ChAdOx vaccine platform relies on two decades of research and development (R&D) by the Oxford Vaccine Group at the Jenner Institute, University of Oxford, led by Professor Sarah Gilbert (SG) and Professor Adrian Hill (AH). Vaccines using the ChAdOx technology have previously undergone clinical trials in human participants for other infectious diseases, including hepatitis C virus and malaria, where it has been shown to induce a powerful immune response during phase I clinical trials.[7 8] Before the emergence of SARS-CoV-2, the ChAdOx technology was being used to develop a vaccine for Middle East Respiratory Syndrome coronavirus (MERS-CoV), which is closely related to the novel coronavirus.[9] When the pandemic emerged, this ChAdOx1 MERS-CoV vaccine had already undergone its first clinical trials in non-human primates and humans (phase I) and was rapidly adapted to induce an immune response to SARS-CoV-2.[10] The resultant ChAdOx nCoV-19 vaccine was undergoing phase I/II clinical trials in NHS Trusts across the UK when a deal with biopharmaceutical company AstraZeneca was announced in late April 2020.[11–14] Shortly after this, the UK government committed £65.5 million towards the commercialisation and manufacturing of the Oxford–AstraZeneca vaccine.[15] However, it is not known who funded the early stages of R&D into the ChAdOx technology at the University of Oxford.

Previous studies have shown that public funding has played a significant role in the medical innovation system for many decades, particularly in early-phase R&D and notably in vaccine research.[16–18] Between 2000 and 2019, the US National Institutes of Health (NIH) funded over $17.2 billion in published research on vaccine technologies, providing the foundation for the COVID-19 vaccines currently entering the market.[19] Despite a number of public statements involving funding pledges for the development of the Oxford–AstraZeneca vaccine,[6] it remains largely unknown which funding bodies have contributed to the ChAdOx technology. In this study, we aimed to identify the funding to the University of Oxford for the R&D of the ChAdOx technology with a specific focus on the research into the adenovirus-vectored vaccine technology conducted at the Jenner Institute and its subsequent application to the Oxford–AstraZeneca vaccine. This study has three objectives: (1) to approximate the funding for the R&D of the ChAdOx platform led by SG and AH and the subsequent application to SARS-CoV-2; (2) to identify the main funders based on disclosures in academic publications and freedom of information (FOI) requests to the University of Oxford; (3) to assess the transparency in R&D funding reporting mechanisms by comparing information available in the public realm with disclosures by the University of Oxford in response to FOI requests.

METHODS

Scoping review of the academic literature to identify primary research on ChAdOx and the Oxford–AstraZeneca vaccine

We performed a scoping review of the literature using a systematic search of MEDLINE and Embase between 26 October and 30 November 2020 to identify all relevant academic publications which included primary research involving the ChAdOx technology. Our search strategies (online supplemental file 1) were developed in collaboration with an academic librarian from Imperial College London. To identify further articles, we conducted a PubMed search of the complete publication history of SG and AH, the primary investigators of the ChAdOx technology at the Jenner Institute. Abstracts were manually screened by two independent reviewers using Rayyan QCRI[20] based on the following inclusion criteria: (1) peer-reviewed primary research articles; (2) mentioning of the relevant vaccine technology as identified in preliminary background research and described in the search strategy (i.e., using the terms ChAdOx1, ChAdOx2, chimpanzee adenovirus-vectored, etc); and (3) including at least one author affiliated to the University of Oxford (figure 1 and online supplemental file 1). Non-English studies and review articles, conference abstracts, clinical trial registry entries, and opinion pieces not containing any primary data were excluded.

Data extraction from funding acknowledgement statements in the academic literature

The full text of all selected articles were downloaded into EndNote V.7.8 and duplicates were removed. Two authors extracted information from all acknowledgement sections, funding statements and conflict of interest declarations from the academic publications on the ChAdOx technology and entered them into an Excel spreadsheet (online supplemental file 2). First, we ranked funding bodies and other actors by the absolute number of mentions extracted from the included articles. Next, we quantified the proportion of grants that listed an award number and conducted a separate analysis in which we removed any duplicate mentions of funder names if they were linked to the same award number. Meanwhile, using the award numbers, we searched the following publicly available databases to identify grants towards the development of the ChAdOx technology; UK Research and Innovation (UKRI), European Commission, Wellcome Trust, Bill & Melinda Gates Foundation, Coalition for Epidemic Preparedness Innovations (CEPI) and World Report, the latter of which includes all grants administered by the US NIH. Grants in currencies other than British pound sterling (GBP) were converted into GBP using the following conversion rates on 28 February 2021: US$1=0.72 GBP and €1=0.87 GBP.[21] Funding

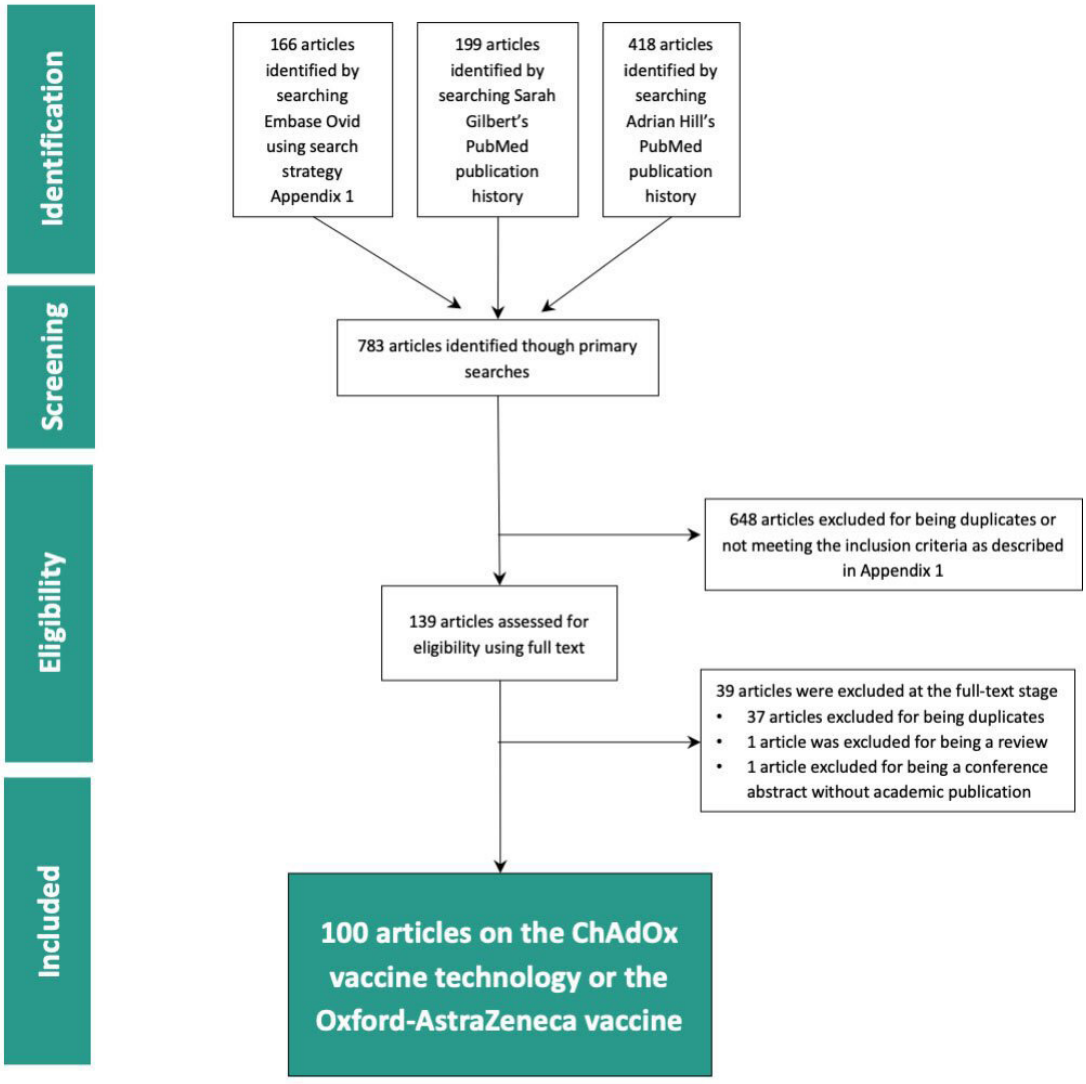

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for the ChAdOx funding scoping review. ChAdOx, chimpanzee adenovirus-vectored vaccine.

declarations from the academic literature were matched to grant amounts where publicly available (online supplemental file 2). Additionally, we used previously collected open-access data (publicmeds4covid.com), which tracks government investment in COVID-19 research.[22] Funders were categorised into the following funding types: overseas government (including the European Union (EU)), UK government, charity/philanthropy, public–private partnership (PPP), research institution (including the University of Oxford), and industry.

FOI requests

We filed several requests under the Freedom of Information Act (2000) to ask the University of Oxford for the disclosure of all funding (including all financial support, grants, donations, etc) for both the ChAdOx technology and the ChAdOx1 nCoV-19 vaccine. The FOIs and correspondence with the University of Oxford are publicly available on the online platform WhatDoTheyKnow.com.[23] To remain within the limits of the maximum amount of time (18 hours) a public authority is legally required to spend on responding to a single FOI request, we had to limit the final disclosure request to grants received by the principal investigators, SG and AH, since 2000 to the most recent date available. We received a list of relevant grants on 27 January 2021. We filed further requests for disclosure of all grants received from public entities and AstraZeneca for the development of the ChAdOx1 nCoV-19 vaccine specifically since 1 January 2020 to the date of the request (25 October 2021).

Analysis of grant disclosures by the University of Oxford

Two authors independently classified the grants into the following categories based on the project names pertaining to each grant, provided by the University of Oxford: (1) funding towards the COVID-19 vaccine specifically, (2) funding towards the R&D of the ChAdOx technology, (3) funding for the fellowships/salary/research/equipment/infrastructure (later coded as 'other vaccine research') that may have contributed

to the development of the ChAdOx technology but is not directly identifiable (not displayed) and (4) other research funding not relevant to the R&D of the ChAdOx technology (not displayed). Based on this categorisation, we found that all 'prepandemic' grants given for R&D up to 31 December 2019 funded the ChAdOx vaccine platform technology, and all grants from 1 January 2020 were 'pandemic' R&D funding specific to the Oxford–AstraZeneca vaccine. We will use these terms to pertain to this specific cut-off date for the remainder of the paper. Funders were additionally categorised into the following funding types: overseas government (including the EU), UK government, charity/philantropy, PPP, research institution (including the University of Oxford), industry and other, which included anonymous donors that could not be classified.

RESULTS

Funding based on disclosure statements in academic publications on the ChAdOx technology

We identified 100 published peer-reviewed articles relevant to the Oxford–AstraZeneca vaccine or the ChAdOx technology (online supplemental files 1 and 2). Publication dates ranged from January 2002 to November 2020. The concordance between the two independent reviewers was 93.61%. Funding acknowledgement statements differed in completeness between articles, with some only noting funding bodies and others detailing specific grants using grant titles or award numbers. In total, we extracted 577 mentions of funding bodies, with or without reference to specific grants. Of these, we were able to identify award numbers for 215 mentions (37.3%). Grant amounts were available in the public realm for 121 mentions (21.0%) (figure 2). Of the 215 mentions for which we ascertained award numbers, 73 mentions (12.7% of total mentions) corresponded to a previously identified award number. These mentions were not excluded from the total number due to the low proportion of mentions for which we were able to identify award numbers. However, grants identified as being duplicates based on having the same award numbers were excluded when calculating the amount of funding provided by that funding body. The total amount of funding we were able to reconstruct based on the academic literature was £228 466 771.

Overseas government bodies were mentioned in funding acknowledgement statements of peer-reviewed articles on ChAdOx 158 times (27.4%), followed by the UK government (147 mentions (25.5%)), and charities (138 mentions (23.9%)) (table 1 and figure 3). Funders from industry were mentioned 6 times (1.0%), and PPP funders (including CEPI, Program for Appropriate Technology in Health (PATH) malaria vaccine initiative, and Consultative Group for International Agricultural Research (CGIAR)) were mentioned 15 times (2.6%). Grant amounts could be matched with 27.9% of UK government mentions, 19.0% of overseas government (including EU) mentions, and 36% of charity mentions. Overseas government funders contributed the most funding for which grant amounts could be identified, namely, £105 715 805 (46.3%). This was followed by the UK government, which contributed £69 773 203 (30.5%), and charitable organisations, which contributed £52 977 763 (23.2%) based on traceable grants that could be linked to amounts in publicly available grant databases.

Table 2 provides an overview of individual funding bodies for whom grant amounts were identified from publicly available databases, ranked based on the total number of mentions. Here, we have only displayed funders mentioned across more than seven articles. The most frequently named funding body was the Wellcome

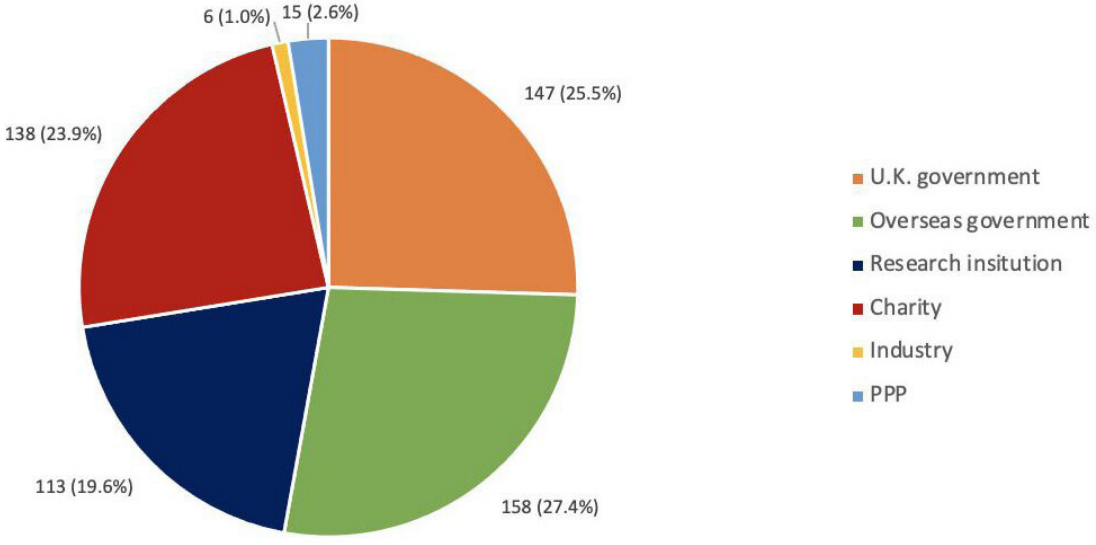

Figure 2 Number of mentions for each funder type from the academic literature identified in the scoping review. PPP, public–private partnership.

Table 1 Number of mentions and amount of funding identified for each funder type from the academic literature identified in the scoping review

Funder type	Mentions from the literature, n (%)	Percentage of mentions matched to a grant amount (%)	Total value of matched grants, £ (%)
Overseas government (including EU)	158 (27.4)	19.0	105 715 805 (46.3)
UK government	147 (25.5)	27.9	69 773 203 (30.5)
Charity	138 (23.9)	36.2	52 977 763 (23.2)
Research institution	113 (19.6)	0.0	0 (0.0)
PPP	15 (2.6)	0.0	0 (0.0)
Industry	6 (1.0)	0.0	0 (0.0)
Total	577	21% of all mentions matched	228 466 771

EU, European Union; PPP, public–private partnership; UK, United Kingdom.

Trust (107 (18.5%)), followed by the Jenner Institute (73 (12.7%)), the Medical Research Council (66 (11.4%)) and the United States' NIH (64 (11.4%)). The top three funders for which we could retrieve most grant amounts from publicly available databases to match them with funder mentions in the acknowledgement section were UK Research and Innovation (UKRI) (72.2%), the European Commission (58.6%) and the Wellcome Trust (44.9%).

Funding based on FOI requests to the University of Oxford

The University of Oxford disclosed two datasets in response to our FOI requests. The first dataset includes all grants received by SG and AH since 2000. We extracted the grants relevant to the R&D of the ChAdOx technology based on the project numbers and grant names with a cut-off of 31 December 2019. Grants received by the University of Oxford between January 2020 and October 2020 for the development of the Oxford–AstraZeneca vaccine were included in the second dataset. In total, the University of Oxford disclosed 189 grants, donations and payments between January 2004 and October 2020 (online supplemental file 3). We classified 133 as relevant to the R&D of the Oxford–AstraZeneca vaccine and underlying ChAdOx technology (table 3). The total disclosed R&D amount was £104 226 076, of which £69 313 380 was provided before 1 January 2020 and £34 912 696 on or after that date.

The largest funding source for the R&D investment into the prepandemic ChAdOx technology research by SG and AH was overseas governments, including the EU, which contributed £26 252 085 (37.9%) (figure 4). During the same period charitable funding accounted for £21 468 904 (31.0%), PPPs (including CEPI, CGIAR and PATH malaria vaccine initiative) contributed £12 943 763 (18.7%), and the UK government was the fourth largest funding source with £5 511 316 (8.0%). Industry funding accounted for £1 970 370 (2.8%).

Since January 2020, the UK government was found to be the largest funder of Oxford–AstraZeneca vaccine R&D, contributing £33 354 469 (95.5%) (figure 5). Charitable funders accounted for £1 217 835 (3.5%), the majority of which came from the Wellcome Trust. PPP (specifically CEPI) accounted for £272 286 (0.8%) and research institutions accounted for £68 106 (0.2%).

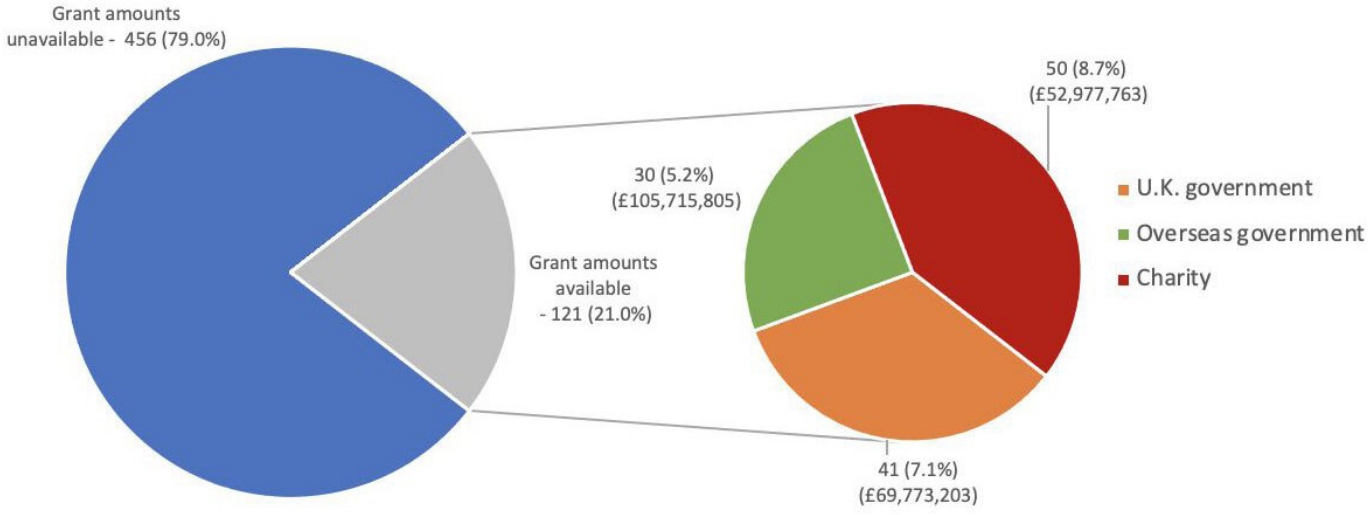

Figure 3 Number of mentions for which grant amounts were publicly available from the academic literature identified in the scoping review.

Table 2 Number of mentions and amount of funding identified for the top 12 funders from the academic literature identified in the scoping review, ranked by number of mentions

Rank in top funder list based on number of mentions	Funder name	Type of funder	Mentions from the literature, n (%)	Percentage of mentions matched to a grant amount (%)	Total value of matched grants, £ (%)
1	Wellcome Trust	Charity	107 (18.5)	44.90	41 075 570 (18.0)
2	Jenner Institute	Research institution	73 (12.7)	0.00	0 (0.0)
3	Medical Research Council (UK)	UK government	66 (11.4)	40.90	12 872 968 (5.6)
4	National Institute of Health (US)	Overseas government	64 (11.1)	20.30	61 217 268 (26.8)
5	National Institute of Health Research (UK)	UK government	45 (7.8)	0.00	0 (0.0)
6	European Commission	Overseas government	29 (5.0)	58.60	44 498 537 (19.5)
7	The Oxford Martin School	Research institution	19 (3.3)	0.00	0 (0.0)
8	UK Research and Innovation	UK government	18 (3.1)	72.20	56 416 780 (24.7)
9	European Malaria Vaccine Development Association	Public–private partnership	14 (2.4)	0.00	0 (0.0)
10	PATH	Charity	11 (1.9)	0.00	0 (0.0)
	Malaria Vaccine Initiative				
11	Bill and Melinda Gates Foundation	Charity	7 (1.2)	28.60	11 902 193 (5.2)
12	European and Developing Countries Clinical Trial Partnership	Overseas government	7 (1.2)	0.00	0 (0.0)
13–77	Other	N/A	117 (20.3)	0.90	483 455 (0.2)
Total			577	21	228 466 771

UK, United Kingdom; UKRI, UK Research and Innovation; US, United States.

Combining prepandemic and pandemic R&D funding, the UK government provided £38 865 785 (37.3%) of the R&D funding, making it the largest funder identified. Overseas government ranked the second highest funder, providing £26 252 085 (25.2%) of R&D funding while charitable funders contributed £22 686 739 (21.8%). Industry funders contributed £1 970 370 (1.9%).

Overall, based on FOI disclosure by the University of Oxford, public and charitable funding sources accounted for 97% of the R&D funding towards the ChAdOx technology and its application to SARS-CoV-2. Direct government funding added up to £65 117 870 (62.5%), while charitable sources accounted for £22 686 739 (21.8%). PPPs CEPI and PATH malaria vaccine initiative accounted

Table 3 Funding given to support the research and development of the ChAdOx technology and the Oxford–AstraZeneca vaccine based on freedom of information to University of Oxford, sorted by funder type

Funder type	ChAdOx technology (to SG and AH only), £ (%)	Oxford–AstraZeneca vaccine, £ (%)	Total, £ (%)
UK government	5 511 316 (8.0)	33 354 469 (95.5)	38 865 785 (37.3)
Overseas government	26 252 085 (37.9)	0 (0.0)	26 252 085 (25.2)
Charity	21 468 904 (31.0)	1 217 835 (3.5)	22 686 739 (21.8)
PPP	12 943 763 (18.7)	272 286 (0.8)	13 216 049 (12.7)
Research institution	0 (0.0)	68 106 (0.2)	68 106 (0.1)
Industry	1 970 370 (2.8)	0 (0.0)	1 970 370 (1.9)
Other	1 166 941 (1.7)	0 (0.0)	1 166 941 (1.1)
Total	69 313 380	34 912 696	104 226 076

An approximation of the total amount of funding received for the adenovirus vector technology and the Oxford–AstraZeneca vaccine, for each funder type, is given in the total column.
AH, Professor Adrian Hill; ChAdOx, chimpanzee adenovirus-vectored vaccine; PPP, public–private partnership; SG, Professor Sarah Gilbert; UK, United Kingdom.

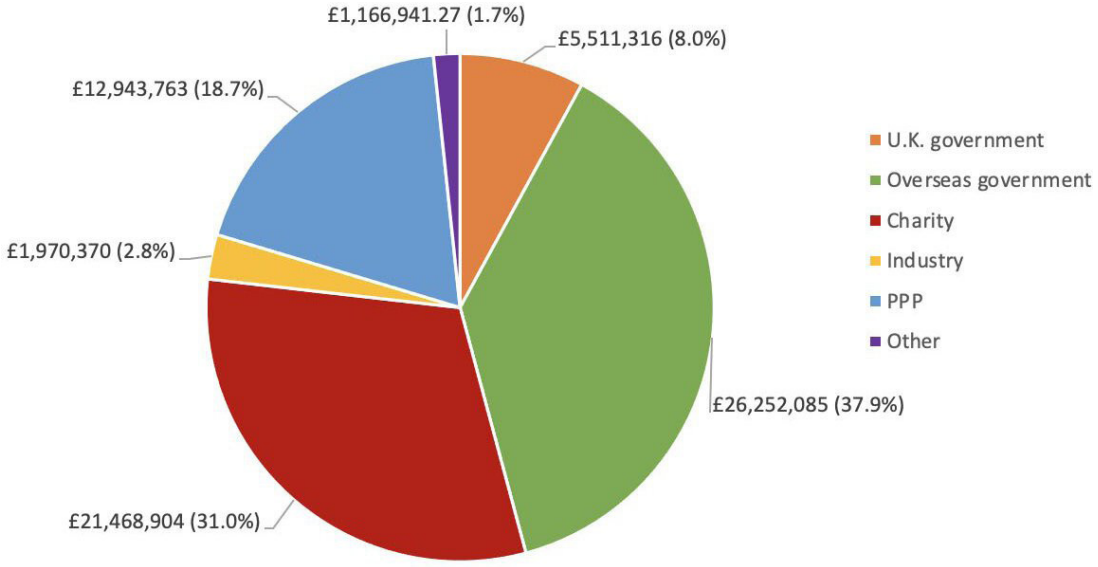

Figure 4 Funding given to support the research and development of the chimpanzee adenovirus-vectored vaccine technology until January 2020, based on freedom of information to the University of Oxford, sorted by funder type. PPP, public–private partnership.

for 12.7% of R&D funding. Private industry contributed 1.9% of R&D funding; 1.1% came from other sources.

Together, the top nine funders were responsible for 95.6% of the disclosed funding for the R&D of the ChAdOx technology and the Oxford–AstraZeneca vaccine (table 4). The remaining 10 funders contributed £4 574 803 (4.4%). Of the top funders identified, three were UK government funders, two EU funders and three charities. Before 1 January 2020, the biggest funders of the R&D into the ChAdOx technology were the European Commission (22.6%), Wellcome Trust (14.7%) and CEPI (11.9%). Since 1 January 2020, the Department of Health and Social Care was the largest funder as declared by the University of Oxford, contributing 89.3% of R&D funding. The University of Oxford on two occasions disclosed via FOI that they had not received any funding for the Oxford–AstraZeneca vaccine in the period from 1 January 2020 to 5 February 2021 (online supplemental file 3).

DISCUSSION

Research conducted at the Jenner Institute of the University of Oxford led to the development of the ChAdOx vaccine platform on which the Oxford–AstraZeneca COVID-19 vaccine is built. Our study approximated that public and charitable funding accounted for 97%–99% of the identifiable funding towards the R&D of the ChAdOx technology and its application for SARS-CoV-2 at the University of Oxford until October 2020. Our study identified £104 226 076 of R&D funding reported in FOIs to the University of Oxford and £228 466 771 from the 21% of mentions with a matched grant amount in the scoping

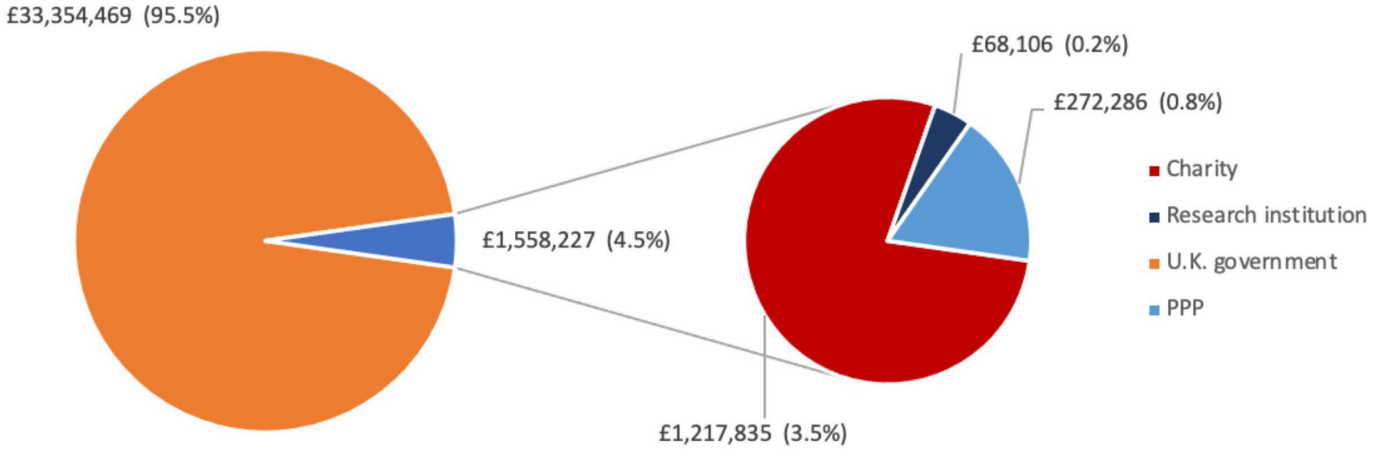

Figure 5 Funding given to support the R&D of the Oxford–AstraZeneca vaccine from January 2020 onwards, based on FOIs to the University of Oxford, sorted of funder type. PPP, public–private partnership.

Table 4 Top nine funders ranked by total amount of funding given to support the research and development of the ChAdOx technology and Oxford–AstraZeneca vaccine, based on Freedom Of Information requests to the University of Oxford

Rank based on total amount	Funder	ChAdOx technology (to SG and AH only), £ (%)	Oxford–AstraZeneca vaccine, £ (%)	Total, £ (%)
1	Department of Health and Social Care	0 (0.0)	31 179 621 (89.3)	31 179 621 (29.9)
2	European Commission	23 545 255 (34.0)	0 (0.0)	23 545 255 (22.6)
3	Wellcome Trust	14 144 606 (20.4)	1 217 835 (3.5)	15 362 440 (14.7)
4	Coalition for Epidemic Preparedness and Innovations	12 098 260 (17.5)	272 286 (0.8)	12 370 546 (11.9)
5	Medical Research Council	3 080 837 (4.4)	2 174 848 (6.2)	5 255 685 (5.0)
6	Foundation for National Institute of Health (US)	5 729 292 (8.3)	0 (0.0)	5 729 292 (5.5)
7	Innovate UK	2 403 678 (3.5)	0 (0.0)	2 403 678 (2.3)
8	European & Developing Countries Clinical Trials Partnership	2 209 747 (3.2)	0 (0)	2 209 747 (2.1)
9	Bill and Melinda Gates Foundation	1 595 006 (2.3)	0 (0.0)	1 595 006 (1.5)
10–20	Other	£4 506 697 (6.5%)	68 106 (0.2)	4 574 803 (4.4)
Total		69 313 379	34 912 696	104 226 076

Funders which contributed >£1 000 000 are shown.
AH, Professor Adrian Hill; ChAdOx, chimpanzee adenovirus-vectored vaccine; SG, Sarah Gilbert.

review for academic publications on the ChAdOx technology and the Oxford–AstraZeneca vaccine.

Due to insufficient identifiable information that could link the two datasets, we were not able to cross-match the funding between the academic literature and the FOIs, which is a major limitation of our study. Furthermore, only 21% of exact grant amounts for funder mentions in academic publications were retrievable from publicly available information. Receiving funding information through FOIs was largely successful, making it a useful novel method for reconstructing the cost of R&D for health technologies that are largely developed at public research institutions. However, UK institutions are legally required to spend a maximum of 18 hours collecting the requested data according to the Freedom of Information Act Regulation 4 (2004),[24] limiting the scope of these FOI requests. Another limitation of this study is that due to its primary focus on prepandemic academic literature and grants received for SG and AH, funding for manufacturing scale-up and late-stage clinical trials of the Oxford–AstraZeneca vaccine was outside of our scope. For example, the University of Oxford received at least £65.5 million from the UK Department of Business, Energy and Industrial Strategy for the development of the COVID-19 vaccine and the relevant clinical trials.[14] The UKRI database further listed two UKRI grants to the University of Oxford, worth £657 388.[25] Additionally, the US government awarded US$125.6 million and over US$1.2 billion in funding to AstraZeneca for vaccine trials, manufacturing, and distribution of vaccine doses to the US government.[26 27] A further nine donations totalling £1.8–2.9 million (included in online supplemental file 3) were reported by the University of Oxford in their response to our FOI, two of which came from charitable sources, totalling £50 000–100 000. The remaining seven donations were private or anonymous funders. All nine donations were not integrated into the FOI dataset as exact amounts were not provided and donor names or amounts were missing for 44.4% of donations. There is also circa £18 m worth of funding in the FOI regarding SG and AH that may be linked to the development of the vaccine, consisting of fellowship grants and general vaccine grants with descriptions too vague to attribute them to the development of ChAdOx specifically (listed in full in online supplemental file 3). Our approximation of the cost of the R&D of the ChAdOx technology is therefore conservative, as it most likely excludes important salary costs, some contributions towards the scale-up of manufacturing, and funding for clinical trials to the University of Oxford beyond October 2020.

By applying a methodology that included data collection through two different mechanisms, we are confident to have captured a good approximation of the R&D costs for the ChAdOx vaccine technology at the University of Oxford. However, our study was unable to identify any funding that was received for R&D conducted by Vaccitech, the spin-off company founded in 2016 by SG and AH to further develop the ChAdOx and Modified Vaccinia Ankara (MVA) viral vectors.[28] This is because it is only possible to send FOIs to public institutions. The private contributions for the complete R&D of the ChAdOx technology might therefore have been higher than identified in our study, which focused on the research conducted at the University of Oxford. Finally, it was not possible to measure relevant non-monetary contributions to the ChAdOx R&D, such as the participation in clinical trials, for example, in South Africa and Brazil for the Oxford–AstraZeneca vaccine.[29 30] Future research should focus on

analysing the public and private contribution and risk-taking in the later stages of the R&D of ChAdOx nCoV-19, specifically the funding of clinical trials in humans conducted after the University of Oxford entered an agreement with AstraZeneca.

The lack of transparency around the costs of R&D of novel health technologies is a prevailing issue, with large disparities in estimates reported.[31] Although there have been improvements in funding reporting in the past years, there are still major obstacles to investigating the funding of biomedical innovation based on disclosures made in the published scientific literature.[32–34] Furthermore, the cumulative nature of scientific research makes it difficult to ascertain the R&D costs of previous innovation, which may have enabled the development of the ChAdOx technology and the Oxford–AstraZeneca vaccine.[33] Of the grant mentions relevant to the R&D of ChAdOx identified through the scoping review, nearly four-fifths could not be matched to an amount using searchable online grant databases. This was because for many of these grants the award number was not given in the funding acknowledgement section of the article, or because the funder had no searchable database in which the exact grant amount was listed. Attempting to match grants without award numbers was unreliable and inconsistent. Another issue was a lack of publicly available grant information of particular types of funders, especially from the two main research institution funding bodies that contributed to the ChAdOx technology based on the funding acknowledgement statements, the Jenner Institute and The Oxford Martin School. Funding amounts from the private sector and PPPs were especially difficult to identify in this study as they usually do not disclose their grants in publicly accessible databases. As a result, the approximation of R&D costs of two decades of research into the ChAdOx technology on the basis of acknowledgements in academic articles is most likely a gross underestimation as only 21% of all mentions could be matched. Furthermore, due to a discrepancy in the titles of grants as disclosed by the University of Oxford in the FOI, which often excluded grant numbers, and the funder mentions in the academic literature, prevented the integration of the two datasets. Therefore, we here present two approximations of the funding of ChAdOx R&D at the University of Oxford. Initiatives to address the lack of transparency in R&D funding have been initiated, such as a 2019 World Health Assembly (WHA) resolution 72.8 which sought to improve 'the transparency of markets for medicines, vaccines, and other health products'.[35] However, the voluntary nature of such initiatives and opposition from the private sector as well as governments of high-income countries limit efforts to increase R&D transparency globally.[36]

In response to the pandemic, Oxford University Innovation (OUI), a subsidiary of the University of Oxford managing the university's technology transfer, published a statement committing to non-exclusive, royalty-free licensing and affordable pricing for the duration of the pandemic.[37] However, the University of Oxford shortly after releasing this statement entered an exclusive licensing agreement with the British-Swedish pharmaceutical company AstraZeneca for the COVID-19 vaccine.[38 39] While AstraZeneca pledged to sell the vaccine globally at no profit during the pandemic, the price of the vaccine reportedly includes a profit margin of 20% on top of the production cost.[40 41] The Oxford–AstraZeneca vaccine is offered at the lowest price of $5 per course, making it one of the most affordable vaccines available for COVID-19.[6] Vaccine prices paid by countries are kept confidential, yet discrepancies in pricing have been reported with some lower-income countries seemingly paying more than higher-income countries.[42] AstraZeneca has, in collaboration with the Serum Institute of India, committed a large number of vaccine doses to the COVAX facility.[43] However, as of October 2021, AstraZeneca has only delivered 14% of the vaccine doses that were originally promised to COVAX.[44]Global equitable access is further hindered by bilateral purchasing agreements made between AstraZeneca and countries outside of COVAX.[45] Given that the Oxford–AstraZeneca vaccine price is determined by the pandemic status and SARS-CoV-2 will likely become an endemic virus requiring repeated vaccinations, affordability of the vaccine postpandemic remains a concern.[46]

Despite a lack of research funding transparency, our findings show the dominance of government and charity funding throughout the R&D process of the ChAdOx technology, which accelerated during the pandemic. Public funding has been especially critical for vaccine research, where the failure rate is as high as 94%, and public risk-taking has enabled the rapid development of many COVID-19 vaccines.[19 47] Prior to the pandemic, the ChAdOx technology has been studied in several diseases that the WHO identified as emerging infectious diseases requiring urgent R&D efforts in their Blueprint for Action to Prevent Epidemics[48] including Nipah, MERS, and Ebola.[49] In addition to government and charitable funders, PPPs are growing global health actors prominent in R&D efforts for diseases endemic to lower-income populations, for which a funding gap prevails.[50 51 52] These public and charitable funding bodies include governments, charitable organisations, and the PPPs such as CEPI, PATH malaria vaccine initiative and CGIAR. Since the PPPs that contributed to ChAdOx were largely supported by public funding, we categorised them as public in our study.[53] To recognise the public contributions and risk-taking in the R&D of the ChAdOx technology on which the Oxford–AstraZeneca vaccine relies, the benefits of this research should be shared fairly and equitably with the global population.[39 54 55] As the ChAdOx vaccine platform is potentially applicable to many more global health challenges beyond the COVID-19, including emerging infectious diseases and pathogens of pandemic potential other than SARS-CoV-2, its mode of technology transfer is of global public health relevance with potential impact for equitable access and affordability of vaccines for other diseases.

CONCLUSION

Approximating the funding of ChAdOx to the University of Oxford offers a relevant and timely case study to understand wider trends in R&D taking place at universities and the importance of transparency in funding reporting. We found that public and charitable funders provided the majority of identifiable funding to the University of Oxford towards the R&D of the Oxford–AstraZeneca vaccine and the underlying ChAdOx technology until October 2020, which may have significant implications for the global discourse around vaccine nationalism and COVID-19 health technology access. Understanding who contributed to the development of ChAdOx is of importance to other global health challenges as well, considering that the vaccine platform may be used for multiple applications beyond SARS-CoV-2, offering an opportunity to rapidly and equitably develop affordable solutions to other existing and emerging infectious disease threats. However, a lack of transparency of funding reporting mechanisms hinders the discourse surrounding public and private contributions towards R&D and the cost of R&D. We therefore urge medical journal editors and research funders to further improve their funding reporting mechanisms by publishing funding and grant information more widely in a publicly accessible manner.

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Contributors SK and SW conceived of the study and act as guarantors. FR and SK devised the methodology. FR made the search strategy. SK filed the freedom of information (FOI) requests and managed communication with the University of Oxford. FR and SK screened all articles. SC and HR extracted the data from the articles. YR searched grant databases using award numbers. SC and YR classified all the grants from the FOI. TP, SK and SW contributed to data management. SC and SK wrote the Methods and Results sections. SW, SC, SK, RO, AE-O, TP and RB wrote the first draft of the manuscript. SK, TP, and SW made the revisions to the manuscript. All authors contributed to and edited the final manuscript.

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Competing interests The authors of this paper are all members of Universities Allied for Essential Medicines Europe. SW is a member of the Executive Committee of Universities Allied for Essential Medicines Global and FR is the National Coordinator of Universities Allied for Essential Medicines UK. SK and RO are members of the People's Health Movement and the WHO Watch initiative. RO is currently policy director for Students for Global Health UK. However, views expressed in this paper are their own and are not necessarily shared with the organisations the authors are affiliated with.

Patient consent for publication Not applicable.

Ethics approval This study did not receive nor require ethics approval as it does not involve human and animal participants.

Provenance and peer review Not commissioned; externally peer reviewed.

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Appendix 1 – Search Strategy

Embase Ovid (1974 to 26th October 2020) searched 26th October 2020

No.	Search Terms	Results
1	Coronavir$ or "corona virus" or $coronavirus or covid19 or "covid 19" or nCoV or "CoV 2" or CoV2 or sarscov2 or 2019nCoV or "novel CoV" or "wuhan virus" or ((wuhan or hubei or huanan) and ("severe acute respiratory" or pneumonia) and outbreak)	
2	ChAdOx1 or ChAdOx2 or Chimpanzee adenovirus-vectored or AZD1222 or MN908947 or spike protein	
3	1 OR 2	
4	Vaccitech or AstraZeneca or AZC or Oxford or Jenner or JI	
5	3 AND 4	166

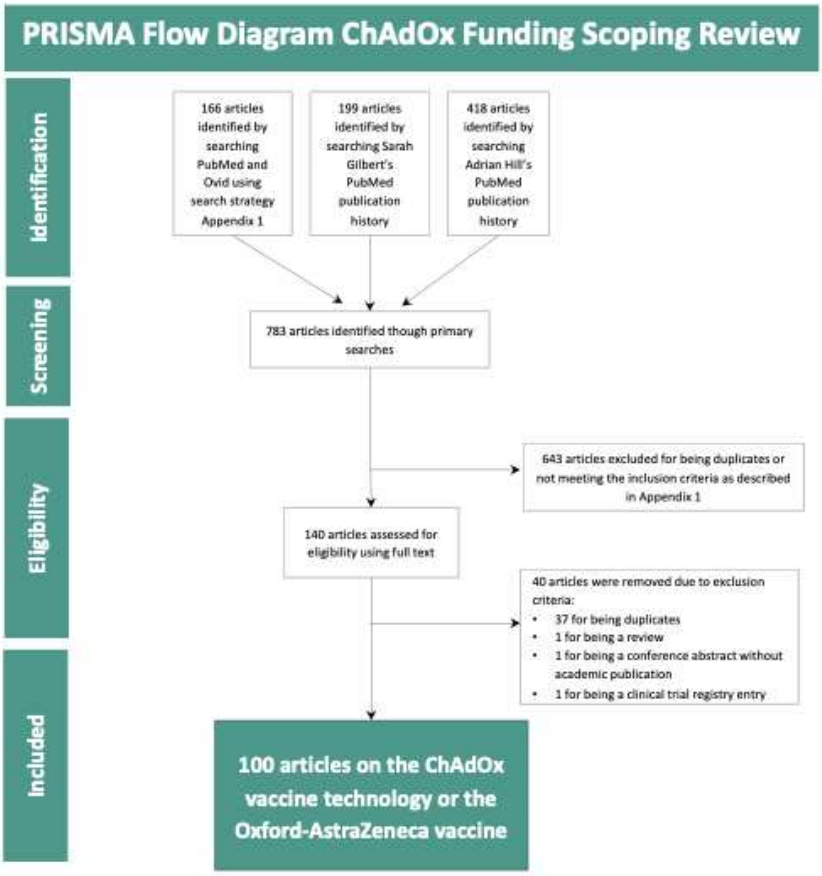
Pubmed (1946 to 29th November 2020) searched on 29th November 2020

No.	Search Terms	Results
1	Adrian Hill [Author]	418

Pubmed (1946 to 29th November 2020) searched on 29th November 2020

No.	Search Terms	Results
1	Sarah Gilbert [Author]	199

Figure 1 - PRISMA Flow Diagram scoping review of the academic literature on the ChAdOx technology


PRISMA Flow Diagram ChAdOx Funding Scoping Review
Identification
Screening
Eligibility
Included
166 articles identified by searching PubMed and Ovid using search strategy Appendix 1
199 articles identified by searching Sarah Gilbert's PubMed publication history
418 articles identified by searching Adrian Hill's PubMed publication history
783 articles identified though primary searches
643 articles excluded for being duplicates or not meeting the inclusion criteria as described in Appendix 1
140 articles assessed for eligibility using full text
40 articles were removed due to exclusion criteria:
• 37 for being duplicates
• 1 for being a review
• 1 for being a conference abstract without academic publication
• 1 for being a clinical trial registry entry
100 articles on the ChAdOx vaccine technology or the Oxford-AstraZeneca vaccine

Authors	Publication title	Date	Journal	Funding acknowledgement	Competing Interests	If relevant: clinical trial ID	Comments	Date of data extraction
Afolabi MO	Safety and Immunogenicity of ChAd63 and MVA ME-TRAP in West African Children and Infants	2016	Official journal of the American Society of Gene & Cell Therapy	Trials Partnership (EDCTP) and was performed by the Malaria Vectored Vaccines Consortium (MVVC), a four and a half year integrated project funded by the European and Developing Countries Clinical Trials Partnership (EDCTP, grant number IP.2008.31100.001). The work was also supported by the UK National Institute of Health Research (NIHR) through the NIHR Oxford Biomedical Research Centre (http://www.oxfordbrc.org/) [A91301 Adult Vaccine], The Wellcome Trust (http://www.wellcome.ac.uk/) (084113/Z/07/Z) and the Medical Research Council. Cofunding was also provided by the Swedish International Development Cooperation Agency (Sida) and Irish Aid. This research was supported by the UK Medical Research Council (MRC) and the UK Department for International Development (DFID) under the MRC/DFID Concordat agreement and MC_UP_A900/1122	AVSH is a named inventor on patent applications on malaria vectored vaccines and immunization regimens. Authors from ReiThera are employees of and/or shareholders in ReiThera, which is developing vectored vaccines for malaria and other diseases.	NCT01373879, NCT01450293, NCT01635647. PACTR201204000362870, PACTR201401000363170, PACTR201208000404131	N/A	08/12/2020
Alcock R	Long-term thermostabilization of live poxviral and adenoviral vaccine vectors at suprahysiological temperatures in carbohydrate glass	2010	Elselvier - Vaccine	No funding disclosure found	Conflict of interest: SCG is a co-founder of, consultant to and shareholder in Vac-citech plc which is developing vectored influenza and MERSvaccines.	N/A	No funding disclosure found	16/12/20
Alharbi NK Alharbi NK	ChAdOx1 and MVA based vaccine candidates against MERS-CoV elicit neutralising antibodies and cellular immune responses in mice	2017	Vaccine	No funding statement found	SCG is a co-founder of, consultant to and shareholder in Vaccitech plc which is developing vectored influenza and MERS vaccines.	N/A	N/A	21/12/2020
Alves E	Humoral Immunogenicity and Efficacy of a Single Dose of ChAdOx1 MERS Vaccine Candidate in Dromedary Camels	2019	Nature	This study is funded by KAIMRC, project RC16/093 granted to the PI: Naif Khalaf Alharbi; in addition, animals, research farm, and animal logistics were financially supported by MEWA, Saudi Arabia. SCG is a Jenner Investigator and supported the manufacturing of the vaccine batch.	SCG is a co-founder of and consultant to Vaccitech, a spin-out company from the University of Oxford which has commercial rights to ChAdOx1 MERS. ChAdOx1 MERS vaccine is registered as an IP, number: WO 2018/215766. The remaining authors declare no potential conflict of interest.	N/A	N/A	18/12/20
Antrobus RD Asthagiri Arunkumar G	Evaluation of Plasmodium vivax Cell-Traversal Protein for Ookinetes and Sporozoites as a Preerythrocytic P. vivax Vaccine	2017	Clinical and Vaccine Immunology	The work was funded by a Wellcome Trust Career Development Fellowship award(grantnumber 097395/Z/11/Z) to A.R.-S.	N/A	N/A	N/A	08/12/2020
Atcheson E	Clinical assessment of a novel recombinant simian adenovirus ChAdOx1 as a vectored vaccine expressing conserved Influenza A antigens	2014	Molecular Therapy	The study was funded by grants from the UK MRC, the NIHR through the Oxford Biomedical Research Centre, and the Oxford Martin school.	T.L is an Oxford Martin fellow. S.C.G and A.V.S.H. are Jenner Investigators. S.C.G, M.D.D, and A.V.S.H are named inventors on a pat-ent application describing the ChAdOx1 vector (GB Patent Application No. 1108879.6).	NCT01623518	N/A	08/12/2020
Barnes E Barnes E	Vaccination with viral vectors expressing NP, M1 and chimeric hemagglutinin induces broad protection against influenza virus challenge in mice	2019	Elselvier Vaccine	The study was fundedby an MRC Biomedical Catalyst DPFS_DCS award (MR/N006372/1).In addition, this study was partially funded by the NIAID Centers ofExcellence for Influenza Research and Surveillance contract(CEIRS, HHSN272201400008C). Andriani Ioannou was supportedby an NIAID T32 Virus-Host Interactions training grant(5T32AI007647-17).	The Icahn School of Medicine at Mount Sinai has filed patentapplications regarding influenza virus vaccines with FlorianKrammer being an inventor. Sarah Gilbert is an inventor on patentscovering ChAdOx1 and MVA-NP+M1, filed and owned by theUniversity of Oxford, and is a co-founder of and consultant toVaccitech, a University of Oxford spin-out company which isundertaking advanced clinical development of viral vectoredinfluenza vaccines.	N/A	N/A	18/12/20
Barnes E	Tailoring a Plasmodium vivax Vaccine To Enhance Efficacy through a Combination of a CSP Virus-Like Particle and TRAP Viral Vectors	2018	Infection and Immunity	The work was funded by a Wellcome Trust Career Development Fellowship award(grant 097395/Z/11/Z) to A.R.-S., who is also a Jenner Investigator and an Oxford MartinFellow and is supported by MRC-DPFS (grant MR/N019008/1). A.M.S. was funded byEVIMalaR's program funding (FP7/2007-2013) under grant agreement number 242095. E.A.was funded by CAPES from Science without Border program. A.V.S.H. is supported by aWellcome Trust grant (number 095540/Z/11/Z) and is a Jenner Investigator and an OxfordMartin Fellow.	N/A	N/A	N/A	10/12/2020
Barnes E	Novel adenovirus-based vaccines induce broad and sustained T cell responses to HCV in man	2012	Science Transitional Medicine	European Union (Framework VI;HEPACIVAC); Medical Research Council (UK); Wellcome Trust; Oxford NIHR Biomedical ResearchCentre; James Martin School for 21st Century, Oxford; Wellcome Trust Clinical Research Facility,Birmingham; National Institute for Health and Research Liver Biomedical Research Unit, Birmingham;and NIH grant 1U19AI082630-01.	S. Colloca, A.F., R.C., and A.N.are named inventors on patent applications covering HCV-vectored vaccines and chimpanzee ad-enovirus vectors [WO 2006133911 (A3) hepatitis Cvirus nucleic acid vaccine, WO 2005071093 (A3)chimpanzee adenovirus vaccine carriers, WO 03031588 (A2) hepatitis Cvirus vaccine]. P.K. has actedas a consultant to Tibotec and Pfizer on antiviraltherapy. Authors from Okairos are employees ofand/or shareholders in Okairos. The other authors declare that they have no competing interests.	NCT01070407, 2007-004259-12	N/A	10/12/2020
Bauza K	ChAdOx1-HBV therapeutic vaccine: Phase 1 study results in healthy volunteers and patients with chronic hepatitis B	2020	N/A - only on clinicaltrials.gov (https://clinicaltrials.gov/ct2/show/NCT04297917)	N/A	N/A	NCT04297917	Study still recruiting	18/12/20
Betts G	Efficacy of a Plasmodium vivax malaria vaccine using ChAd63 and modified vaccinia Ankara expressing thrombospondin-related anonymous protein as assessed with transgenic Plasmodium berghei parasites	2014	Infection and Immunity	The work was funded by a Wellcome Trust Career Development Fel-lowship award, grant number 097395, to A.R-S. A.R.-S. and A.V.S.H. arelenner Investigators and Oxford Martin School Fellows. E.Y.J. and T.M.are funded by the Medical Research Council and Cancer Research UnitedKingdom. Work at the Wellcome Trust Sanger Institute was funded byWellcome Trust grant number WT098051.	N/A	N/A	N/A	10/12/2020
Biswas S	Optimising immunogenicity with viral vectors: mixing MVA and HAdV-5 expressing the mycobacterial antigen AgB5A in a single injection	2012	Plos One	Funding was provided by NEWTBVAC (EC FP7). HM is a Wellcome Trust Senior Research Fellow (www.wellcome.ac.uk; WT076943MA). HM, AH and AR-Sare Jenner Institute Investigators. AR-S is a Wellcome Trust Career Development Fellow (097395).	The authors have read the journal's policy and have the following conflicts: AVSH, AAP, and HM are named inventors in a patent filingrelated to MVA85A and are shareholders in a joint venture, OETC, formed for the future development of this vaccine. AVSH and HM are named as co-inventorsonpatents related to heterologous prime-boost immunization. There are no other conflicts of interest. These conflicts of interest will not in any way interfere withthe authors' adherence to the journal's policies on sharing data and materials.	N/A	N/A	10/12/2020
Biswas S	Assessment of humoral immune responses to blood-stage malaria antigens following ChAd63-MVA immunization, controlled human malaria infection and natural exposure	2014	Plos One	This work was supported by the UK Medical Research Council (MRC; http://www.mrc.ac.uk) [grant number G0700735]; the EMVDA (European MalariaVaccine Development Association; http://www.emvda.org), a European Commission FP6-funded consortium [LSHP-CT-2007-037506]; the UK National Institute ofHealth Research through the Oxford Biomedical Research Centre (http://[084113/Z/07/Z]; and by EVIMalaR (http://www.evimalar.org) funded by the European Community'sSeventh Framework Programme (FP7/2007-2013)[Grant agreement No. 242095]. The GIA work was supported by the PATH Malaria Vaccine Initiative (http://www.malariavaccine.org) and the Intramural Program of the National Institutes of Health, National Institute of Allergy and Infectious Diseases (http://www.niaid.nih.gov). SHH holds a Wellcome Trust Research Training Fellowship (097940/Z/11/Z). AVSH and SJD are Jenner Investigators (http://www.jenner.ac.uk). SB is a NDM Leadership Fellow (http://www.ndm.ox.ac.uk) and Junior Research Fellow of St Catherine's College, Oxford University (http://www.stcatz.ox.ac.uk). SJD is a UK MRC Career Development Fellow [G1000527] and Lister Institute Research Prize Fellow (http://www.lister-institute.org.uk). The funders had no role in study design, data collection and analysis, decision to	SCdC, KAC, AVSH and SJD are named inventors on patent applications covering malaria vaccines and immunization regimes (Adenoviralvectors encoding a pathogen or tumour antigen, WO/2008/122811; Viral vector immunogenic compositions, GB1016471.3). This does not alter the authors'adherence to PLoS ONE policies on sharing data and materials.	NCT01095055, NCT01003314, NCT01142765, NCT00890760	N/A	10/12/2020
Biswas S	Transgene optimization, immunogenicity and in vitro efficacy of viral vectored vaccines expressing two alleles of Plasmodium falciparum AMA1	2011	Plos One	SB was funded by MalParTraining, an FP6-funded Marie Curie Action under contract number MEST-CT-2005-020492. The GIA work was supported inpart by the PATH-MVI Malaria Vaccine Initiative (MVI) and the Intramural Program of the National Institutes of Health, National Institute of Allergy and Infectious Diseases and in part by the EMVDA (European Malaria Vaccine Development Association, a European Commission FP6-funded consortium). AAH is funded bytheUK Medical Research Council (U117532067). AVSH and SCG are Jenner Investigators and are funded by the Wellcome Trust. SJD is a Junior Research Fellow ofMerton College, Oxford University.	SJD, SCG and AVSH are named inventors on patent applications covering malaria vectored vaccines and immunization regimes. Authorsfrom Okairo's are employees of and/or shareholders in Okairo 's, which is developing vectored malaria vaccines. This does not alter the authors' adherence to all thePLoS ONE policies on sharing data and materials.	N/A	N/A	10/12/2020
Bliss CM Bliss CM	Assessment of novel vaccination regimens using viral vectored liver stage malaria vaccines encoding ME-TRAP	2018	Scientific Reports	This study was funded by the UK NIHR Biomedical Research Centre (BRC) with additional support from the Wellcome Trust.	Adrian Hill and Sarah Gilbert are named inventors on patent applications and patents relating to malaria vectored vaccines and immunization regimens. Stefano Colloca and Alfredo Nicosia are employees of and/or shareholders in ReiThera, which is developing vectored vaccines for malaria and other diseases.	NCT01364883, 2010-023824-26	N/A	10/12/2020
Borthwick N	Targeting Antigen to the Surface of EVs Improves the In Vivo Immunogenicity of Human and Non-human Adenoviral Vaccines in Mice	2020	Molecular Therapy	This research project was supported in part by fundingfrom NIH/NIAID CEIRS (HHSN272201400008C), and by grantsawarded to L.C., including the US Graduate Women in Science(GWIS) 2017 Nell Mondy and Monique Braude Fellowship, a UKRoyal Society for Tropical Medicine and Hygiene small grant(GR000550), and by a Medical Research Fund pump-priming grantfrom the University of Oxford (MRF/TT2015/2150), UnitedKingdom.	A.V.S.H. is named as an inventor on a patent covering use ofChAdOx1-vectored vaccines and is a co-founder of, consultant to,and shareholder in Vaccitech plc, which is developing Ad-vectoredvaccines. The remaining authors declare no competing interests.	N/A	N/A	10/12/2020
	Vaccine-elicited human T cells recognizing conserved protein regions inhibit HIV-1	2014	Molecular Therapy	The work was supported by Medical Research Council (MRC) UK and Department for International Development UK through an Experimental Medicine call II award G0701669 with contributions from the International AIDS Vaccine Initiative. HIV-1 infectious mo-lecular clones were obtained from Dr George Shaw, University of Pennsylvania. The FEC Control Peptide Pool was obtained through the NIH AIDS Reagent Program, Division of AIDS, NIAID, NIH (ref. no. 19626).	A.N. and S.C. who were employees and shareholders of Okairos and Advent during the conduct of the study, and are inventors on patents WO 2005071093 (A3), WO 2006133911 (A3) and WO 03031588 (A2), A.J.McM. who reports grants from MRC and NIH, per-sonal fees from International AIDS Vaccine Initiative SAB during the conduct of the study and is an inventor on patent WO 06123256, LC reports grants from MRC during the conduct of the study, and T.H. who reports grants from MRC and European and Developing Countries Clinical Trial Partnership obtained during the conduct of the study and is an inventor on patent WO 06123256. The other authors declare no conflict of interest.	No ID found	Tried searching clinicaltrials.gov but could not find registered trial and not in study	16/12/20

Bowyer G	Activation-induced Markers Detect Vaccine-Specific CD4+ T Cell Responses Not Measured by Assays Conventionally Used in Clinical Trials	2018 Vaccines	The clinical trial was supported by funding from an Enhancement Award to a WellcomeTrust Strategic Award (to AVSH as PI) co-funded by the UK Medical Research Council, the UK Departmentfor International Development and the European and Developing Countries Clinical Trials Partnership, withadditional funding from the NIHR Oxford Biomedical Research Centre. The Oxford clinical trial was supported by funding from anEnhancement Award to a Wellcome Trust Strategic Award (toA.V.S. Hill as principal investigator) cofunded by the UK MedicalResearch Council, the UK Department for International Development, and the European and Developing Countries ClinicalTrials Parnership, with additional funding from the NationalInstitute for Health Research Oxford Biomedical Research Cen-tre.. GlaxoSmithKline Biologicals SA supplied the ChAd3–EBO-Zvaccine and had the opportunity to review this manuscript. TheMVA–EBO-Z vaccine was biomanufactured for these trials byEmergent Biosolutions under a contract from Oxford Universitywith funding from the same Enhancement Award. The Sene-galese trial was largely funded by a European Commission Ho-rizon 2020 program award, EbolaVac (http://www.ebolavac.eu), grant agreement no. 666085.	A.V.S.H. is a named inventor on patents relating to viral vectored vaccines. All other authorsdeclare no conflicts of interest.	NCT02451891, 2015-000593-3	N/A	21/12/2020
Bowyer G	Reduced Ebola vaccine responses in CMV+ young adults is associated with expansion of CD57+KLRG1+ T cells	2020 JEM	N/A	NCT02451891	N/A	18/12/20
Boyd AC	Towards a universal vaccine for avian influenza: protective efficacy of modified Vaccinia virus Ankara and Adenovirus vaccines expressing conserved influenza antigens in chickens challenged with low pathogenic avian influenza virus	2013 Elselvier - Vaccine	The Biotechnology and Biological Sciences Research Council and Wellcome Trust are gratefully acknowledged for their financial support.	N/A	N/A	N/A	16/12/20
Bull TJ	Immunity, safety and protection of an Adenovirus 5 prime--Modified Vaccinia virus Ankara boost subunit vaccine against Mycobacterium avium subspecies paratuberculosis infection in calves	2014 Veterinary Research	This work was supported by Biotechnology and Biological Sciences ResearchCouncil (BBSRC) grants BB/H010556/1 and BB/H010718/1. Jayne Hope andIrene McGuinnes were supported by Institute Strategic Grant funding fromthe BBSRC	TJB is a minor shareholder in HAV Vaccines Ltd.	N/A	N/A	20/12/2020
Capone S	Immune responses against a liver-stage malaria antigen induced by simian adenoviral vector AdCh63 and MVA prime-boost immunisation in non-human primates	2010 Elselvier - Vaccine	This work was supported by the Wellcome Trust. AVSH is a Wellcome Trust Principal Research Fellow.	N/A	N/A	N/A	16/12/20
Cappuccini F	5T4 oncofoetal glycoprotein: an old target for a novel prostate cancer immunotherapy	2017 Oncotarget	This work was supported by Oxford National Institutes for Health Research (NIHR) Biomedical Research Centre, UK (IR); the UK Medical Research Council CiC6 award (SS), the UK Wellcome Trust Senior Investigator's Award (AVSH) and the European Union's Seventh Framework Programme under grant agreement No. 602705 (IFC, EP).	N/A	N/A	N/A	21/12/2020
Cappuccini F	Safety and immunogenicity of novel 5T4 viral vectored vaccination regimens in early stage prostate cancer: a phase I clinical trial	Journal for ImmunoTherapy of 2020 Cancer	The VANCE clinical trial was supported by the European Union's Seventh Framework Programme under grant agreement no. 602705.	AVSH is a co- founder of and shareholder in Vaccitech Ltd which has supported the Oxford prostate cancer vaccine programme.	NCT02390063	N/A	18/12/20
Cappuccini F	Immunogenicity and efficacy of the novel cancer vaccine based on simian adenovirus and MVA vectors alone and in combination with PD-1 mAb in a mouse model of prostate cancer	2016 Cancer Immunol Immunother	This work was supported by Oxford National Institutes for Health Research (NIHR) Biomedical Research Centre, UK (I. Redchenko); the UK Medical Research Council CiC6 award (S. Stribbling), the UK Wellcome Trust Senior Investigator's Award (A.V.S. Hill) and the European Union's Seventh Framework Programme under Grant Agreement No. 602705 (F. Cappuccini, E. Pollock)	N/A	N/A	N/A	21/12/2020
Carey JB	Microneedle-mediated immunization of an adenovirus-based malaria vaccine enhances antigen-specific antibody immunity and reduces anti-vector responses compared to the intradermal route	2014 Scientific Reports	This work wassupported by Enterprise Ireland (Commercialisation Fund, CFTD07/117) and ScienceFoundation Ireland (National Access Programme 70 and 170). AVSH and SJD are JennerInvestigators; and SJD is a UK MRC Career Development Fellow [G1000527] and ListerInstitute Research Prize Fellow.	The authors declare no competing financial interests.AVSH and SJD are named inventors on patent applications covering malaria vectoredvaccines and immunization regimes. JBC, AV, COM, AVSH, ACM are named inventors onpatent applications covering microneedle-mediated vaccine delivery.	N/A	N/A	16/12/20
Colloca S	Vaccine vectors derived from a large collection of simian adenoviruses induce potent cellular immunity across multiple species	2012 Science Transitional Medicine	This work was supported in part by Hepacivac (LSH-2005-1.2.4-2 project 037435)and the Wellcome Trust. A.V.S.H. was supported by a Wellcome Trust Principal Research Fel-lowship. E.B. was supported by Medical Research Council (UK).Author	N/A	HCV vaccine phase 1 trial (HCV001) was registered with the European Clinica ITrial database (EudraCT number: 2007-004259-12) and with the ClinicalTrials.gov database (ID: NCT01070407); malaria vaccine clinical trial (VAC043) was registered with the European Clinical Trial database (EudraCT number: 2010-023824-26) and with theClinicalTrials.gov database (ID: NCT01364883).	Clinical trials not this study but referenced studies	16/12/2020
Colston JM	Modification of Antigen Impacts on Memory Quality after Adenovirus Vaccination	2016 The Journal of Immunology	This work was supported by Wellcome Trust Grants 099897/Z/12/A and 091663MA.	N/A	N/A	N/A	20/12/2020
Cottingham MG	Preventing spontaneous genetic rearrangements in the transgene cassettes of adenovirus vectors	2012 Biotechnology and Bioengineering	This work was supported by the European Vaccine Initiative, theOxford Martin School, the Gates Foundation through the Foundationfor NIH, The Wellcome Trust, and the NIHR Oxford BiomedicalResearch Centre. We are grateful to Dr. Alexandra J. Spencer, JennerInstitute, University of Oxford, for assistance with immunology; toMr. Jake Matthews, Vector Core Facility, Jenner Institute, Universityof Oxford, for assistance with ChAd63-Pfs230; and to Dr. Nicola K.Green and Dr. Eleanor Berrie of the Clinical BiomanufacturingFacility, University of Oxford, for assistance and advice. Dr. DavidH. Wyllie, Jenner Institute, University of Oxford performed somedoning steps.	Conflict of interest: Okairo´s Srl and the University of Oxford hold intellectual propertyrelated to adenovirus vaccine vectors.	N/A	N/A	16/12/20
Coughlan L.	Heterologous Two-Dose Vaccination with Simian Adenovirus and Poxvirus Vectors Elicits Long-Lasting Cellular Immunity to Influenza Virus A in Healthy Adults	2018 Elselvier	Medical Research Council UK, NIHR BMRC Oxford.	SG and AVH are co-founders of Vaccitech, a company developingviral vectored vaccines including broadly cross-reactive influenza vac-cines. SS holds stock in SanofiPasteur which develops and markets in-fluenza vaccines. HdG received a travel grant from Abbvie.	NCT01818362	N/A	18/12/20
de Barra E	A phase Ia study to assess the safety and immunogenicity of new malaria vaccine candidates ChAd63 CS administered alone and with MVA CS	2014 Plos One	The study was funded by a grant fromthe European Vaccine Initiative (EVI),http://www.euvaccine.eu/. Antibody assays were performed atWRAIR and were funded by the Malaria VaccineInitiative. This work was also supported by the UKNational Institute of Health Research through theOxford Biomedical Research Centre (A91301 AdultVaccine) and the Wellcome Trust (084113/Z/07/Z).SCG and AVSH are Jenner Investigators; AVSH issupported by a Wellcome Trust Principal ResearchFellowship (45488/Z/05); and SHH holds aWellcome Trust Research Training Fellowship(097940/Z/11/Z). The funders had no role in studydesign, data collection and analysis, decision topublish, or preparation of the manuscript.	The authors have read thejournal's policy and have the following conflicts:AVSH and SCG are named inventors on patentfilings related to immunisation with vectored malariavaccines, specifically WO2008/122769. None ofthese products have been commercialized. AN wasan employee of Okairos AG at the time of the study.Okairos AG has since been acquired by GSLVaccines, which now owns patents and patentapplications related to simian adenoviruses. None ofthe authors have had any consultancies relevant tothis paper. This conflict of interest does not alterthese authors' adherence to all PLOS ONE policieson sharing data and materials, as detailed online inthe guide for authors.	NCT01450280	N/A	16/12/20
de Cassan SC	The requirement for potent adjuvants to enhance the immunogenicity and protective efficacy of protein vaccines can be overcome by prior immunization with a recombinant adenovirus	2011 The Journal of Immunology	S.C.d.C. is a Ph.D. student supported by the European Malaria Vaccine DevelopmentAssociation, a European Commission Framework Programme 6-funded consortium(Grant LSHP-CT-2007-037506). This work was also partly supported by the Well-come Trust (Grant 084113/Z/07/Z), the National Institute for Health Research Ox-ford Biomedical Research Centre, TRANSVAC, a European Commission Framework7Programme 7-funded consortium infrastructure grant, and grants to C.E.C. and V.S.C.from the Department of Biotechnology, Government of India, and European VaccineInitiative. C.E.C. is supported by a Tata Innovation Fellowship from the Department ofBiotechnology, Government of India. A.V.S.H. was supported by a Wellcome TrustPrincipal Research Fellowship. S.C.G., A.V.S.H., and S.J.D. are Jenner Investigators.S.J.D. is a Medical Research Council Career Development Fellow (Grant G1000527).	Disclosures: S.C.d.C., E.K.F., A.D.D., A.M., S.C.G., A.V.S.H., and S.J.D. are namedinventors on patent applications covering malaria-vectored vaccines andimmunization regimes. The other authors have no financial conflicts ofinterest.	N/A	N/A	16/12/20
Dicks MD	Differential immunogenicity between HAdV-5 and chimpanzee adenovirus vector ChAdOx1 is independent of fiber and penton RGD loop sequences in mice	2015 Scientific Reports	This work has been funded by a grant from the Wellcome Trust (095540/2/11/Z). AVSH and SCG are Jenner Institute Investigators, AJS and MGC are James Martin Fellows.	MDJD, SCG, AVSH, and MGC are named inventors on a patent application describing the ChAdOx1 vector (US2015044766).	N/A	N/A	20/12/2020
Dicks MD	The relative magnitude of transgene-specific adaptive immune responses induced by human and chimpanzee adenovirus vectors differs between laboratory animals and a target species	2015 Vaccine	This work has been funded by the Wellcome Trust (095540) with addi-tional funding from the Foundation for the National Institute of Health through the Grand Challenges in Global Health Initiative (HILL05GCGH0). MDJD received additional funding from the Euro-pean Malaria Vaccine Development Association (EMVDA). AVSH is a Wellcome Trust Principal Research Fellow. EG and BC were funded by the Biotechnology and Biological Sciences Research Council BBS/E/I/00001373, UnitedKingdom.	MDJD,SCG,AVSH,andMGCarenamedinventorsonapatentapplicationdescribingtheChAdOx1vector(PCTApplicationNo.PCT/GB2012/000467).	N/A	N/A	20/12/2020

Dicks MD	A novel chimpanzee adenovirus vector with low human seroprevalence: improved systems for vector derivation and comparative immunogenicity	2012 Plos One	This work has been funded by grants from the Foundation for the National Institute of Health through the Grand Challenges in Global Health Initiative,with additional funding from the Wellcome Trust. MDJD received additional funding from the European Malaria Vaccine Development Association (EMVDA). MGCis a fellow of the Oxford Martin School Institute for Vaccine Design. SCG is a Jenner Investigator. AVSH is Director of the Jenner Institute and a Wellcome TrustPrincipal Research Fellow. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	Competing interests: MDJD, SCG, AVSH, and MGC are named inventors on a patent application describing the ChAdY25/ChAdOx1 vector (GB PatentApplication No. 1108879.6). This does not alter the authors' adherence to all the PLoS ONE policies on sharing data and materials.	N/A	N/A	16/12/20
Draper SJ	Enhancing blood-stage malaria subunit vaccine immunogenicity in rhesus macaques by combining adenovirus, poxvirus, and protein-in-adjuvant vaccines	2010 The Journal of Immunology	This work was funded by the Wellcome Trust and the European Malaria Vaccine Devlopment Association, a European Commission FP6-funded consortium. S.J.D. is a Junior Research Fellow of Merton College, Oxford, United Kingdom. S.C.G. and A.V.S.H. are Jenner Investigators, and A.V.S.H is also a Wellcome Trust Principal Research Fellow.	Disclosures: S.J.D, S.C.G, and A.V.S.H. are named inventors on patent applications covering malaria vectored vaccines and immunization regiments. S.C., M.N., A.F., and A.N. are employees of and/or shareholders in Okairós, which is developing vecotored vaccines for malarian and other diseases.	N/A	N/A	16/12/20
Dulal P	Potency of a thermostabilised chimpanzee adenovirus Rift Valley Fever vaccine in cattle	2016 Vaccine	This study was conducted with support from a grant from the Bill & Melinda Gates Foundation Grand Challenges ExplorationI nitative to GMW (OPP1096893) and a Wellcome Trust fellowship to GMW (WT098635). B.C. and A.V.S.H. are Jenner Inves-tigators.	N/A	N/A	N/A	20/12/2020
Elias SC	Analysis of human B-cell responses following ChAd63-MVA MSP1 and AMA1 immunization and controlled malaria infection	2013 Immnunology	This work was supported by the UK Medical ResearchCouncil (grant number G0700735); the European MalariaVaccine Development Association, a European Commis-sion FP6-funded consortium (LSHP-CT-2007-037506);the UK National Institute of Health Research through theOxford Biomedical Research Centre; the Wellcome Trust(084113/Z/07/Z); and by EVIMalaR funded by the Euro-pean Community's Seventh Framework Programme (FP7/2007–2013) (Grant agreement No. 242095). AVSH andSJD are Jenner Investigators; and SJD is a UK MRCCareer Development Fellow (G1000527) and Lister Insti-tute Prize Research Fellow.	SCdC, KAC, AVSH and SJD are named inventors on pat-ent applications covering malaria vaccines and immuniza-tion regimens.	NCT01373879, NCT01142765, NCT01003314, NCT01095055	N/A	20/12/2020
Ewer K	A Monovalent Chimpanzee Adenovirus Ebola Vaccine Boosted with MVA	2016 New England Journal of Medicine	Supported by the Wellcome Trust, the United Kingdom Medi-cal Research Council, the United Kingdom Department for Inter-national Development, and the United Kingdom National Insti-tute for Health Research Oxford Biomedical Research Centre. The National Health Service Blood and Transplant and Public Health England provided funding for the competition ELISA. The ChAd3 vaccine was provided by the Vaccine Research Center of the National Institute of Allergy and Infectious Diseases (NIAID) and GlaxoSmithKline. MVA-BN Filo was produced under a con-tract (F8S-I004-I009) between the NIAID and Fisher BioServices and a contract (HHSN272200800044C) between the National Institutes of Health and Fisher Bioservices.	Dr. Ballou, Dr. De Ryck report personal fees and other support from GlaxoSmithKline outside the submitted work. Dr. Colloca, Dr. Cortese, Dr. Nicosia reports a pending patent related to chimpanzee adenoviral-vector based filovirus vaccine (WO/2011/130627). Dr. Draper reports grant support from the UK Medical Research Council during the conduct of the study, and non-financial support from GlaxoSmithKline/Okairos outside the submitted work. In addition, Dr. Draper reports pending patents related to viral vector immunogenic compositions (WO 2012042279 A3) and adenoviral vectors encoding a pathogen or tumor antigen (WO 2008122811 A2). Dr. Gilbert reports patents related to prime boost immunization with viral vectors. Dr. Hill reports a patent related to heterologous prime-boost immunization, licensed to Oxford BioMedica. Ms. Lella reports other support from the NIHR during the conduct of the study. Dr. Levine reports grant support from Oxford University during the conduct of the study. Dr. Pollard reports grant support from the Wellcome Trust during the conduct of the study, and grant support from GlaxoSmithKline outside the submitted work.	N/A	N/A	20/12/2020
Ewer K Fedosyuk S	Protective CD8 þ T-cell immunity to human malaria induced by chimpanzee adenovirus-MVA immunisation	2013 Nature Communications	The study was funded by grants from the UK MRC,the NIHR through the Oxford Biomedical Research Centre, and the Wellcome Trust.AVSH was supported by a Wellcome Trust Principal Research Fellowship. A.L.G. wassupported by a grant from the MRC (G0600424). A.V.S.H., A.R.-S., S.J.D. and S.C.G.are Jenner Institute Investigators; A.V.S.H. is a Wellcome Trust and NIHR SeniorInvestigator.	Sarah Gilbert, Arturo Reyes-Sandoval, Anna Goodman,Geraldine O'Hara and Adrian Hill are named inventors on patent applications coveringmalaria vectored vaccines and immunization regimes including: WO/2008/122811-Adenoviral vectors encoding a pathogen or tumour antigen and WO/2008/122769-Adenoviral vector encoding malaria antigen. Authors from Okairos are employees ofand/or share holders in Okairos which is developing vectored malaria vaccines. All otherauthors declare no competing financial interests.	N/A	N/A	16/12/20
	Simian adenovirus vector production for early-phase clinical trials: A simple method applicable to multiple serotypes and using entirely disposable product-contact components	2019 Elselvier Vaccine	This work was supported by Merck KGaA, the UK MedicalResearch Council (grant MR/P017339/1), and the UK Engineeringand Physical Sciences Research Council (grant EP/R013756/1).ADD is supported by the Wellcome Trust [grants 201477/Z/16/Zand 204826/Z/16/Z] and is a Jenner Investigator. The study wasperformed in collaboration between the University of Oxford andMerck KGaA; both partners reviewed the manuscript prior to sub-mission. The other funders had no input to the design of the studyor decision to publish.	ADD, SJM, and SCG are named inventors on patent filings relat-ing to the use of simian adenoviruses, but not directly related tothe work described here. SCG is a founder of Vaccitech Ltd, whichdevelops adenovirus-vectored vaccines.	N/A	N/A	10/12/2020
Folegatti P.M.	Safety and immunogenicity of a candidate Middle East respiratory syndrome coronavirus viral-vectored vaccine: a dose-escalation, open-label, non-randomised, uncontrolled, phase 1 trial	2020 The Lancet	UK Department of Health and Social Care, using UK Aid funding, managed by the UK National Institute for Health Research. This project was funded by the UK Department of Health and Social Care (project number 16/107/01). The views expressed are those of the authors and not necessarily those of the Department of Health and Social Care. The work was supported by the UK National Institute for Health Research through the Oxford Biomedical Research Centre. The Coalition for Epidemic Preparedness Innovations provided funding for the extended 12 months of follow-up in this study. This study was also partially supported by the Coordenacao de Aperfeicoamento de Pessoal de Nivel Superior, Brazil (finance code 001). The pseudovirus neutralising antibody work was funded by a grant from the Korean Ministry of Health and Welfare (HI15C2971)	AH and SG are co-founders of, consultants for, and shareholders in Vaccitech, which is developing adenoviral vectored vaccines. PMF and TL are consultants for Vaccitech. All other authors declare no competing interests.	NCT03399578	N/A	18/12/20
Folegatti P.M. Folegatti PM	Safety and immunogenicity of the ChAdOx1 nCoV-19 vaccine against SARS-CoV-2: a preliminary report of a phase 1/2, single-blind, randomised controlled trial	2020 The Lancet	UK Research and Innovation, Coalition for Epidemic Preparedness Innovations, National Institute for Health Research (NIHR), NIHR Oxford Biomedical Research Centre, Thames Valley and South Midland's NIHR Clinical Research Network, and the German Center for Infection Research (DZIF), Partner site Gießen-Marburg-Langen. This work is funded by UK Research and Innovation (MC_PC_19055), Engineering and Physical Sciences Research Council (EP/R013756/1), Coalition for Epidemic Preparedness Innovations (CEPI), the National Institute for Health Research (NIHR), the NIHR Oxford Biomedical Research Centre, and the German Center for Infection Research (DZIF), Partner site Gießen-Marburg-Langen. Additional resources for study delivery were provided by NIHR Southampton Clinical Research Facility and NIHR Southampton Biomedical Research Centre, University Hospital Southampton NHS Foundation Trust; the NIHR Imperial Clinical Research Facility; and NIHR North West London, South London, Wessex, and West of England Local Clinical Research Networks and NIHR Oxford Health Biomedical Research Centre. PMF received funding from the Coordenacao de Aperfeicoamento de Pessoal de Nivel Superior, Brazil (finance code 001). Development of SARS-CoV-2 reagents was partially supoorted by the US National Institute of	SCG is co-founder and board member of Vaccitech (collaborators in the early development of this vaccine candidate) and named as an inventor on apatent covering use of ChAdOx1-vectored vaccines and a patent application covering this SARS-CoV-2 vaccine. TL is named as an inventor on a patent application covering this SARS-CoV-2 vaccine and consultant to Vaccitech. PMF is a consultant to Vaccitech. AJP is Chair of the UK Department of Health and Social Care's Joint Committee on Vaccination & Immunisation (JCVI), but does not participate in policy advice on coronavirus vaccines, and is a member of the WHO Strategic Advisory Group of Experts (SAGE). AVSH is a co-founder of and consultant to Vaccitech and is named as an inventor on a patent covering design and use of ChAdOx1-vectored vaccines. AF is a member of JCVI, Chair of the WHO European Technical Advisory Group of Experts on Immunisation, an ex-officiomember of WHO SAGE working group on COVID-19 vaccines, and acting director of National Institute for Health Research West of England Local Clinical Research Network. KMP reports grants from the NIHR Imperial Biomedical Research Centre and Gilead Sciences, and personal fees from Sanofi Pasteur, outside of the submitted work. MS reports grants from Janssen. GlaxoSmithKline. Medimmune.	NCT04324606. The study is ongoing, and was registered at ISRCTN, 15281137, and ClinicalTrials.gov, NCT04324606.	AZ mentioned in acknowledgements - facilitated and funded some assays and reviewed the data from the study and the final manuscript before submission. In declaration of interests says royalties paid to AZ for vectors.	18/12/20
	Safety and Immunogenicity of a Novel Recombinant Simian Adenovirus ChAdOx2 as a Vectored Vaccine	2019 MDPI	This research was funded by HAV Vaccines Ltd. The research was supported by the National Institutefor Health Research (NIHR) Oxford Biomedical Research Centre (BRC). The views expressed are those of theauthor(s) and not necessarily those of the NHS, the NIHR or the Department of Health.	J.H.-T. is the Chief Scientific and Medical Officer for HAV Vaccines Ltd. S.C.G. andA.V.S.H. are co-founders of, consultants to and shareholders in Vaccitech plc which is developing adenoviralvectored vaccines.	NCT03027193	N/A	18/12/20
Forbes EK	T cell responses induced by adenoviral vectored vaccines can be adjuvanted by fusion of antigen to the oligomerization domain of C4b-binding protein	2012 Plos One	This work was funded by the Wellcome Trust and the EMVDA (European Malaria Vaccine Development Association, a European Commission FP6-funded consortium). The research leading to these results has also received funding from the European Community's Seventh Framework Programme (FP7/2007–2013) under grant agreement No 242095. In addition, this work was supported in part by the Division of Intramural Research, National Institutes of Allergy andInfectious Diseases, National Institutes of Health, and also by the PATH Malaria Vaccine Initiative who support the GIA Reference Center. AVSH and SJD are JennerInvestigators. AVSH is a Wellcome Trust Principal Research Fellow. SJD is a MRC Career Development Fellow. The funders had no role in study design, datacollection and analysis, decision to publish, or preparation of the manuscript, except that the design of the rabbit study and the GIA analysis was performedfollowing discussion with PATH MVI.	Author contributions: . Contributed reagents/materials/analysis tools: SB ALGRJP FH.	N/A	N/A	16/12/20
Gilbert SC Gola A	Enhanced CD8 T cell immunogenicity and protective efficacy in a mouse malaria model using a recombinant adenoviral vaccine in heterologous prime-boost immunisation regimes	2002 Elselvier - Vaccine	Wellcome Trust and the European Commission(IC18-CT95-0019 TMR fellowship to J.S.) for support A.G. is funded by the Wellcome Trust and by the Intramural Program of NIAID (NIH). B.R.H. is funded from the European Union Seventh Framework Programme FP7/2012-2106 under grant agreement 316655 (VACTRAIN). A.V.S.H. is a Wellcome Trust and National Institute of Health Research (NIHR) senior investigator. This work was in part funded by a Wellcome Trust Senior Investigator award (to A.V.S.H.) and a Wellcome Trust Enhancement award (to A.V.S.H.) for the clinical trial and also was supported in part by the Intramural Research Program of NIAID (NIH) (to R.N.G. and S.U.). The clinical trial was supported in part by funding from the UK NIHR Oxford Biomedical Research Centre	N/A	N/A	N/A	14/12/20
	Prime and target immunization protects against liver-stage malaria in mice	2018 Science Transitional Medicine	This work was supported primarily by grant G0600424 from the Medical Research Council (ALG) and in addition by Transmolbloc (EU FP7) and BBSRC(award number LDAD_P15820). SJD and AVH are Jenner Investigators. SJD is a MRC Career Development Fellow. AVH is a Wellcome Trust	A.V.S.H., A.G., A.A.W., and A.M.S. are inventors on a patent application PCT/GB2017/051009 submitted by the Oxford University Innovation Limited that covers prime and target vaccination with viral vectors	N/A	N/A	21/12/2020
Goodman AL	A viral vectored prime-boost immunization regime targeting the malaria Pfs25 antigen induces transmission-blocking activity	2011 Plos One	Principal ResearchFellow. ALG was an MRC clinical training fellow whilst she undertook this research. The funders had no role in study design, data collection and analysis, decisionto publish, or preparation of the manuscript. http://www.mrc.ac.uk/index.htm. http://www.bbsrc.ac.uk/. http://www.wellcome.ac.uk/.	N/A	N/A	N/A	16/12/20

Graham SP	Evaluation of the immunogenicity of prime-boost vaccination with the replication-deficient viral vectored COVID-19 vaccine candidate ChAdOx1 nCoV-19	2020 Nature partner journals	This study was supported by UKRI Engineering and Physical Sciences ResearchCouncil (EPSRC) award EP/R013756/1 (VaxHub), UKRI Biotechnology and BiologicalSciences Research Council (BBSRC) Institute Strategic Programme and Core CapabilityGrants to The Pirbright Institute (BBS/E/I/00007031, BBS/E/I/00007034, BBS/E/I/00007037 and BBS/E/I/00007039), and the Bill and Melinda Gates Foundationsupported'Pirbright Livestock Antibody Hub'(Grant No. OPP1215550). Developmentof SARS-CoV-2 reagents was partially supported by the NIAID Centers of Excellencefor Influenza Research and Surveillance (CEIRS) contract HHSN272201400008C andEPSRC Grant No. EP/S025243/1 to the Rosalind Franklin Institute. A.L., G.W., C.B., A.B.,and V.M. are supported by the UK Department for Environment Food & Rural Affairs.We thank V. Clark, H. Gray, and R. Snaith for animal husbandry and the JennerInstitute Vector Core Facility for assistance, and The Pirbright Institute Animal ServicesTeam for animal care and provision of samples.	S.C.G. and T.L. are named on a patent application covering ChAdOx1 nCoV-19. Theremaining authors declare no competing interests. The funders played no role in theconceptualisation, design, data collection, analysis, decision to publish, or preparationof the manuscript.	N/A	N/A	18/12/20
Halbroth BR	Development of a Molecular Adjuvant to Enhance Antigen-Specific CD8(+) T Cell Responses	2018 Scientific Reports	BRH received funding from the European Union Seventh Framework Programme FP7/2012–2016 under grant agreement n° 316655 (VACTRAIN). Additional funding was provided by a Wellcome Trust Senior Investigator award to AVSH and a Wellcome Trust Strategic Award supporting the viral vector core facility. Further funding was provided by a Gates Grand Challenges in Global Health award through the Foundation for NIH (to AVSH).	A.V.S.H. is a named investigator on US 12/595 574 and UK PCT/GB2008/01262 novel adenovirus patent applications covering malaria vectored vaccines and immunisation regimens; A.V.S.H., A.J.S., M.J.C. and B.R.H. are named investigators on UK PCT/GB2014/053596, a novel molecular adjuvant application.	N/A	N/A	10/12/2020
Hodgson SH	Combining viral vectored and protein-in-adjuvant vaccines against the blood-stage malaria antigen AMA1: report on a phase 1a clinical trial	2014 Molecular Therapy	This work was supported by the EMVDA (European Malaria Vaccine Development Association), a European Commission (EC) FP6-funded consortium (LSHP-CT-2007–037506); the UK National Institute of Health Research through the Oxford Biomedical Research Centre (NIHR-BRC) (A91301 Adult Vaccine); the Wellcome Trust (084113/Z/07/Z); and EVIMalaR, an EC FP7-funded programme (Grant agreement No. 242095). The GIA work was supported by the PATH Malaria Vaccine Initiative and the Intramural Program of the National Institutes of Health, National Institute of Allergy and Infectious Diseases.	.D.D., J.J.I., S.C.dC., A.V.S.H., and S.J.D. are named inventors on patent applica-tions covering malaria vaccines and immunization regimens. A.N. is an employee of and/or shareholder in Okairós, which is developing vectored vaccines for malaria and other diseases.	NCT01351948	N/A	20/12/2020
Hodgson SH	Evaluation of the efficacy of ChAd63-MVA vectored vaccines expressing circumsporozoite protein and ME-TRAP against controlled human malaria infection in malaria-naive individuals	2015 The Journal of Infectious Diseases	This work was supported by the PATH MalariaVaccine Initiative, the United Kingdom National Institute of Health Re-search, through the Oxford Biomedical Research Centre (grant A91301,Adult Vaccine), and the Wellcome Trust (grants 084113/Z/07/Z and 054488/Z/05 to A. V. S. H. and grant 097940/Z/11/Z to S. H. H.).	A. V. S. H. and S. C. G. are named inven-tors on patent applications covering malaria vectored vaccines and immu-nization regimens. S. C. and A. N. are employees of and/or shareholders inOkairos, whichis developing vectored vaccines formalariaandother diseases.All other authors report no potential conflicts.	NCT01623557	N/A	20/12/2020
Kelly C	Chronic hepatitis C viral infection subverts vaccine-induced T-cell immunity in humans	2016 Hepatology	Supported by a Medical Research Council (MRC) UK Development Clinical Scheme award (G0702694); by the Wellcome Trust, the Oxford NIHRBRC, and the U19 grant (2U19AI082630-06, to C.K. and P.K.); by an MRC CASE studentship (to L.S.). E.B. is funded as an MRC Senior ClinicalScientist and is supported by the Oxford NHIR BRC, the Oxford Martin School, and the Jenner Institute.	Dr. Colloca, Dr. Folgori, Dr. Cortese, and Dr. Nicosia are named inventors on patent applications covering hepatitisCvirus-vectored vaccines and chimpanzee adenovirus vectors (WO 2006133911 [A3] hepatitis C virus nucleic acid vaccine, WO 2005071093 [A3]chimpanzee adenovirus vaccine carrier, WO 03031588 [A2] hepatitis C virus vaccine). Dr. Hill is a coinventor on patent filings and applicationsrelated to heterologous prime-boost immunizations.	NCT01094873, 2008-006127-32)	N/A	20/12/2020
Kimani D	Translating the immunogenicity of prime-boost immunization with ChAd63 and MVA ME-TRAP from malaria naive to malaria-endemic populations	2014 Molecular Therapy	This work was supported by an award from the European and Developing Countries Clinical Trials Partnership (EDCTP) and was performed by the Malaria Vectored Vaccines Consortium (MVVC), a four and a half year integrated project funded by the European and Developing Countries Clinical Trials Partnership (EDCTP, grant number IP.2008.31100.001). N.I.V. is an employee of the European Vaccine Initiative (EVI). E.V.I. is the coordinator of the EDCTP funded MVVC project (grant number IP.2008.31100.001). E.V.I. supports salaries of the MVVC project in kind. The work was also supported by the UK National Institute of Health Research through the Oxford Biomedical Research Centre (http://www.oxfordbrc.org/) [A91301 Adult Vaccine), the Wellcome Trust (http://www.wellcome.ac.uk/) (084113/Z/07/Z) and the Medical Research Council. S.H.H. holds a Wellcome Trust research training fellowship (097940/Z/11/Z). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	A.V.S.H. is a named inventor on patent applications on malaria vectored vaccines and immunization regimens. Authors from Okairòs are employees of and/or shareholders in Okairòs, which is devel-oping vectored vaccines for malaria and other diseases.	N/A	N/A	16/12/20
Lambe T	Immunity against heterosubtypic influenza virus induced by adenovirus and MVA expressing nucleoprotein and matrix protein-1	2013 Scientific Reports	AvL was funded by a fellowship of theDr. Saal van Zwanenberg Stichting. Dr. Lambe is supported by the Oxford Martin School.SCG is a Jenner Investigator.	N/A	N/A	N/A	16/12/20
Longley RJ	Comparative assessment of vaccine vectors encoding ten malaria antigens identifies two protective liver-stage candidates	2015 Scientific Reports	This work has been funded by a grant from the Wellcome Trust (095540/Z/11/Z) with additional funding by the Rhodes Trust and a Nuffield Department of Medicine Studentship to support RJL and EVIMalR studentship to support AMS. AVSH is a Jenner Institute Investigator; AJS is a James Martin Fellow. CJJ was supported by a grant of the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement number 242095.	AVSH is a named investigator on US 12/595 574 and UK PCT/GB2008/01262 novel adenovirus patent applications covering malaria vectored vaccines and immunization regimens; RJL, AMS, CJJ, SMK, AJS and AVSH are named investigators on filed patent (1318084.9) for novel malaria antigens	N/A	N/A	20/12/2020
Longley RJ	Assessment of the Plasmodium falciparum Preerythrocytic Antigen UIS3 as a Potential Candidate for a Malaria Vaccine	2017 Infection and Immunity	Funding for manufacture and quality control release and stability studies of Sanaria's PfSPZ challenge was provided by the National Institute of Allergy and Infectious Diseases (http://www.niaid.nih.gov) under grant R44AI058375 (Universal Attenuated Malaria Sporozoite Vaccine and Challenge System). The present work was funded by a grant from the Wellcome Trust (grant 095540/Z/11/Z) to A.V.S.H., with additional funding by the Rhodes Trust and a Nuffield Department of Medicine Studentship to support R.J.L. The human CHMI study (VAC049) was supported by the UK National Institute of Health Research through the Oxford Biomedical Research Centre (http://www.oxfordbrc.org/) (A91301 adult vaccine program) and the Wellcome Trust (grant 084113/Z/07/Z). B.R.H. receives funding from the European Union Seventh Framework Programme FP7/2012-2016 under grant agreement 316655 (VACTRAIN). S.H.H. is a Wellcome Trust Clinical Research Fellow (grant 097940/Z/11/Z). A.V.S.H. is a Jenner Institute Investigator, and A.J.S. is a James Martin Fellow.	A.V.S.H. is a named investigator on novel adenovirus patent applications U.S. 12/595 574 and UK PCT/GB2008/01262, covering malaria vectored vaccines and immunization regimens. R.J.L., A.J.S., and A.V.S.H. are named investigators on patent PCT/GB2014/053077, identifying novel malaria vaccine antigens.	NCT01465048	N/A	21/12/2020
López-Camacho C McMahon M	Rational Zika vaccine design via the modulation of antigen membrane anchors in chimpanzee adenoviral vectors	2018 Nature Communications	This report is independent research funded by the UKDepartment of Health and Social Care through Innovate UK"New vaccines for globalepidemics: development and manufacture"grant No. 972216 (A.R.-S.), and also fundedfrom an ODA budget (Global Health (ODA), 16/107/05—Design, development andGMP manufacture of a Zika vaccine) (A.H.P. and A.R-S). The views expressed in thispublication are those of the author(s) and not necessarily those of the Department ofHealth and Social Care. We also acknowledge funding by the UK Medical ResearchCouncil [MC_UU_12014 (A.H.P. and A.K.) and MR/N017552/1 (A.K.)]. JuthathipMongkolsapaya is supported by an MRC-Newton Fund grant, Gavin Screaton is aWellcome Trust Senior Investigator.	A.R.-S. and C.L.-C. are co-inventors of the Zika vaccines describedin this manuscript,filed by Oxford University Innovation Limited in the InternationalPatent Application No. PCT/GB2017/052220 Zika Vaccine; A.V.S.H. and S.C.G. are co-inventors on a patent application (WO/2012/172277) on the ChAdOx1 viral vectorfiledby Oxford University Innovation. The remaining authors declare no competing interests.	N/A	N/A	21/12/2020
	Vaccination With Viral Vectors Expressing Chimeric Hemagglutinin, NP and M1 Antigens Protects Ferrets Against Influenza Virus Challenge	2019 Vaccine	The study was fundedby an MRC Biomedical Catalyst DPFS_DCS award (MR/N006372/1).In addition, this study was partially funded by the NIAID Centers ofExcellence for Influenza Research and Surveillance contract(CEIRS, HHSN272201400008C, grant AI109946 and grant AI142046-01)	The Icahn School of Medicine at Mount Sinaihas filed patent applications regarding influenza virus vaccines withFK being aninventor. SG is an inventor on patents covering ChAdOx1 and MVA-NP + M1,filed and owned by the University of Oxford, and is a co-founder ofand consultantto Vaccitech, a University of Oxford spin-out company which is undertakingadvanced clinical development of viral vectored influenza vaccines.	N/A	N/A	10/12/2020
Mensah VA	Safety and Immunogenicity of Malaria Vectored Vaccines Given with Routine Expanded Program on Immunization Vaccines in Gambian Infants and Neonates: A Randomized Controlled Trial	2017 Frontiers in Immunology	This work was supported by a Strategic Primer grant award from the European and Developing Countries Clinical Trials Partnership (EDCTP, grant number SP.2011.41304.025); with co-funding from Swedish International Development Cooperation Agency (Sida); UK Medical Research Council; Irish Aid, Department of Foreign Affairs and Trade, Ireland; and Bundesministerium für Bildung und Forschung (BMBF), Germany. European Vaccine Initiative (EVI) coordinated the pro-ject under the umbrella of two of Malaria Vectored Vaccines Consortium (MVVC 2). Additional funding for the Oxford collaborators was provided by the Wellcome Trust and the UK National Institute of Health Research	The following authors have declared that no conflict of interest exists: VM, SR, EK, AmN, FO, CB, GB, YJ, RR, NV, FD, OL, AL, BF, BK, BC, SG, EC, KE, EI, and MA. AH is a named inventor on patent applications on malaria vectored vaccines and immunization regimens. RC and AlN are employees and/or shareholders in ReiThera, which develops vectored vaccines for malaria and other diseases. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. The reviewer AL declared a past collaboration with four of the authors, OL, NV, FD, and AH, to the handling Editor.	NCT02083887	N/A	21/12/2020
Mensah VA	Safety, Immunogenicity and Efficacy of Prime-Boost Vaccination with ChAd63 and MVA Encoding ME-TRAP against Plasmodium falciparum Infection in Adults in Senegal	2016 Plos One	We have the following interests. Adrian V.S. Hill is a named inventor on patent applications and patents on malaria vectored vaccines and immunisation regimes including the following (WO2008/122769, Adenoviral vector encoding malaria antigen; and WO 2008/122811 Novel adenovirus vectors).Egeruan Imoukhuede and Ines Petersen were employees of EVI at the time of the study,which supports the development and testing of malaria vaccines.Nicola Viebigis an employee of EVI and Odile Leroyis executive director of EVI. Authors from Rei Thera (formerly Okairos) are employees of and/or shareholders in Rei Thera, which is developing vectored vaccines for malaria and other diseases. Alfredo Nicosia was employed by Rei Thera (formerly Okairos) at the time of thestudy.	PACTR201-303-000-499-409. (African Pan Trial Registry)	N/A	21/12/2020
Munster VJ	Protective efficacy of a novel simian adenovirus vaccine against lethal MERS-CoV challenge in a transgenic human DPP4 mouse model	2017 Npj Vaccines	This work is published withthe permission of the Director of the Kenya Medical Research Institute, and wassupported by the Intramural Research Program of the National Institute of Allergyand Infectious Diseases (NIAID), National Institutes of Health (NIH) and a grant fromthe UK Medical Research Council Confidence in Concept scheme to GMW throughthe LSTM Tropical Infectious Disease Consortium	S.C.G. is a co-founder of, consultant to and shareholder inVaccitech plc, which is developing a vectored MERS vaccine. Remaining authorsdeclares that they have no competingfinancial interests.	N/A	N/A	21/12/2020

Nébié I	Assessment of chimpanzee adenovirus serotype 63 neutralizing antibodies prior to evaluation of a candidate malaria vaccine regimen based on viral vectors	2014 Clinical and Vaccine Immunology	This work was supported by an award from the European and Developing Countries Clinical Trials Partnership (EDCTP) and wasperformed by the Malaria Vectored Vaccines Consortium (MVVC), an integrated project funded by EDCTP (grant numberIP.2008.31100.001).	N/A	N/A	N/A	16/12/20
O'Hara GA	Clinical assessment of a recombinant simian adenovirus ChAd63: a potent new vaccine vector	2012 The Journal of Infectious Diseases	Financial support. This work was supported by an Experimental Medicine grant from the UK Medical Research Council (grant number G0502018) with additional support from the UK National Institute for Health Research Oxford Biomedical Research Centre and the Wellcome Trust. No funding bodies had any role in study design, data collection andanalysis, decision to publish, or preparation of the manuscript.	Potential conflicts of interest: S. G., A. R.-S., A. G., G. O. H., and A. H.are named inventors on patent applications covering malaria-vectoredvaccines and immunization regimes. Authors from Okairos are employeesof and/or shareholders in Okairos, which is developing vectored malariavaccines. All other authors report no potential conflicts.All authors have submitted the ICMJE Form for Disclosure of PotentialConflicts of Interest. Conflicts that the editors consider relevant to thecontent of the manuscript have been disclosed.	NCT00890019	N/A	16/12/20
Ogwang C	Prime-boost vaccination with chimpanzee adenovirus and modified vaccinia Ankara encoding TRAP provides partial protection against Plasmodium falciparum infection in Kenyan adults	2015 Science Transitional Medicine	This work was funded by the European and Developing Countries Clinical TrialsPartnership, grant number IP.2008.31100.001, to the Malaria Vectored Vaccines Consortium(MVVC), and coordinated by the European Vaccine Initiative (EVI). P.B. is jointly funded by theU.K. Medical Research Council (MRC) and the U.K. Department for International Development(DFID) under the MRC/DFID Concordat agreement.	A.V.S.H., A.N., and S.G. are listed as inventors on patent filings related to heterologous prime-boost immunization and specific malaria vaccines. E.B.I. was an employee of EVI at the time ofthis study, which supports the development and testing of malaria vaccines. N.K.V. is an em-ployee of EVI, and O.L. is executive director of EVI. A.N. is an employee of Okairos and consultsfor GlaxoSmithKline. The other authors declare no competing interests.	NCT01666925, PACTR 201202000356208	N/A	20/12/2020
Ogwang C Payne RO	Safety and immunogenicity of heterologous prime-boost immunisation with Plasmodium falciparum malaria candidate vaccines, ChAd63 ME-TRAP and MVA ME-TRAP, in healthy Gambian and Kenyan adults	2013 Plos One	This work was performed by the Malaria Vectored Vaccines Consortium (MVVC), a four year integrated project funded by the European and DevelopingCountries Clinical Trials Partnership (EDCTP). The work was also supported by the UK National Institute of Health Research through the Oxford BiomedicalResearch Centre (http://www.oxfordbrc.org/) [A91301 Adult Vaccine], the Wellcome Trust (http://www.wellcome.ac.uk/) [084113/Z/07/Z] and theMedicalResearch Council. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	Competing Interests:AH is a named inventor on the following patent applications on malaria vectored vaccines and immunization regimes (WO2008/122769,Adenoviral vector encoding malaria antigen; and WO 2008/122811 Novel adenovirus vectors). Authors from Okairo`s are employees of and/or shareholders inOkairo`s, which is developing vectored vaccines for malaria and other diseases. This does not alter the authors' adherence to all the PLOS ONE policies on sharingdata and materials.	Pactr.org PACTR201002000171828 Pactr.org PACTR201008000221638 ClinicalTrials.gov NCT01373879ClinicalTrials.gov NCT01379430	N/A	16/12/20
Payne RO	Human vaccination against Plasmodium vivax Duffy-binding protein induces strain-transcending antibodies	2017 JCI Insight	This work was supported by a UK Medical Research Council (MRC) grant (number G1100086). The study was also supported in part by UK National Institute of Health Research (NIHR) infrastructure through the NIHR Oxford Biomedical Research Centre and the Wellcome Trust (084113/Z/07/Z). DL was supported by the Rhodes Trust. TAR holds a Wellcome Trust Research Training Fellowship (108734/Z/15/Z). SCdC was a PhD student supported by the European Malaria Vaccine Development Association, a European Commission Framework Programme 6–funded consortium (grant LSHP-CT-2007-037506). TDO is sup-ported by the Wellcome Trust (WT 098051). JSM is supported by an NHMRC Practitioner Fellowship (number 1041802). AVSH and SJD are Jenner Investigators. SJD is a Lister Institute Research Prize Fellow and a Wellcome Trust Senior Fellow (grant number 106917/Z/15/Z).	S.C. de Cassan, M.K. Higgins, A.V.S. Hill, and S.J. Draper are named inventors on patent applications (patent nos. GB1413530.5, GB1016471.3, and WO/2008/122811) covering malaria vaccines and immunization regimens. A. Nicosia was an employee of and shareholder in Okairòs (since acquired by GlaxoSmithKline), which is developing vectored vaccines for a number of diseases. T. Jørgensen and W.A. de Jongh are employees of, and W.A. de Jongh is a shareholder in, ExpreS2ion Biotechnologies, which has developed and is marketing the ExpreS2 cell expression platform. C.E. Chitnis is a named inventor on a patent covering PvDBP_RII (patent no. WO/1996/040766).	NCT01816113	N/A	21/12/2020
Payne RO	Human vaccination against RH5 induces neutralizing antimalarial antibodies that inhibit RH5 invasion complex interactions	2017 JCI Insight	This work was supported by funding from the European Union Seventh Framework Programme (FP7/2007-2013) under the grant agreement for MultiMalVax (number 305282). The study was also supported in part by UK NIHR infrastructure through the NIHR Oxford Biomedical Research Centre; the MAVARE-CA program funded by Danida (the Consultative Committee for Development Research, Denmark); and the Wellcome Trust (grant numbers 084113/Z/07/Z and 206194). The GIA work was supported by the United States Agency for International Development (USAID) and the Intramural Program of the NIH, National Institute of Allergy and Infectious Diseases. DGWA holds a UK MRC iCASE PhD Studentship (MR/K017632/1); JSM is supported by a National Health and Medical Research Council (NHMRC) Practitioner Fellowship (10418020); ADD held a Wellcome Trust Training Fellowship for Clinicians in Basic Sciences (089455/Z/09/z); SB, AVSH, and SJD are Jenner Investigators; and SJD is a Lister Institute Research Prize Fellow and a Wellcome Trust Senior Fellow (106917/Z/15/Z)	S.J. Draper is a named inventor on patent applications relating to RH5 and/or other malaria vaccines and immunization regimens; is a cofounder of, shareholder in, and consultant for SpyBiotech; and declares research funding support from Pfizer and GSK BioPharm. A.D. Douglas, G.J. Wright, and A.V.S. Hill are named inventors on patent applications relating to RH5 and/or other malaria vaccines and immunization regimens. L. Siani and S. Di Marco are employees of ReiThera (formerly Okairos), which is currently developing vectored vaccines for a number of diseases. J. Vekemans was an employee of GSK, which has acquired the ChAd63 vector from Okairos. R. Ashfield is a director of Ducentis and holds shares in the company, which is developing a therapy for autoimmune disease. A.M. Minassian has an immediate family member who is an inventor on patents relating to RH5 and/or other malaria vaccines and immunization regimens and who is a cofounder of, shareholder in, and consultant for SpyBiotech. S. Biswas is a cofounder and CEO of, and shareholder in, SpyBiotech and is a contributor in a patent application relating to multimerisation technology. J. Jin is a cofounder of and shareholder in SpyBiotech.	NCT02181088	N/A	21/12/2020
Pearson FE	Dry-coated live viral vector vaccines delivered by nanopatch microprojections retain long-term thermostability and induce transgene-specific T cell responses in mice	2013 Plos One	This work has been supported by a UK Medical Research Council Capacity Building Studentship (G0600311, www.mrc.ac.uk) and by the Bill andMelinda Gates Foundation (003436, www.gatesfoundation.org). The funders had no role in study design, data collection and analysis, decision to publish, orpreparation of the manuscript.	Competing Interests:Authors MLC, GJPF, XC and MAFK are either inventors or contributors to a patent filings related to the NanopatchTM technology, that isnow licensed to Vaxxas Pty Ltd. These are detailed in Supporting Information - Table S2. Authors MLC, SRY, GJPF and MAFK have employment with Vaxxas. MAFKis a member of the Vaxxas board. There are no further patents, products in development or marketed products to declare. This does not alter the authors'adherence to all the PLOS ONE policies on sharing data and materials.	N/A	N/A	16/12/20
Pearson FE	Induction of CD8(+) T cell responses and protective efficacy following microneedle-mediated delivery of a live adenovirus-vectored malaria vaccine	2015 Vaccine	This study was funded by Enterprise Ireland (CFTD07/117,http://www.enterprise-ireland.com), Science Foundation Ireland (NAP156andNAP170,www.sfi.ie) and the Medical Research Coun-cil,United Kingdom (G0600311,www.mrc.ac.uk).	None	N/A	N/A	20/12/2020
Pérez de Val B	A multi-antigenic adenoviral-vectored vaccine improves BCG-induced protection of goats against pulmonary tuberculosis infection and prevents disease progression	2013 Plos One	The study was funded by the European Community's 7th Framework Programme (FP7-KBBE-2007-1-3-04: TB-STEP project under grant agreement212414). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	N/A	N/A	N/A	16/12/20
Rampling T	Safety and High Level Efficacy of the Combination Malaria Vaccine Regimen of RTS,S/AS01B With Chimpanzee Adenovirus 63 and Modified Vaccinia Ankara Vectored Vaccines Expressing ME-TRAP	2016 The Journal of Infectious Diseases	This work was supported by the PATH MalariaVaccine Initiative and by the United Kingdom NIHR, through the NIHROxford Biomedical Research Centre, the Southampton NIHR WellcomeTrust Clinical Research Facility, and the Imperial College NIHR WellcomeTrust Clinical Research Facility.	. V. S. H. and S. C. G. are named inven-tors on patent applications covering malaria vectored vaccines and immu-nization regimens. D. M., M. L., and R. W. B. are employees of GSK, which isdeveloping vectored vaccines for malaria and other diseases. S. N. F. acts onbehalf of the University of Southampton/University Hospital SouthamptonNational Health Service Foundation trust as chief and principal investigatorfor clinical trials sponsored by vaccine manufacturers, including GSK, butreceives no personal payments for the work.	NCT01883609	N/A	20/12/2020
Rampling T	Safety and efficacy of novel malaria vaccine regimens of RTS,S/AS01B alone, or with concomitant ChAd63-MVA-vectored vaccines expressing ME-TRAP	2018 Nature partner journals	This work was funded primarily by the PATH Malaria VaccineInitiative (MVI); in addition, the work was supported by the United KingdOm NationalInstitute of Health Research (NIHR) infrastructure, through the NIHR OxfordBiomedical Research Centre, the Southampton NIHR Wellcome Trust Clinical ResearchFacility, and the Imperial College NIHR Wellcome Trust Clinical Research Facility; thisarticle/paper/report presents independent research funded by PATH MVI andsupported by the NIHR CRF and BRC at Imperial College Healthcare NHS Trust. Theviews expressed are those of the author(s) and not necessarily those of PATH MVI, theNHS, the NIHR, or the Department of Health.	A.V.S.H. and S.C.G. are named inventors on patent applicationsand patents relating to malaria vectored vaccines and immunization regimens. D.M.,M.L., and R.W.B are employees of GSK, which is developing vaccines for malaria andother diseases. S.N.F. acts on behalf of the University of Southampton/UniversityHospital Southampton NHS Foundation trust as chief and principal investigator forclinical trials Sponsored by vaccine manufacturers including GSK, but receives nopersonal payments for the work. The other authors declare no competing interests.	NCT02252640	N/A	18/12/20
Reyes-Sandoval A	Prime-boost immunization with adenoviral and modified vaccinia virus Ankara vectors enhances the durability and polyfunctionality of protective malaria CD8+ T-cell responses	2010 Human Vaccines	Work in the Oxford malaria vaccine program is supported by the Wellcome Trust, the UK Medical Research Council, the UK National Institute for Health Research through the Oxford Biomedical Research Centre, the European Commission, the Gates Foundation through a Grand Challenges in Global Health award from the Foundation for NIH, the European Malaria Vaccine Initiative, the Jenner Vaccine Foundation and the European and Developing Countries Clinical Trials Partnership. We thank the Jenner Institute's vector core facility for providing the viral-vectored vaccines and Dr Helen McShane for providing the ad-enoviral and MVA vectors expressing antigen 85A. We are also grateful to Andrew Williams for providing the P. berghei parasites and the NIH tetramer facility (MHC tetramer core facility, Emory University Vaccine Center, Atlanta, GA) for preparing the Pb9 tetramer. The transgenic parasites were kindly provided by Dr Oliver Billker from Wellcome Trust Sanger Institute, Hinxton, UK. This work was funded by Wellcome Trust Principal Research Fellowship award; Grant Number: 076438; The National Institute for Health Research Oxford Biomedical Research Centre Program and Grand Challenges in Global Health. A.R.-S. is a Scientific Leadership Fellow of the Nuffield Department of Medicine and a Wellcome Trust Fellow. C.S.R. is supported by Oxford Biomedical Research Center, The Oxford Martin School and Meningitis UK.	N/A	N/A	N/A	10/12/2020
Reyes-Sandoval A	Mixed vector immunization with recombinant adenovirus and MVA can improve vaccine efficacy while decreasing antivector immunity	The American Society of Gene & Cell Therapy 2010		N/A	N/A	N/A	16/12/20
Reyes-Sandoval A	Single-dose immunogenicity and protective efficacy of simian adenoviral vectors against Plasmodium berghei	2008 European Jounral of Immunology	The work was supported by a Wellcome Trust Principal Research Fellowship award grant number 076438 toA.V.S.H.	N/A	N/A	N/A	16/12/20

Rollier CS	Modification of Adenovirus vaccine vector-induced immune responses by expression of a signalling molecule	2020 Nature	This work was funded by a grant from the Foundation for the National Institutes of Health through the Grand Challenges in Global Health Initiative of the Gates Foundation, with additional support from the Wellcome Trust. Non-human primate studies were supported by National Center for Research Resources (NCRR) grant # P51 RR000167, and were conducted at a facility constructed with support from grants RR15459 and RR020141. The authors wish to acknowledge the expert contribution of Dr Matthew G. Cottingham, and the expert help provided by the Animal Services Unit, and the Immunology Services Unit of the Wisconsin National Primate Research Center, in particular D. Watkins and E. Rakasz. CR is supported by the NIHR Biomedical Research Centre, Oxford. CR, SGC and AVSH are Jenner Institute Investigators and AVSH is a Wellcome Trust and NIHR Senior Investigator. The funding sources had no involvement in study design; collection, analysis and interpretation of data, in the writing of the report and in the decision to submit the article for publication.	A.V.S.H. and S.G.C. are names as co-inventors on patents related to recombinant viral vectors for malaria and other indications.	N/A	N/A	18/12/20
Salman AM	Rational development of a protective P. vivax vaccine evaluated with transgenic rodent parasite challenge models	2017 Scientific Reports	he work was funded by a Wellcome Trust Career Development Fellowship award, grant number 097395/Z/11/Z, to A.R.-S, who is also a Jenner Investigator and an Oxford Martin Fellow. Funding was also provided by the Medical Research Council, through a DPFS grant (MR/N019008/1) to A.R.-S. Ahmed M. Salman was funded by EVIMalaR's Program funding (FP7/2007–2013) under grant agreement N° 242095. Adrian Hill is supported by a Wellcome Trust grant number 095540/Z/11/Z and is a Jenner Investigator and an Oxford Martin Fellow.	N/A	N/A	N/A	21/12/2020
Sebastian S	A Multi-Filovirus Vaccine Candidate: Co-Expression of Ebola, Sudan, and Marburg Antigens in a Single Vector	2020 MDPI	This research was funded by Innovate UK (Novel multivalent vaccines against haemorrhagic fevers,971510) and MRC (Confidence in Concept CiC 2015-16, MC_PC_15040, Liverpool School of Tropical Medicine).	Teresa Lambe and Sarah Gilbert are Jenner Investigators. All other authors declare noconflicts of interest. Views expressed are those of the authors and do not necessarily reflect those of the employinginstitutions. The funders had no role in the design of the study; in the collection, analyses, or interpretation ofdata; in the writing of the manuscript, or in the decision to publish the results.	N/A	N/A	18/12/20
Sheehy SH	Phase Ia clinical evaluation of the safety and immunogenicity of the Plasmodium falciparum blood-stage antigen AMA1 in ChAd63 and MVA vaccine vectors	2012 Plos One	This work was supported by the European Malaria Vaccine Development Association (EMVDA), a European Commission FP6-funded consortium (http://www.emvda.org/) [LSHP-CT-2007-037506]; the UK National Institute of Health Research through the Oxford Biomedical Research Centre (http://www.oxfordbrc.org/) [A91301 Adult Vaccine]; and the Wellcome Trust (http://www.wellcome.ac.uk/) [084113/Z/07/Z]. The GIA work was supported by the PATH MalariaVaccineInitiative (MVI; http://www.malariavaccine.org/) and the Intramural Program of the National Institutes of Health, National Institute of Allergyand InfectiousDiseases (http://www.niaid.nih.gov/Pages/default.aspx). CJAD holds a Wellcome Trust Research Training Fellowship [RTEI0]: SCG, AVSH and SJD are JennerInvestigators; AVSH was supported by a Wellcome Trust Principal Research Fellowship [45488/Z/05]; and SJD is a UK Medical Research Council CareerDevelopment Fellow [G1000527]. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	Competing Interests: AJS, MDJD, SCG, AVSH and SJD are named inventors on US 12/595 574 and UK PCT/GB2008/01262, US 12/595 351 and UK PCT/GB2008/01271 novel adenovirus patent applications covering malaria vectored vaccines and immunization regimes. This does not alter our adherence to all the PLoS ONEpolicies on sharing data and materials. Authors from Okairo`s are employees of and/or shareholders in Okairos, which is developing vectored vaccines for malaria and other diseases. This does not alter our adherence to all the PLoS ONE policies on sharing data and materials.	NCT01095055	N/A	16/12/20
Sheehy SH	ChAd63-MVA-vectored blood-stage malaria vaccines targeting MSP1 and AMA1: assessment of efficacy against mosquito bite challenge in humans	The American Society of Gene & Cell 2012 Therapy	This work was supported by the European Malaria Vaccine Development Association, a European Commission FP6-funded consortium (LSHP-CT-2007-037506); the UK Medical Research Council (grant no. G0700735); the UK National Institute of Health Research through the Oxford Biomedical Research Centre (A91301 Adult Vaccine), and the Southampton NIHR Wellcome Trust Clinical Research Facility; the Wellcome Trust (084113/Z/07/Z); and EVIMalaR, an European Commission FP7-funded programme (grant agreement no. 242095). The growth inhibitory activity work was sup-ported by the PATH Malaria Vaccine Initiative and the Intramural Program of the National Institutes of Health, National Institute of Allergy and Infectious Diseases. S.C.G., A.V.S.H., and S.J.D. are Jenner Investigators; A.V.S.H. was supported by a Wellcome Trust Principal Research Fellowship (45488/Z/05); C.J.A.D. holds a Wellcome Trust Research Training Fellowship (094449/Z/10/Z); and S.J.D. is a UK Medical Research Council Career Development Fellow (G1000527). The funders had no role in study design, data collection and analysis, decision to publish, or prepa-ration of the manuscript. A.D.D., S.C.G., A.V.S.H., and S.J.D. are named inventors on patent applications coverina malaria-vectored vaccines and immunization	N/A	N/A	N/A	16/12/20
Sheehy SH	Phase Ia clinical evaluation of the Plasmodium falciparum blood-stage antigen MSP1 in ChAd63 and MVA vaccine vectors	2011 The Journal of Immunology	This work was supported by the UK Medical Research Council (MRC) (grant number G0700735), the European Malaria Vaccine Development Association (EMVDA), a European Commission FP6-funded consortium (LSHP-CT-2007-037506), the UK National Institute of Health Research through Oxford Biomedical Research Centre (A91301 Adult Vaccine) and the Wellcome Trust (084113/Z/07/Z). The GIA work was supported by the PATH Malaria Vaccine Initiative (MVI) and the Intramural Program of the National Institues of Health, National Institue of Allergy and Infectious Diseases. S.C.G., A.V.S.H, and S.J.D. are Jenner Investigators; A.V.S.H. was supported by a Wellcome Trust Principal Research Fellowship (45488/Z/05) and S.J.D. is a MRC Career Development Fellow (G1000157). A.R.W., S.C.G., A.V.S.H., and S.J.D. are named inventors on patent applications coverin malaria vectored vaccines and immunization regimes. Authors from Okairòs are employees of and/or shareholders in Okairòs which is developing vecotred vaccines for malaria and other diseases.	N/A	N/A	N/A	16/12/20
Spencer AJ Stedman A	Enhanced vaccine-induced CD8+ T cell responses to malaria antigen ME-TRAP by fusion to MHC class ii invariant chain	2014 Plos One	This work has been funded by grants from the Foundation for the National Institute of Health through the Grand Challenges in Global Health Initiative(HILL05GCGH0) with additional funding from the Wellcome Trust (095540/Z/11/Z). Non-human primate studies were supported by National Center for ResearchResources (NCRR) grant#P51 RR000167, and was conducted at a facility constructed with support from grants RR15459 and RR020141. The funding bodies didnot have a role in the study design, data collectionand analysis, decision to publish or preparation of the manuscript. Co-authors S. Capone, S. Colloca, AF, RC andAN are employees of Okairos. Okairos provided support in the form of salaries for the authors, but did not have any additional role in the study design, datacollection and analysis, decision to publish, or preparation of the manuscript. The specific roles of all authors are articulated in the 'author contributions' section.	AVSH is a named inventor on WO/2008/122811-Adenoviral vectors encoding a pathogen or tumour antigen and WO/2008/122769-Adenoviral vector encoding malaria antigen. S. Colloca, AF, RC, and AN are named inventors on patent application WO 2005071093 (A3)-Chimpanzee adenovirusvaccine carriers. Authors from Okairos were employees of and/or share holders in Okairos, this does not alter the authors' adherence to all the PLOS ONE policieson sharing data and materials.	N/A	N/A	16/12/20
Svitek N	Safety and efficacy of ChAdOx1 RVF vaccine against Rift Valley fever in pregnant sheep and goats	2019 Nature partner journals	This study was funded by the UK Department of Health and Social Care (UK DHSC,Project 16/137/03). G.M.W. is supported by an Oak foundation fellowship and aWellcome Trust grant (203077_Z_16_Z). S.C.G., B.C. and A.V.S.H. are JennerInvestigators. The funders had no role in study design, data collection and analysis,decision to publish, or preparation of the manuscript. The views expressed in thispublication are those of the authors and do not necessarily reflect those of the UKDHSC. We thank Dr. Connie Schmaljohn (USAMRIID, Fort Detrick, MD) for providingthe 4-D4 antibody. This paper is published with the permission of the PirbrightInstitute and the Director of the Kenya Medical Research Institute.	S.C.G. and A.V.S.H. are co-founders of, consultants to and shareholders in Vaccitechltd., which is developing ChAdOx1-vectored vaccines. The remaining authors declareno competing interests.	N/A	N/A	18/12/20
Swadling L	An Ad/MVA vectored Theileria parva antigen induces schizont-specific CD8(+) central memory T cells and confers partial protection against a lethal challenge	2018 Nature partner journals	This work was funded by the Bill and Melinda Gates Foundation (BMGF) and theDepartment for International Development (DFID) of the United Kingdom[OPP1078791], the Norman Borlaug Commemorative Research Initiative, an initiativebetween the Feed the Future program of United States Agency for InternationalDevelopment (USAID), USA and United States Department of Agriculture (USDA)-Agricultural Research Service, USA (58-5348-2-117F) and through funding from theCGIAR Research Program on Livestock and Fish [CRP 3.7]	N/A	N/A	N/A	18/12/20
Swadling L	A human vaccine strategy based on chimpanzee adenoviral and MVA vectors that primes, boosts, and sustains functional HCV-specific T cell memory	2014 Science Transitional Medicine	Funding:Supported by the Medical ResearchCouncil (MRC) UK and the European Union (Framework VI; HEPACIVAC) for funding the studyand the manufacture of MVA-NSmut through an MRC UK DCS (Developmental Clinical Studies)award. E.B. is supported by the MRC as a Senior Clinical Fellow, the Oxford Martin Schools, andNational Institute for Health Research Oxford Biomedical Research Centre. L. Swadling is supported by an MRC CASE studentship.	Competing interests:S. Colloca, A.F., R.C., and A.N.are named inventors on patent applications covering HCV-vectored vaccines and chimpanzeeadenovirus vectors [WO 2006133911 (A3) hepatitis C virus nucleic acid vaccine, WO 2005071093(A3) chimpanzee adenovirus vaccine carriers, WO 03031588 (A2) hepatitis C virus vaccine]. P.K. hasacted as a consultant to Tibotec and Pfizer on antiviral therapy. The other authors declare thatthey have no competing interests	N/A	N/A	16/12/20
Swadling L		2016 Vaccines	Supported by the Medical Research Council (MRC) UK and the European Union (FrameworkVI; HEPACIVAC) for funding the study and the manufacture of MVA-NSmut through an MRC UK DCS(Developmental Clinical Studies) award (G0701694). Christabel Kelly and Paul Klenerman are supported by theWellcome Trust, the Oxford NIHR BRC and the U19 grant (2U19AI082630-06). Leo Swadling is supported by anMRC CASE studentship. Elleanor Barnes is funded as an MRC Senior Clinical Fellow, and is supported by theOxford NIHR BRC, the Oxford Martin School and the Jenner Institute.	Stefano Colloca, Antonella Folgori, Riccardo Cortese and Alfredo Nicosia are namedinventors on patent applications covering HCV-vectored vaccines and chimpanzee adenovirus vectors[WO 2006133911 (A3) hepatitis C virus nucleic acid vaccine, WO 2005071093 (A3) chimpanzee adenovirusvaccine carriers, WO 03031588 (A2) hepatitis C virus vaccine]. Adrian Hill is a co-inventor on patent filings andapplications related to heterologous prime-boost immunisations.	NCT01296451	N/A	20/12/2020
Tapia MD	Use of ChAd3-EBO-Z Ebola virus vaccine in Malian and US adults, and boosting of Malian adults with MVA-BN-Filo: a phase 1, single-blind, randomised trial, a phase 1b, open-label and double-blind, dose-escalation trial, and a nested, randomised, double-blind, placebo-controlled trial	2016 The Lancet Infectious Diseases	This study was funded by a Wellcome Trust Strategic Translation Award, with funding contributions from the Medical Research Council UK, and the Department for International Development UK supported the primary vaccination of 80 Malian participants with ChAd3-EBO-Z. A Wellcome Trust Enhancement Award funded the boosting of 52 Malians with MVA-BN-Filo or saline. Funding for priming immunisation of the Malian participants with the ChAd3-EBO-Z vaccine and for data management was provided by the National Cancer Institute, the Frederick National Laboratory for Cancer Research, Federal Funds from the National Institute of Allergy and Infectious Diseases, and a contract (number HHSN261200800001E) awarded to Leidos Biomedical Research. The US trial was funded by the Vaccine Research Center, National Institute of Allergy and Infectious Diseases, through a contract to the EMIMES Corporation.	FR, IDR, and WRB are employees of GlaxoSmithKline and manufacture non-replicating chimpanzee adenovirus 3-based vaccines. NS is a named inventor on patents related to ChAd3-EBO-Z. AVSH is named as an inventor on patents using heterologous prime boost immunisation with viral vectors, such as those assessed in this report. MML serves as a member of the Scientifi c Advisory Working Group to the Vaccine Research Center, National Institute of Allergy and Infectious Diseases, and of the Vaccine Research Center Board of Scientifi c Counselors.	NCT02231866, NCT02267109	N/A	20/12/2020

Tiono AB	First field efficacy trial of the ChAd63 MVA ME-TRAP vectored malaria vaccine candidate in 5-17 months old infants and children	2018 Plos One	This work was supported by an award from the European and Developing Countries Clinical Trials Partnership (EDCTP) and was performed by the Malaria Vectored Vaccines Consortium (MVVC), a 5-year integrated project (Grant number IP.2008.31100.001). The European Vaccine Initiative (EVI) was the coordinator of the EDCTP-funded MVVC project. Co-funding was also provided by the Swedish International Development Cooperation Agency (SIDA), the Austrian Federal Ministry of Science and Research, and Irish Aid. Additional support for the Oxford clinical trials team was provided by the UK NIHR through the Oxford Biomedical Research Centre	: AVSH is a named inventor on patent applications and issued patents relating to malaria vectored vaccines and immunization regimes. This does not alter the author's adherence to all the PLOS ONE policies on sharing data and materials.	NCT01635647, PACTR201208000404131.	N/A	21/12/2020
Tuthill M.	Results from ADVANCE: A phase I/II open-label non-randomised safety and efficacy study of the viral vectored ChAd0x1-MVA ST4 (VTP-800) vaccine in combination with PD-1 checkpoint blockade in metastatic prostate cancer	2020 Annals of Oncology (Abstracts)	European Union Seventh Framework Programme under grant AgreementNo. 602705 (Project IMPROVE) and Vaccitech Ltd.	M. Tuthill: Advisory/Consultancy: Vaccitech Limited; Advisory/Consultancy, SpeakerBureau/Expert testimony: BMS; Advisory/Consultancy, Speaker Bureau/Expert testimony: Pfizer;Advisory/Consultancy, Speaker Bureau/Expert testimony: Novartis, ; Advisory/Consultancy, SpeakerBureau/Expert testimony: Janssen; Advisory/Consultancy, Speaker Bureau/Expert testimony: Roche;Advisory/Consultancy: Lilly; Advisory/Consultancy: Oxford Vacmedix, ; Speaker Bureau/Expert tes-timony: Astellas; Speaker Bureau/Expert testimony: Genomic Health; Speaker Bureau/Expert testi-mony: Esai; Speaker Bureau/Expert testimony: Everything Genetic; Travel/Accommodation/Expenses: EUSA Pharma. T. Evans: Leadership role, Shareholder/Stockholder/Stock options: Vacci-tech Limited. A. Protheroe: Speaker Bureau/Expert testimony: BMS. A.V.S. Hill: Advisory/Consultancy,Founder Vaccitech: Vaccitech Limited. All other authors have declared no conflicts of interest.	NCT03815942	N/A	18/12/20
Utrilla-Trigo S	Heterologous Combination of ChAdOx1 and MVA Vectors Expressing Protein NS1 as Vaccination Strategy to Induce Durable and Cross-Protective CD8+ T Cell Immunity to Bluetongue Virus	2020 MDPI	This work was supported by grants AGL2017-82570-R from the Spanish Ministry of Science and EUHorizon 2020 Program (European Comission Grant Agreement NO. 727393-PALE-Blu). SUT was a recipient of apredoctoral fellowship from the Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Centro deInvestigación en Sanidad Animal (program FPI-SGIT-201).	N/A	N/A	N/A	18/12/20
van Doremalen N	A single dose of ChAdOx1 MERS provides protective immunity in rhesus macaques	2020 Science Advances	This work was supported by the Intramural Research Program of the National Institute of Allergy and Infectious Diseases (NIAID), NIH (1ZIAAI001179-01) and the Department of Health and Social Care using UK Aid funding managed by the NIHR.S.C.G. is a Jenner investigator. The views expressed in this publication are those of the author(s) and not necessarily those of the Department of Health and Social Care.	S.C.G. is a board member of Vaccitech and named as an inventor on a patent covering use of ChAdOx1-vectored vaccines. The other authors declare that they have no competing interests.	N/A	N/A	18/12/20
van Doremalen N	A single-dose ChAdOx1-vectored vaccine provides complete protection against Nipah Bangladesh and Malaysia in Syrian golden hamsters	2019 PLOS	This work was supported by the Intramural Research Program of the National Institute of Allergy and Infectious Diseases(NIAID),National Institutes of Health(NIH).TAB issupportedby the Medical Research Council(MR/L009528/1). SCG is a Jenner investigator.The sponsors did not play a role in study design.	I have read the journal's policy and the authorsof this manuscript have the following competing interests:SCG is named as an inventor on a patent covering use of ChAdOx1-vectored vaccines.The remaining authors declare no conflict of interest.	N/A	N/A	18/12/20
van Doremalen N Venkatraman N	ChAdOx1 nCoV-19 vaccine prevents SARS-CoV-2 pneumonia in rhesus macaques	2020 Nature	This work was supported by the Intramural Research Program of the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH) (1ZIAAI001179-01) and the Department of Health and Social Care using UK Aid funding managed by the NIHR.	S.C.G. is a board member of Vaccitech and named as an inventor on a patent covering the use of ChAdOx1-vector-based vaccines and a patent application covering a SARS-CoV-2 (nCoV-19) vaccine (UK patent application no. 2003670.3). T.L. is named as an inventor on a patent application covering a SARS-CoV-2 (nCoV-19) vaccine (UK patent application no. 2003670.3). The University of Oxford and Vaccitech, having joint rights in the vaccine, entered into a partnership with AstraZeneca in April 2020 for further development, large-scale manufacture and global supply of the vaccine. Equitable access to the vaccine is a key component of the partnership. Neither Oxford University nor Vaccitech will receive any royalties during the pandemic period or from any sales of the vaccine in developing countries. The other authors declare no competing interests.	N/A	AZ in competing interests	18/12/20
Walker AS Wang C	Safety and Immunogenicity of a Heterologous Prime-Boost Ebola Virus Vaccine Regimen in Healthy Adults in the United Kingdom and Senegal	2019 The Journal of Infectious Diseases	This work was supported by the Wellcome Trust, the UK Medical Research Council, the UK Department for International Development, and the UK NIHR Oxford Biomedical Research Centre. The Good Manufacturing Practice biomanufacture of MVA-EBO-Z and the UK clinical trial was supported by an Enhancement Award to a Wellcome Trust Strategic Award (to A. V. S. H. as principal investigator) co-funded by the Medical Research Council, the Department for International Development, and the European and Developing Countries Clinical Trials Partnership (grant number 106325/Z/14/A), with additional support from the NIHR Oxford Biomedical Research Centre. The Senegal trial was largely funded by a European Commission Horizon 2020 program award EbolaVac (www.ebolavac.eu; grant agreement 666085), which provided additional resources for the MVA-EBO-Z biomanufacture. This study was also supported by GlaxoSmithKline Biologicals SA. Andrew S. Walker, José Lourenço andSunetra Gupta are funded by the European Research Council (ERCAdvanced Grant—Diversity). AVSH is a Jenner Investigator andWellcome Trust and NIHR Senior Investigator.	F. R. and W. R. B. are employ-ees of GSK and own restricted shares of the company. S. C. G., K. E., and A. V. S. H. are named inventors on patents relating to viral vector vaccines for malaria and other diseases. F. R. and W. R. B. are employees of GSK, which is developing vectored vaccines for Ebola and other diseases. All other authors report no potential conflicts of interest. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.	NCT02451891; NCT02485912	N/A	18/12/20
Wang C	Malaria Vaccines	2015 American Journal of Tropical Medicine and Hygiene	N/A	N/A	N/A	20/12/2020
Warimwe GM	A simian-adenovirus-vectored rabies vaccine suitable for thermostabilisation and clinical development for low-cost single-dose pre-exposure prophylaxis	2018 Plos Neglected Tropical Diseases	This work has been supported by the UK Medical Research Council including Confidence in Concept (grantsMC_PC_13073and MR/P017339/1). SJD, AVSH and ADD are Jenner Investigators; SJD is also a Lister Institute Research Prize Fellow and a Wellcome Trust Senior Fellow (grant106917/Z/15/Z). ADD is supported by the Wellcome Trust (grant201477/Z/16/Z). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.	AVSH and ADD are named inventors on a patent application relating to the development of the ChAdOx2 vector. AVSH and SJD are named inventors on a patent relating to the use of the intron-containing promoter used in ChAdOx2 RabG. The Universityof Oxford and the Wistar Institute have entered into a partnership to share any future revenue from development of the ChAdOx2 RabG vaccine.	N/A	N/A	21/12/2020
Warimwe GMLorenzo Yoshida K	Chimpanzee Adenovirus Vaccine Provides Multispecies Protection against Rift Valley Fever	2016 Scientific Reports	This work was conducted with the support from the University of Oxford, a Wellcome Trust fellowship to GMW (WT098635) and grant from the Bill & Melinda Gates Foundation through the Grand Challenges Exploration Initiative to GMW (OPP1096893). B.C., S.C.G. and A.V.S.H. are Jenner Investigators.	N/A	N/A	N/A	20/12/2020
	Immunogenicity and efficacy of a chimpanzee adenovirus-vectored Rift Valley fever vaccine in mice	2013 Virology Journal	This work was supported by a Wellcome Trust fellowship in PublicHealth and Tropical Medicine to GMW (grant no. 098635/B/12/Z) and by aSpanish Ministry of Science grant (no. AGL2011-22485) to AB. ELG is a recipi-ent of a pre-doctoral fellowship program from the Spanish Ministry of Sci-ence. SCG and AVSH are Jenner Investigators.	MDJD, MGC, SCG and AVSH are named inventors on a patent applicationdescribing the ChAdOx1 vector (GB Patent application number 1108879.6).All other authors declare that they have no competing interests.	N/A	N/A	16/12/20
	Adenovirus-prime and baculovirus-boost heterologous immunization achieves sterile protection against malaria sporozoite challenge in a murine model	2018 Scientific Reports	This work was supported, in part, by a Grant-in-Aid for Young Scientists (B) (JSPS KAKENHI grant number 26860278), a grant from the Ohyama Health Foundation, and Cooperative Research Grants from NEKKEN, 2014 (grant number 26-6) and 2015 (grant number 27-5) to M.I.; by Grants-in-Aid for Scientific Research (B) (JSPS KAKENHI grant numbers 21390126 and 25305007) and a Grant-in-Aid for Challenging Exploratory Research (JSPS KAKENHI grant number 24659460) to S.Y.; and by the UK Medical Research Council (award number MR/N00227X/1) to A.M.B.	A.H. are named inventors on filed patents related to immunization with the B.D.E.S. (WO/2007/091624) and ChAd63 (WO/2008/122769) anti-malaria vaccines, respectively. Neither of these products has been commercialized. None of the authors have undertaken any consultancies relevant to this study. These conflicts of interest do not alter the authors' adherence to all the policies of Scientific Reports on sharing data and materials, as detailed online in the guide for authors. The authors have read the journal's policy and declare the following conflicts of interest: S.Y. and	N/A	N/A	21/12/2020

Award number	Funder name	Awardee (to whom was the grant?)	Date	Amount	Exchange rate	Amount in GBP	Relevant publications (author and date)	Direct citation from articles
-	AIDS Vaccine Initiative	-	-	-			Borthwick et al (2014)	The work was supported by
-	Austrian Federal Ministry of Science and	-	-	-			Tiono (2018)	This work was supported by a
BBS/E/I/00001373	BBRSC	Bryan Charleston	Jan 09 - Jan 13	£790,209		£ 790,209.00	Dicks et al (2015 - 2)	This work has been funded by
BB/H010556/1	BBSRC	Tim Bull	Mar 10 - May 13	£351,371		£ 351,371.00	Bull et al (2014)	This work was supported by B
BB/H010718/1	BBSRC	Jayne Hope	Sep 11 - Aug 13	£235,928		£ 235,928.00	Bull et al (2014)	This work was supported by B
-	BBSRC	Hope J	-	-			Bull et al (2014)	This work was supported by B
-	BBSRC	McGuines I	-	-			Bull et al (2014)	This work was supported by B
LDAD_P15820	BBSRC	-	-	-			Goodman et al (2011)	This work was supported prim
LDAD_P15820	BBSRC	-	-	-			Goodman et al (2011)	This work was supported prim
OPP1096893	Bill & Melinda Gates Foundation	Warimwe GM	-	-			Dulal et al (2016)	This study was conducted with
OPP1096893	Bill & Melinda Gates Foundation	Warimwe GM	-	-			Warimwe et al (2016)	This work was conducted with
OPP1078791	Bill and Melinda Gate Foundation	Research Institute	Oct-13	$ 10,999,924	0.72	£ 7,919,945.28	Svitek (2018)	This work was funded by the I
OPP1215550	Bill and Melinda Gates Foundation	The Pirbright Institute	Nov-19	$ 5,530,900	0.72	£ 3,982,248.00	S Graham (2020)	and the Bill and Melinda Gate
3436	Bill and Melinda Gates Foundation	-	-	-			Pearson et al (2013)	This work has been supported
-	Biotechnology and Biological Sciences R	-	-	-			Boyd et al (2013)	The Biotechnology and Biolog
-	Bundesministerium für Bildung und Fors	-	-	-			Mensah (2017)	This work was supported by a
-	Cancer Research	Malinauskas T	-	-			Bauza et al (2014)	The work was funded by a We
-	Cancer Research	Jones EY	-	-			Bauza et al (2014)	The work was funded by a We
-	CAPES	Atcheson E		-			Atcheson (2018)	The work was funded by a We
CRP 3.7	CGIAR Research Program on Livestock a	-	-	-			Svitek (2018)	This work was funded by the I
-	Coalition for Epidemic Preparedness Inn	-	-	-			Folegatti P.M.(2020)	UK Department of Health and
finance code 001	Coordenacao de Aperfeicoamento de Pe	Folegatti P.M	-	-			Folegatti P.M.(2020)	UK Department of Health and
finance code 001	Coordenacao de Aperfeicoamento de Pe	-	-	-			Folegatti P.M.(2020)	UK Department of Health and
-	Dakar University Cheikh Anta Diop	-	-	-			Mensah et al (2016)	This study was supported by a
-	Danida	-	-	-			Payne et al (2017)	This work was supported by fu
	Department for Business, Energy and Industrial Strategy			£65,500,000.00		£ 65,500,000.00	https://www.imperial.ac.uk/news/197573/covid-19-vacc	
	Department for Business, Energy and Industrial Strategy			£20,000,000.00		£ 20,000,000.00	https://www.imperial.ac.uk/news/197017/imperial-covi	
-	Department for International Developme	-	-	-			Bowyer (2018)	The clinical trial was supporte
-	Department for International Developme	-	-	-			Venkatraman N (2019)	This work was supported
-	Department of Biotechnology, Governm	Chauhan VS	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	Department of Biotechnology, Governm	Chitnis CE	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	Department of Foreign Affairs and Trade	-	-	-			Mensah (2017)	This work was supported by a
-	DFID	-	-	-			Tapia et al (2016)	This study was funded by a W
-	DFID	-	-	-			Ewer et al (2016)	Supported by the Wellcome T
-	Division of Intramural Research	-	-	-			Forbes et al (2012)	This work was funded by the V
-	Dr. Saal van Zwanenberg Stichting	van Laarhoven A	-	-			Lambe et al (2013)	AvL was funded by a fellowsh
IP.2008.31100.00	EDCTP	-	-	-			Kimani et al (2014)	This work was supported by
IP.2008.31100.001	EDCTP	-	-	-			Afolabi et al (2016)	Trials Partnership (EDCTP) and
IP.2008.31100.001	EDCTP	-	-	-			Mensah et al (2016)	This study was supported by a
IP.2008.31100.001	EDCTP	-	-	-			Nébié et al (2014)	This work was supported by a
-	EMVDA	Dicks MDJ	-	-			Dicks et al (2012)	This work has been funded by
-	EMVDA	Dicks MDJ	-	-			Dicks et al (2015 - 2)	This work has been funded by
-	EMVDA	-	-	-			Forbes et al (2012)	This work was funded by the V
LSHP-CT-2007-03750	EMVDA	-	-	-			Biswas et al (2014)	This work was supported by th
LSHP-CT-2007-037506	EMVDA	-	-	-			Sheehy et al (2011)	This work was supported by th
LSHP-CT-2007-037506	EMVDA	-	-	-			Sheehy et al (2012 - 2)	This work was supported by th
LSHP-CT-2007-037506	EMVDA	-	-	-			Sheehy et al (2012)	This work was supported by
LSHP-CT-2007–037506	EMVDA	-	-	-			Hodgson et al (2014)	This work was supported by th
	EMVDA		-	-			Draper et al (2011)	SB was funded by MalParTrai

EP/R013756/1	Engineering and Physical Sciences Resea	Tarit K Mukhopadhyay	Apr 18 - Sep 21	£6,968,179		£	6,968,179.00	Folegatti P.M.(2020)	UK Department of Health and
CFTD07/117	Enterprise Ireland	-	-	-				Pearson et al (2015)	This study was funded by Ente
CFTD07/117	Enterprise Ireland	-	-	-				Carey et al (2013)	This work wassupported by Er
-	EU HEPACIVAC	-	-	-				Swadling (2016)	Supported by the Medical Res
-	European and Developing Countries Clini	-	-	-				Bowyer G (2020)	The Oxford clinical trial was s
-	European and Developing Countries Clini	-	-	-				Reyes-Sandoval (2010)	Work in the Oxford malaria va
-	European and Developing Countries Clini	-	-	-				Bowyer (2018)	The clinical trial was supporte
-	European and Developing Countries Clini	-	-	-				Venkatraman N (2019)	This work was supported
IP.2008.31100.001	European and Developing Countries Clini	-	-	-				Ogwang et al (2015)	This work was funded by the E
SP.2011.41304.025	European and Developing Countries Clini	-	-	-				Mensah (2017)	This work was supported by a
IP.2008.31100.001	European and Developing Countries Clini	-	-	-				Tiono (2018)	This work was supported by a
666085	European Comission	GLAXOSMITHKLINE BIOLOGICALS SA	07-Oct-14	€ 15,153,216	0.87	£	13,183,297.92	Venkatraman N (2019)	This work was supported
666085	European Commission	GLAXOSMITHKLINE BIOLOGICALS SA	07-Oct-14	€ 15,153,216	0.87	£	13,183,297.92	Bowyer G (2020)	The Oxford clinical trial was s
242095	European Commission	Salman AM	01-Oct-09	€ 12,000,000	0.87	£	10,440,000.00	Atcheson (2018)	The work was funded by a We
727393-PALE-Blu	European Commission	THE UNIVERSITY OF NOTTINGHAM	01-Jun-17	€ 6,039,301.50	0.87	£	5,254,192.31	Utrilla-Trigo S (2020)	This work was supported by g
602705	European Commission	-	-	€ 6,000,000	0.87	£	5,220,000.00	Cappuccini F (2020)	The VANCE clinical trial was s
602705	European Commission	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	01-Apr-14	€ 6,000,000	0.87	£	5,220,000.00	Tuthill M. (2020)	European Union Seventh Fram
316655	European Commission	Halbroth BR	01-Nov-12	€ 3,060,467.67	0.87	£	2,662,606.87	Halbroth (2018)	BRH received funding from th
316655	European Commission	Halbroth BR	-	-				Gola (2018)	A.G. is funded by the Wellcom
-	European Commission	-	-	-				Reyes-Sandoval (2010)	Work in the Oxford malaria va
IC18-CT95-0019	European Commission	Fellowship to author to J.S.	-	-				Gilbert et al (2002)	Wellcome Trust and the Eu
212414	European Community's 7th Framework F	UNIVERSIDAD COMPLUTENS	01-Oct-08	€ 2,894,759	0.87	£	2,518,440.33	Pérez et al (2013)	The study was funded by th
242095	European Community's Seventh Framew	Janse CJ	-	-				Longley et al (2015)	This work has been funded by
242095	European Community's Seventh Framew	-	-	€ 12,000,000	0.87	£	10,440,000.00	Forbes et al (2012)	This work was funded by the V
-	European Malaria Vaccine Development	-	-	-				Draper et al (2010)	This work was funded by the V
LSHP-CT-2007-037506	European Malaria Vaccine Development	-	-	-				Elias et al (2013)	This work was supported by th
LSHP-CT-2007-037506	European Malaria Vaccine Development	de Cassan SC	-	-				Payne (2017)	This work was supported by a
LSHP-CT-2007-037506	European Malaria Vaccine Development	de Cassan SC	-	-				de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	European Malaria Vaccine Devlopment A	-	-	-				Capone et al (2010)	This work was supported by th
-	European Malaria Vaccine Initiative	-	-	-				Reyes-Sandoval (2010)	Work in the Oxford malaria va
-	European Research Council	Walker A	-	-				Walker et al (2015)	Andrew S. Walker, José Loure
-	European Research Council	Lourenço J	-	-				Walker et al (2015)	Andrew S. Walker, José Loure
-	European Research Council	Gupta S	-	-				Walker et al (2015)	Andrew S. Walker, José Loure
305282	European Union	MultiMalVax	01-Oct-12	€ 6,000,000	0.87	£	5,220,000.00	Payne et al (2017)	This work was supported by fu
316655	European Union	Halbroth BR	-	-				Longley et al (2017)	Funding for manufacture and
602705	European Union	Capuccini F	-	-				Capuccini et al (2017)	This work was supported by C
602705	European Union	Pollock E	-	-				Capuccini et al (2017)	This work was supported by C
Framework VI;HEPACI\	European union	-	-	-				Barnes et al (2012)	European Union (Framework '
602705	European Union's Seventh Framework P	Capuccini F	01-Apr-14	€ 6,000,000	0.87	£	5,220,000.00	Capuccini et al (2016)	This work was supported by C
602705	European Union's Seventh Framework P	Pollock E	-	-				Capuccini et al (2016)	This work was supported by C
-	European Vaccine Initiative	-	-	-				Cottingham et al (2012)	This work was supported by th
-	European Vaccine Initiative	-	-	-				de Barra et al (2014)	The study was funded by a gra
-	European Vaccine Initiative	Chauhan VS	-	-				de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	European Vaccine Initiative	Chitnis CE	-	-				de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	European Vaccine Initiative	Viebig NK	-	-				Kimani et al (2014)	This work was supported by
242095	EVIMalaR	-	-	-				Biswas et al (2014)	This work was supported by th

	242095	EVIMalaR	-	-	-			Elias et al (2013)	This work was supported by th
	242095	EVIMalaR	-	-	-			Hodgson et al (2014)	This work was supported by th
	242095	EVIMalaR	Salman M	-	-			Salman et al (2017)	The work was funded by a We
	242095	EVIMalaR	-	-	-			Sheehy et al (2012)	This work was supported by
-		EVIMalR	Salman AM	-	-			Longley et al (2015)	This work has been funded by
-		Foundation to NIH	Hill A.V.S	-	-			Halbroth (2018)	BRH received funding from th
-		Frederick National Laboratory for Cancer	-	-	-			Tapia et al (2016)	This study was funded by a W
-		Gates Foundation	-	-	-			Reyes-Sandoval (2010)	Work in the Oxford malaria va
-		Gates Foundation (through the foundatic	-	-	-			Cottingham et al (2012)	This work was supported by th
-		German Center for Infection Research	-	-	-			Folegatti P.M.(2020)	UK Department of Health and
-		Graduate Women in Science	Coughlan L	-	-			Bliss (2020)	This research project was sup
-		Grand Challenges in Global Health	-	-	-			Reyes-Sandoval et al (2010	We thank the Jenner Institu
	24659460	Grant-in-Aid for Challenging Exploratory	Yoshida S	-	-			Yoshida Klyori (2018)	This work was supported, in p
	26860278	Grant-in-Aid for Young Scientists	-	-	-			Yoshida Klyori (2018)	This work was supported, in p
	21390126	Grants-in-Aid for Scientific Research	-	-	-			Yoshida Klyori (2018)	This work was supported, in p
	25305007	Grants-in-Aid for Scientific Research	-	-	-			Yoshida Klyori (2018)	This work was supported, in p
-		GSK	-		-			Venkatraman N (2019)	This work was supported
-		HAV Vaccines Ltd	-	-	-			Folegatti P.M. (2019)	This research was funded by H
-		HEPACIVAC	-	-	-			Swadling et al (2014)	Funding:Supported by the Me
LSH-2005-1.2.4-2 proje		Hepacivac	-	-	-			Colloca et al (2012)	This work was supported in pa
-		Imperial College NIHR Wellcome Trust C	-	-	-			Rampling et al (2016)	This work was supported by th
	971510	Innovate UK	The Jenner Institute, Universi	Apr 17 - May 18		£483,455	£ 483,455.00	Sebastian S (2020)	This research was funded by I
FPI-SGIT-201		Instituto Nacional de Investigación y Tec	Utrilla-Trigo S	-	-			Utrilla-Trigo S (2020)	This work was supported by g
-		Irish Aid	-	-	-			Afolabi et al (2016)	Trials Partnership (EDCTP) and
-		Irish Aid	-	-	-			Mensah (2017)	This work was supported by a
-		Irish Aid	-	-	-			Mensah et al (2016)	This study was supported by a
-		Irish Aid	-	-	-			Tiono (2018)	This work was supported by a
-		James Martin School for 21st Century, O	-	-	-			Barnes et al (2012)	European Union (Framework
-		Jenner Institue	Gilbert SC	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-		Jenner Institue	Hill AVS	-	-			Dicks et al (2012)	This work has been funded by
-		Jenner Institue	Hill AVS	-	-			Sheehy et al (2012)	This work was supported by
-		Jenner Institue	Gilbert SC	-	-			Sheehy et al (2012)	This work was supported by
-		Jenner Institute	Reyes-Sandoval A	-	-			Atcheson (2018)	The work was funded by a We
-		Jenner Institute	Hill A.V.S	-	-			Atcheson (2018)	The work was funded by a We
-		Jenner Institute	Hill AVS	-	-			Bauza et al (2014)	The work was funded by a We
-		Jenner Institute	Reyes-Sandoval A	-	-			Bauza et al (2014)	The work was funded by a We
-		Jenner Institute	McShane H	-	-			Betts et al (2012)	Funding was provided by NEW
-		Jenner Institute	Hill AVS	-	-			Betts et al (2012)	Funding was provided by NEW
-		Jenner Institute	Reyes-Sandoval A	-	-			Betts et al (2012)	Funding was provided by NEW
-		Jenner Institute	Hill AVS	-	-			Biswas et al (2014)	This work was supported by th
-		Jenner Institute	Draper SJ	-	-			Biswas et al (2014)	This work was supported by th
-		Jenner Institute	Hill AVS	-	-			Carey et al (2013)	This work wassupported by Er
-		Jenner Institute	Gilbert SC	-	-			Carey et al (2013)	This work wassupported by Er
-		Jenner Institute	Hill AVS	-	-			de Barra et al (2014)	The study was funded by a gra
-		Jenner Institute	Gilbert SC	-	-			de Barra et al (2014)	The study was funded by a gra
-		Jenner Institute	Hill AVS	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-		Jenner Institute	Draper SJ	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-		Jenner Institute	Gilbert SC	-	-			Dicks et al (2012)	This work has been funded by
-		Jenner Institute	Hill AVS	-	-			Dicks et al (2015)	This work has been funded by
-		Jenner Institute	Gilbert SC	-	-			Dicks et al (2015)	This work has been funded by
-		Jenner Institute	Gilbert SC	-	-			Draper et al (2010)	This work was funded by the V
-		Jenner Institute	Hill A.V.S.	-	-			Draper et al (2010)	This work was funded by the V
-		Jenner Institute	Hill AVS	-	-			Dulal et al (2016)	This study was conducted with
-		Jenner Institute	Charleston B	-	-			Dulal et al (2016)	This study was conducted with

-	Jenner Institute	Hill AVS	-	-	Elias et al (2013)	This work was supported by th
-	Jenner Institute	Draper SJ	-	-	Elias et al (2013)	This work was supported by th
-	Jenner Institute	Hill AVS	-	-	Ewer et al (2013)	The study was funded by gran
-	Jenner Institute	Draper SJ	-	-	Ewer et al (2013)	The study was funded by gran
-	Jenner Institute	Gilbert SC	-	-	Ewer et al (2013)	The study was funded by gran
-	Jenner Institute	Reyes-Sandoval A	-	-	Ewer et al (2013)	The study was funded by gran
-	Jenner Institute	Hill AVS	-	-	Forbes et al (2012)	This work was funded by the \
-	Jenner Institute	Draper SJ	-	-	Forbes et al (2012)	This work was funded by the \
-	Jenner Institute	Draper SJ	-	-	Goodman et al (2011)	This work was supported prim
-	Jenner Institute	Hill A.V.S	-	-	Goodman et al (2011)	This work was supported prim
-	Jenner Institute	Barnes E	-	-	Kelly et al (2016)	Supported by a Medical Resea
-	Jenner Institute	Gilbert SC	-	-	Lambe et al (2013)	AvL was funded by a fellowsh
-	Jenner Institute	Hill AVS	-	-	Longley et al (2015)	This work has been funded by
-	Jenner Institute	Hill AVS	-	-	Longley et al (2017)	Funding for manufacture and
-	Jenner Institute	Hill A.V.S	-	-	Payne (2017)	This work was supported by a
-	Jenner Institute	Draper SJ	-	-	Payne (2017)	This work was supported by a
-	Jenner Institute	Hill AVS	-	-	Payne et al (2017)	This work was supported by fu
-	Jenner Institute	Draper SJ	-	-	Payne et al (2017)	This work was supported by fu
-	Jenner Institute	Biswas S	-	-	Payne et al (2017)	This work was supported by fu
-	Jenner Institute	Reyes-Sandoval A	-	-	Salman et al (2017)	The work was funded by a We
-	Jenner Institute	Hill AVS	-	-	Salman et al (2017)	The work was funded by a We
-	Jenner Institute	Gilbert SC	-	-	Sheehy et al (2011)	This work was supported by th
-	Jenner Institute	Hill AVS	-	-	Sheehy et al (2011)	This work was supported by th
-	Jenner Institute	Draper SJ	-	-	Sheehy et al (2011)	This work was supported by th
-	Jenner Institute	Gilbert SC	-	-	Sheehy et al (2012 - 2)	This work was supported by th
-	Jenner Institute	Draper SJ	-	-	Sheehy et al (2012 - 2)	This work was supported by th
-	Jenner Institute	Draper SJ	-	-	Sheehy et al (2012)	This work was supported by
-	Jenner Institute	Gilbert S.C.	-	-	Stedman (2019)	This study was funded by the
-	Jenner Institute	Charleston B	-	-	Stedman (2019)	This study was funded by the
-	Jenner Institute	A.V.S Hill	-	-	Stedman (2019)	This study was funded by the
-	Jenner Institute	Barnes E	-	-	Swadling (2016)	Supported by the Medical Res
-	Jenner Institute	Hill AVS	-	-	Walker et al (2015)	Andrew S. Walker, José Loure
-	Jenner Institute	Hill A.V.S	-	-	Wang (2018)	This work has been supported
-	Jenner Institute	Draper AD	-	-	Wang (2018)	This work has been supported
-	Jenner Institute	Douglas SJ	-	-	Wang (2018)	This work has been supported
-	Jenner Institute	Hill AVS	-	-	Warimwe et al (2013)	This work was supported by a
-	Jenner Institute	Gilbert SC	-	-	Warimwe et al (2013)	This work was supported by a
-	Jenner Institute	Hill AVS	-	-	Warimwe et al (2016)	This work was conducted with
-	Jenner Institute	Gilbert SC	-	-	Warimwe et al (2016)	This work was conducted with
-	Jenner Institute	Charleston B	-	-	Warimwe et al (2016)	This work was conducted with
-	Jenner Institute	Hill AVS	-	-	Sheehy et al (2012 - 2)	This work was supported by th
-	Jenner Institute	Gilbert S.C.	-	-	Alharbi (2019)	This study is funded by KAIMR
-	Jenner Institute	Douglas AD	-	-	Fedosyuk S (2019)	This work was supported by M
-	Jenner Institute	Rollier C	-	-	Rollier C (2020)	This work was funded by a gra
-	Jenner Institute	Hill A.V.S.	-	-	Rollier C (2020)	This work was funded by a gra
-	Jenner Institute	Gilbert S.C.	-	-	Rollier C (2020)	This work was funded by a gra
-	Jenner Institute	Gilbert S.C.	-	-	van Doremalen N (2019)	This work was supported by th
-	Jenner Vaccine Foundation	-	-	-	Reyes-Sandoval (2010)	Work in the Oxford malaria va
RC16/093	KAIMRC	Naif Khalaf Alharbi	-	-	Alharbi (2019)	This study is funded by KAIMR
HI15C2971	Korean Ministry of Health and Welfare	-	-	-	Folegatti P.M.(2020)	UK Department of Health and
-	Lister Institute	Draper SJ	-	-	Biswas et al (2014)	This work was supported by th
-	Lister Institute	Draper SJ	-	-	Elias et al (2013)	This work was supported by th
-	Lister Institute	Draper SJ	-	-	Payne (2017)	This work was supported by a
-	Lister Institute	Draper SJ	-	-	Payne et al (2017)	This work was supported by fu
-	Lister Institute	Draper SJ	-	-	Carey et al (2013)	This work wassupported by Er

-	Lister Institute	Douglas SJ	-	-				Wang (2018)	This work has been supported
-	Malaria Vaccine Initiative	-	-	-				de Barra et al (2014)	The study was funded by a gra
-	Malaria Vectored Vaccines Consortium (	-	-	-				Ogwang et al (2015)	This work was funded by the E
MEST-CT-2005-020492	MalParTraining	Biswas S	-	-				Draper et al (2011)	SB was funded by MalParTrai
G0600424	Medical Research Council	Anna Louise Goodman	Sep 06 - Oct 09		£159,968	£	159,968.00	Goodman et al (2011)	This work was supported prim
-	Meningitis UK	Rollier CS	-	-				Reyes-Sandoval et al (2010	We thank the Jenner Institu
-	Merck KGaA	-	-	-				Fedosyuk S (2019)	This work was supported by M
-	Merton College, Oxford	Draper SJ	-	-				Draper et al (2010)	This work was funded by the V
-	Merton College, Oxford	Draper SJ	-	-				Draper et al (2011)	SB was funded by MalParTrai
-	MEWA, Saudi Arabia	-	-	-				Alharbi (2019)	This study is funded by KAIMR
-	MRC	-	-	-		-		Bowyer (2018)	The clinical trial was supporte
-	MRC	-	-	-		-		Coughlan L (2018)	Medical Research Council UK,
-	MRC	Juthathip Mongkolsapaya	-	-		-		Lopez-Camacho (2018)	This report is independent res
-	MRC	-	-	-		-		Mensah (2017)	This work was supported by a
-	MRC	Warimwe GM	-	-		-		Munster (2017)	This work is published withth
-	MRC	-	-	-		-		Venkatraman N (2019)	This work was supported
MC_UU_12014	MRC	Patel AH, Kohl A	-	-		-		Lopez-Camacho (2018)	This report is independent res
MR/P017339/1	MRC	Alexander Donald Douglas	Apr 17 - Mar 22		£2,228,194	£	2,228,194.00	Fedosyuk S (2019)	This work was supported by M
MR/P017339/1	MRC	Alexander Donald Douglas	Apr 17 - Mar 22		£2,228,194	£	2,228,194.00	Wang (2018)	This work has been supported
MR/N019008/1	MRC	Reyes-Sandoval A	Aug 16 - Feb 22		£1,792,688	£	1,792,688.00	Atcheson (2018)	The work was funded by a We
MR/N019008/1	MRC	Reyes-Sandoval A	Aug 16 - Feb 22		£1,792,688	£	1,792,688.00	Salman et al (2017)	The work was funded by a We
G0701669	MRC	Tomas Hanke	Oct 08 - Oct 12		£1,300,519	£	1,300,519.00	Borthwick et al (2014)	The work was supported by
MR/L009528/1	MRC	Thomas Alexander Bowden	Jan 14 - Dec 18		£1,144,287	£	1,144,287.00	van Doremalen N (2019)	This work was supported by th
G1000527	MRC	Draper SJ	Aug 10 - Jul 15		£1,104,645	£	1,104,645.00	Biswas et al (2014)	This work was supported by th
G1000527	MRC	Draper SJ	Aug 10 - Jul 15		£1,104,645	£	1,104,645.00	Carey et al (2013)	This work wassupported by Er
G1000527	MRC	Draper SJ	Aug 10 - Jul 15		£1,104,645	£	1,104,645.00	Elias et al (2013)	This work was supported by th
G1000527	MRC	Draper SJ	Aug 10 - Jul 15		£1,104,645	£	1,104,645.00	Sheehy et al (2012 - 2)	This work was supported by th
G1100086	MRC	Simon Draper	Jul 11 - Jun 14		£895,438	£	895,438.00	Payne (2017)	This work was supported by a
G0700735	MRC	Adrian Hill	Jan 08 - Dec 10		£748,840	£	748,840.00	Biswas et al (2014)	This work was supported by th
G0700735	MRC	Adrian Hill	Jan 08 - Dec 10		£748,840	£	748,840.00	Elias et al (2013)	This work was supported by th
MR/N006372/1	MRC	Sarah Catherine Gilbert	Mar 16 - May 18		£679,559	£	679,559.00	Asthagiri Arunkumar (2019	The study was fundedby an M
MC_PC_13073	MRC	Chas Bountra	Mar 14 - Sep 15		£650,000	£	650,000.00	Wang (2018)	This work has been supported
G0502018	MRC	Adrian Hill	Oct 06 - Jan 09		£647,586	£	647,586.00	O'Hara et al (2012)	Financial support. This work w
MR/N00227X/1	MRC	Andrew Michael Blagborough	Jan 16 - Apr 19		£549,297	£	549,297.00	Yoshida Klyori (2018)	This work was supported, in p
MC_PC_15040	MRC	Stephen Ward	Mar 16 - Feb 18		£500,000	£	500,000.00	Sebastian S (2020)	This research was funded by I
G0701694	MRC	Eleanor Barnes	Aug 09 - Jul 12		£250,000	£	250,000.00	Kelly et al (2016)	Supported by a Medical Resea
G0701694	MRC	Eleanor Barnes	Aug 09 - Jul 12		£250,000	£	250,000.00	Swadling (2016)	Supported by the Medical Res
MR/N017552/1	MRC	Kohl A	Jan 16 - Jan 19		£221,947	£	221,947.00	Lopez-Camacho (2018)	This report is independent res
G0600424	MRC	SJD	-	-		£	159,968.00	Goodman et al (2011)	This work was supported prim
G0600424	MRC	Goodman A	Sep 06 - Oct 09		£159,968	£	159,968.00	Ewer et al (2013)	The study was funded by gran
-	MRC	-	-	-				Afolabi et al (2016)	Trials Partnership (EDCTP) and
-	MRC	-	-	-				Antrobus et al (2014)	The study was funded by gran
-	MRC	-	-	-				Barnes et al (2012)	European Union (Framework '
-	MRC	Jones EY	-	-				Bauza et al (2014)	The work was funded by a We
-	MRC	Malinauskas T	-	-				Bauza et al (2014)	The work was funded by a We
-	MRC	-	-	-				Bowyer G (2020)	The Oxford clinical trial was s
-	MRC	Stribbling S	-	-				Capuccini et al (2016)	This work was supported by C
-	MRC	Stribbling S	-	-				Capuccini et al (2017)	This work was supported by C
-	MRC	Bartiromo M	-	-				Colloca et al (2012)	This work was supported in pa
-	MRC	-	-	-				Ewer et al (2013)	The study was funded by gran
-	MRC	Draper SJ	-	-				Forbes et al (2012)	This work was funded by the V

-	MRC	Draper SJ	-	-				Goodman et al (2011)	This work was supported prim
-	MRC	Goodman AL	-	-				Goodman et al (2011)	This work was supported prim
-	MRC	Barnes E	-	-				Kelly et al (2016)	Supported by a Medical Resea
-	MRC	-	-	-				Kimani et al (2014)	This work was supported by
-	MRC	-	-	-				Mensah et al (2016)	This study was supported by a
-	MRC	-	-	-				Ogwang et al (2013)	This work was performed by t
-	MRC	-	-	-				Swadling (2016)	Supported by the Medical Res
-	MRC	Swadling L	-	-				Swadling (2016)	Supported by the Medical Res
-	MRC	Barnes E	-	-				Swadling (2016)	Supported by the Medical Res
-	MRC	-	-	-				Swadling et al (2014)	Funding:Supported by the Me
-	MRC	Barnes E	-	-				Swadling et al (2014)	Funding:Supported by the Me
-	MRC	Swadling L	-	-				Swadling et al (2014)	Funding:Supported by the Me
-	MRC	-	-	-				Tapia et al (2016)	This study was funded by a W
-	MRC	-	-	-				Ewer et al (2016)	Supported by the Wellcome T
-	MRC	Swadling L	-	-				Kelly et al (2016)	Supported by a Medical Resea
G0600311	MRC	-	-	-				Pearson et al (2013)	This work has been supported
G0600311	MRC	-	-	-				Pearson et al (2015)	This study was funded by Ente
G0600424	MRC	ALG	Sep 06 - Oct 09		£159,968			Goodman et al (2011)	This work was supported prim
G0700735	MRC	-	-	-				Sheehy et al (2011)	This work was supported by th
G1000157	MRC	Draper SJ	-	-				Sheehy et al (2011)	This work was supported by th
G1000527	MRC	Draper SJ	-	-				de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
MR/K017632/1)	MRC	Alanine DGW	-	-				Payne et al (2017)	This work was supported by fu
U117532067	MRC	Holder AA	-	-				Draper et al (2011)	SB was funded by MalParTrai
-	MRC and DFID	-	-	-				Afolabi et al (2016)	Trials Partnership (EDCTP) and
-	MRC and DFID	-	-	-				Afolabi et al (2016)	Trials Partnership (EDCTP) and
-	MRC and DFID	Bejon P	-	-				Ogwang et al (2015)	This work was funded by the I
-	National Cancer Institute	-	-	-				Tapia et al (2016)	This study was funded by a W
P51 RR000167	National Center for Research Resources	-	-	-				Rollier C (2020)	This work was funded by a gra
RR020141	National Center for Research Resources	-	-	-				Rollier C (2020)	This work was funded by a gra
RR15459	National Center for Research Resources	-	-	-				Rollier C (2020)	This work was funded by a gra
P51 RR000167	National Centre for Research Resources	-	-	-				Spencer et al (2014)	This work has been funded by
RR020141	National Centre for Research Resources	-	-	-				Spencer et al (2014)	This work has been funded by
RR15459	National Centre for Research Resources	-	-	-				Spencer et al (2014)	This work has been funded by
-	National Health Service Blood and Trans	-	-	-				Ewer et al (2016)	Supported by the Wellcome T
-	National Insitute of Health and Research	-	-	-				Tiono (2018)	This work was supported by a
-	National Institue of Allergy and Infectiou	-	-	-				Sheehy et al (2012 - 2)	This work was supported by th
-	National Institute for Health and Resear	-	-	-				Barnes et al (2012)	European Union (Framework '
-	National Institute for Health Research	-	-	-				Bowyer G (2020)	The Oxford clinical trial was s
-	National Institute for Health Research	-	-	-				de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	National Institute for Health Research	-	-	-				Folegatti P.M.(2020)	UK Department of Health and
-	National Institute for Health Research	Rollier C	-	-				Rollier C (2020)	This work was funded by a gra
-	National Institute for Health Research	Hill A.V.S.	-	-				Rollier C (2020)	This work was funded by a gra
-	National Institute for Health Research		-	-				van Doremalen N (2020)	This work was supported by th
-	National Institute for Health Research		-	-				van Doremalen N (2020)	This work was supported by th
-	National Institute of Allergy and Infectio	-	-	-				Sheehy et al (2012)	This work was supported by
HHSN272201400008C	National Institute of Allergy and Infectio	Icahn School Of Medicine At	09/01/2014	$78,100,000		0.72	£ 56,232,000.00	S Graham (2020)	Developmentof SARS-CoV-2 r
-	National Institute of Allergy and Infectio	-	-	-				Biswas et al (2014)	This work was supported by th
-	National Institute of Allergy and Infectious Diseases		-	-				Sheehy et al (2011)	This work was supported by th
-	National Institute of Allergy and Infectio	-	-	-				Tapia et al (2016)	This study was funded by a W
-	National Institute of Allergy and Infectio	EMMES Corporation	-	-				Tapia et al (2016)	This study was funded by a W
HHSN261200800001E	National Institute of Allergy and Infectio	Leidos Biomedical Research	-	-				Tapia et al (2016)	This study was funded by a W
R44AI058375	National Institute of Allergy and Infectio	-	-	-				Longley et al (2017)	Funding for manufacture and
	National Institute of Allergy and Infectious Diseases		-	-				Draper et al (2011)	SB was funded by MalParTrai

	National Institute of Allergy and Infectio	-		-	-				Payne et al (2017)	This work was supported by fu
	National Institute of Allergy and Infectio	-		-	-				van Doremalen N (2019)	This work was supported by th
-	National Institute of Allergy and Infectio	-		-	-				van Doremalen N (2020)	This work was supported by th
-	National Institute of Allergy and Infectio	-		-	-				van Doremalen N (2020)	This work was supported by th
HHSN272201400008C	National Institute of Allergy and Infectio	-		-	-				van Doremalen N (2020)	This work was supported by th
-	National Institute of Health	-		-	-				Biswas et al (2014)	This work was supported by th
-	National Institute of Health	-		-	-				Folegatti P.M. (2019)	This research was funded by t
-	National Institute of Health	Hill A.V.S		-	-				Gola (2018)	A.G. is funded by the Wellcom
-	National Institute of Health	-		-	-				Reyes-Sandoval (2010)	Work in the Oxford malaria va
-	National Institute of Health	-		-	-				Rollier C (2020)	This work was funded by a gra
-	National Institute of Health	-		-	-				Sheehy et al (2012)	This work was supported by
-	National Institute of Health	-		-	-				Sheehy et al (2012 - 2)	This work was supported by th
HHSN272201400008C	National Institute of Health	-		-	-				Bliss (2020)	This research project was sup
	National Institute of Health			-	-				Draper et al (2011)	SB was funded by MalParTrai
HILL05GCGH0	National Institute of Health			-	-				Spencer et al (2014)	This work has been funded by
-	National Institute of Health and Researc	-		-	-				Bowyer (2018)	The clinical trial was supporte
-	National Institute of Health and Researc	-		-	-				Coughlan L (2018)	Medical Research Council UK,
-	National Institute of Health and Researc	-		-	-				Venkatraman N (2019)	This work was supported
-	National Institute of Health and Researc	-		-	-				Bliss (2018)	This study was funded by the
-	National Institutes of Allergy and Infecti	-		-	-				Forbes et al (2012)	This work was funded by the V
1ZIAAI001179-01	National Institutes of Health	MUNSTER, VINCENT		2013	$877,861	0.72	£	632,059.92	van Doremalen N (2020)	This work was supported by th
-	National Institutes of Health	-	-		-				Forbes et al (2012)	This work was funded by the V
-	National Institutes of Health	-	-		-				Sheehy et al (2011)	This work was supported by th
-	National Institutes of Health, National In	-		-	-				Hodgson et al (2014)	This work was supported by th
-	NDM	Biswas S	-		-				Biswas et al (2014)	This work was supported by th
26-6.	NEKKEN	Iyori M		2014	-				Yoshida Klyori (2018)	This work was supported, in p
27-5.	NEKKEN	Iyori M		2015	-				Yoshida Klyori (2018)	This work was supported, in p
EC FP7	NEWTBVAC	-	-		-				Betts et al (2012)	Funding was provided by NEW
1041802	NHMRC	McCarthy JS	-		-				Payne (2017)	This work was supported by a
10418020	NHMRC	McCarthey JS	-		-				Payne et al (2017)	This work was supported by fu
5T32AI007647-17	NIAID	PALESE, PETER		04-May-16	$523,884	0.72	£	377,196.48	Asthagiri Arunkumar (2019	The study was fundedby an M
1R03AI142046-01	NIAID	ALBRECHT, RANDY A.		01-Dec-18	$84,750	0.72	£	61,020.00	McHanon M (2019)	The study was fundedby an M
-	NIAID	Gola A	-		-				Gola (2018)	A.G. is funded by the Wellcom
-	NIAID	Uderhardt S	-		-				Gola (2018)	A.G. is funded by the Wellcom
-	NIAID	Germain RN	-		-				Gola (2018)	A.G. is funded by the Wellcom
-	NIAID	-	-		-				Munster (2017)	This work is published withth
AI109946	NIAID	-	-		-				McHanon M (2019)	The study was fundedby an M
HHSN272201400008C	NIAID	-	-		-				Asthagiri Arunkumar (2019	The study was fundedby an M
HHSN272201400008C	NIAID	-	-		-				McHanon M (2019)	The study was fundedby an M
1U19AI082630-01	NIH	CHUNG, RAYMOND T		07-Jun-09	$3,086,377	0.72	£	2,222,191.44	Barnes et al (2012)	European Union (Framework '
2U19AI082630-06	NIH	CHUNG, RAYMOND T		30-May-14	$2,351,111	0.72	£	1,692,799.92	Kelly et al (2016)	Supported by a Medical Resea
-	NIH	-	-		-				Munster (2017)	This work is published withth
2U19AI082630-06	NIH	Klenerman P	-		-				Kelly et al (2016)	Supported by a Medical Resea
2U19AI082630-06	NIH	Kelly C	-		-				Swadling (2016)	Supported by the Medical Res
2U19AI082630-06	NIH	Klenerman P	-		-				Swadling (2016)	Supported by the Medical Res
HILL05GCGH0	NIH	-	-		-				Dicks et al (2015 - 2)	This work has been funded by
-	NIH foundation	-	-		-				Dicks et al (2012)	This work has been funded by
-	NIHR	-	-		-				Mensah (2017)	This work was supported by a
-	NIHR	-	-		-				Payne (2017)	This work was supported by a
-	NIHR	Hill AVS	-		-				Walker et al (2015)	Andrew S. Walker, José Loure
-	NIHR	Hill AVS	-		-				Ewer et al (2013)	The study was funded by gran
-	NIHR		-		-				Reyes-Sandoval et al (2010	We thank the Jenner Institu
-	NIHR (Oxford Biomedical Research Centi	-	-		-				O'Hara et al (2012)	Financial support. This work w

A91301 Adult Vaccine	NIHR (through Oxford Biomedical Resea	-	-	-	Sheehy et al (2011)	This work was supported by th
-	NIHR Oxford Biomedical Research Centr	-	-	-	Antrobus et al (2014)	The study was funded by gran
-	NIHR Oxford Biomedical Research Centr	-	-	-	Cottingham et al (2012)	This work was supported by th
-	NIHR Oxford Biomedical Research Centr	-	-	-	Elias et al (2013)	This work was supported by th
-	NIHR Oxford Biomedical Research Centr	Barnes E	-	-	Swadling et al (2014)	Funding:Supported by the Me
-	NIHR Oxford Biomedical Research Centr	-	-	-	Ewer et al (2013)	The study was funded by gran
084113/Z/07/Z	NIHR Oxford Biomedical Research Centr	-	-	-	Biswas et al (2014)	This work was supported by th
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	de Barra et al (2014)	The study was funded by a gra
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	Kimani et al (2014)	This work was supported by
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-		-	Ogwang et al (2013)	This work was performed by t
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	Sheehy et al (2012 - 2)	This work was supported by th
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	Sheehy et al (2012)	This work was supported by
A91301 Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	Hodgson et al (2014)	This work was supported by th
A91301,Adult Vaccine	NIHR Oxford Biomedical Research Centr	-	-	-	Hodgson et al (2015)	This work was supported by th
-	NIHR Oxford BRC	-	-	-	Capuccini et al (2017)	This work was supported by C
-	NIHR Oxford BRC	-	-	-	Ewer et al (2016)	Supported by the Wellcome T
-	NIHR Oxford BRC	-	-	-	Longley et al (2017)	Funding for manufacture and
-	NIHR Oxford BRC	-		-	Payne et al (2017)	This work was supported by fu
-	NIHR Oxford BRC	-	-	-	Rampling et al (2016)	This work was supported by th
-	NIHR Oxford BRC	Kelly C	-	-	Swadling (2016)	Supported by the Medical Res
-	NIHR Oxford BRC	Klenerman P	-	-	Swadling (2016)	Supported by the Medical Res
-	NIHR Oxford BRC	Barnes E	-	-	Swadling (2016)	Supported by the Medical Res
91301 Adult Vaccine	NIHR Oxford BRC	-	-	-	Afolabi et al (2016)	Trials Partnership (EDCTP) and
58-5348-2-117F	Norman Borlaug Commemorative Resea	-	-	-	Svitek (2018)	This work was funded by the I
-	Nuffield Department of Medicine	Reyes-Sandoval A	-	-	Reyes-Sandoval et al (2010	We thank the Jenner Institu
-	Nuffield Department of Medicine	Longley RJ	-	-	Longley et al (2015)	This work has been funded by
-	Nuffield Department of Medicine	Longley RJ	-	-	Longley et al (2017)	Funding for manufacture and
-	Oak Foundation	-	-	-	Stedman (2019)	This study was funded by the
16/107/05	ODA budget	Reyes-Sandoval A, Patel AH	-	-	Lopez-Camacho (2018)	This report is independent res
	Ohyama Health Foundation	-	-	-	Yoshida Klyori (2018)	This work was supported, in p
-	Oxford Biomedical Research Centre	-	-	-	de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	Oxford Biomedical Research Centre	Rollier CS	-	-	Reyes-Sandoval et al (2010	We thank the Jenner Institu
-	Oxford Martin Institute	Spencer AJ	-	-	Longley et al (2017)	Funding for manufacture and
-	Oxford Martin Institute	Hill AVS	-	-	Salman et al (2017)	The work was funded by a We
-	Oxford Martin School	Reyes-Sandoval A	-	-	Atcheson (2018)	The work was funded by a We
-	Oxford Martin School	Hill A.V.S	-	-	Atcheson (2018)	The work was funded by a We
-	Oxford Martin School	Reyes-Sandoval A	-	-	Bauza et al (2014)	The work was funded by a We
-	Oxford Martin School	-	-	-	Cottingham et al (2012)	This work was supported by th
-	Oxford Martin School	Barnes E	-	-	Kelly et al (2016)	Supported by a Medical Resea
-	Oxford Martin School	Lambe T	-	-	Lambe et al (2013)	AvL was funded by a fellowsh
-	Oxford Martin School	Spencer AJ	-	-	Longley et al (2015)	This work has been funded by
-	Oxford Martin School	Reyes-Sandoval A	-	-	Salman et al (2017)	The work was funded by a We
-	Oxford Martin School	Barnes E	-	-	Swadling (2016)	Supported by the Medical Res
-	Oxford Martin School	Hill AVS	-	-	Bauza et al (2014)	The work was funded by a We
-	Oxford Martin School	-	-	-	Antrobus et al (2014)	The study was funded by gran
-	Oxford Martin School	Spencer AJ	-	-	Dicks et al (2015)	This work has been funded by
-	Oxford Martin School	Cottingham MG	-	-	Dicks et al (2015)	This work has been funded by
-	Oxford Martin School	Cottingham MG	-	-	Dicks et al (2012)	This work has been funded by
-	Oxford Martin Schools	Barnes E	-	-	Swadling et al (2014)	Funding:Supported by the Me

-	Oxford NHIRBRC	-	-	-			Kelly et al (2016)	Supported by a Medical Resea
-	Oxford NHIRBRC	Barnes E	-	-			Kelly et al (2016)	Supported by a Medical Resea
-	Oxford NIHR Biomedical Research Centr	-	-	-			Barnes et al (2012)	European Union (Framework '
-	Oxford NIHR Biomedical Research Centr	Redchenko I	-	-			Capuccini et al (2016)	This work was supported by C
-	PATH Malaria Vaccine Initiative	-	-	-			Forbes et al (2012)	This work was funded by the '
-	PATH Malaria Vaccine Initiative	-	-	-			Hodgson et al (2014)	This work was supported by th
-	PATH Malaria Vaccine Initiative	-	-	-			Rampling T (2018)	This work was funded primari
-	PATH Malaria Vaccine Initiative	-	-	-			Sheehy et al (2012)	This work was supported by
-	PATH Malaria Vaccine Initiative	-	-	-			Biswas et al (2014)	This work was supported by th
-	PATH Malaria Vaccine Initiative	-	-	-			Rampling et al (2016)	This work was supported by th
-	PATH Malaria Vaccine Initiative (MVI)	-	-	-			Sheehy et al (2011)	This work was supported by th
-	PATH MalariaVaccine Initiative	-	-	-			Hodgson et al (2015)	This work was supported by th
-	PATH MalariaVaccineInitiative	-	-	-			Sheehy et al (2012 - 2)	This work was supported by th
	PATH-MVI Malaria Vaccine Initiative	-	-	-			Draper et al (2011)	SB was funded by MalParTrai
-	Public Health England	-	-	-			Ewer et al (2016)	Supported by the Wellcome T
-	ReiThera (formerly Okairos)	Nicosia A	-	-			Mensah et al (2016)	This study was supported by a
-	Rhodes Trust	-	-	-			Longley et al (2015)	This work has been funded by
-	Rhodes Trust	Longley RJ	-	-			Longley et al (2017)	Funding for manufacture and
-	Rhodes Trust	Llewellyn D	-	-			Payne (2017)	This work was supported by a
-	Science Foundation Ireland	-	-	-			Carey et al (2013)	This work wassupported by Er
NAP156	Science Foundation Ireland	-	-	-			Pearson et al (2015)	This study was funded by Ente
NAP170	Science Foundation Ireland	-	-	-			Pearson et al (2015)	This study was funded by Ente
-	Southampton NIHR Wellcome Trust Clini	-	-	-			Sheehy et al (2012)	This work was supported by
-	Southampton NIHR Wellcome Trust Clini	-	-	-			Rampling et al (2016)	This work was supported by th
AGL2017-82570-R	Spanish Ministry of Science	-		-			Utrilla-Trigo S (2020)	This work was supported by g
-	Spanish Ministry of Science	Lopez-Gil E	-	-			Warimwe et al (2013)	This work was supported by a
AGL2011-22485	Spanish Ministry of Science	Brun AV	-	-			Warimwe et al (2013)	This work was supported by a
-	St Catherine's College, Oxford	Biswas S	-	-			Biswas et al (2014)	This work was supported by th
-	Swedish International Development Coo	-	-	-			Afolabi et al (2016)	Trials Partnership (EDCTP) and
-	Swedish International Development Coo	-	-	-			Mensah (2017)	This work was supported by a
-	Swedish International Development Coo	-	-	-			Mensah et al (2016)	This study was supported by a
-	Swedish International Development Coo	-	-	-			Tiono (2018)	This work was supported by a
	The Coalition for Epidemic Preparedness	-	-	-			Folegatti P.M.(2020)	UK Department of Health and
-	The Oxford Martin School	Rollier CS	-	-			Reyes-Sandoval et al (2010	We thank the Jenner Institu
EU FP7	Transmolbloc	-	-	-			Goodman et al (2011)	This work was supported prim
EU FP7	Transmolbloc	-	-	-			Goodman et al (2011)	This work was supported prim
-	TRANSVAC	-	-	-			de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	UK Department for International Develop	-	-	-			Bowyer G (2020)	The Oxford clinical trial was s
-	UK Department for International Develop	-	-	-			Venkatraman N (2019)	This work was supported
Project 16/107/03	UK Department of Health and Social Car	-	-	-			Stedman (2019)	This study was funded by the
16/107/01	UK Department of Health and Social Car	-	-	-			Folegatti P.M.(2020)	UK Department of Health and
EP/R013756/1	UK Engineeringand Physical Sciences Re	-	-		£6,968,179	£ 6,968,179.00	Fedosyuk S (2019)	This work was supported by M
-	UK Medical Research Council	-	-	-		-	Reyes-Sandoval (2010)	Work in the Oxford malaria va
-	UK National Institute for Health Researc	-	-	-		-	Folegatti P.M.(2020)	UK Department of Health and
MC_PC_19055	UK Research and Innovation	Sarah Catherine Gilbert	Apr 20 - Sep 21		£2,174,847	£ 2,174,847.00	Folegatti P.M.(2020)	UK Research and Innovation, (
GR000550	UK Royal Society for Tropical Medicine a	Coughlan L	-	-		-	Bliss (2020)	This research project was sup
972216	UKRI	Reyes-Sandoval A	Oct 16 - Sep 17		£498,870	£ 498,870.00	Lopez-Camacho (2018)	This report is independent res
	UKRI	Alexandar Douglas			£411,388.00	£ 411,388.00	https://www.ukri.org/research/c	This COVID-19 Rapid Respons
	UKRI	Sandy Douglas			£400,000.00	£ 400,000.00	https://www.ox.ac.uk/news/202	Working with Professor Sarah Gilbert
	UKRI	Graham Ogg			£246,000.00	£ 246,000.00	https://www.ukri.org/resea	This £246k award is to procur
BBS/E/I/00007037	UKRI Biotechnology and BiologicalScienc	Michael Johnson	Apr 17 - Mar 20		£17,455,044	£ 17,455,044.00	S Graham (2020)	UKRI Biotechnology and Biolo
BBS/E/I/00007039	UKRI Biotechnology and BiologicalScienc	Simon Thomas Carpenter	Apr 17 - Mar 20		£6,662,753	£ 6,662,753.00	S Graham (2020)	UKRI Biotechnology and Biolo
BBS/E/I/00007031	UKRI Biotechnology and BiologicalScienc	Philippa Beard	Apr 17 - Mar 20		£2,965,523	£ 2,965,523.00	S Graham (2020)	UKRI Biotechnology and Biolo
BBS/E/I/00007034	UKRI Biotechnology and BiologicalScienc	Simon Thomas Carpenter	Apr 17 - Mar 20		£2,728,186	£ 2,728,186.00	S Graham (2020)	UKRI Biotechnology and Biolo

EP/R013756/1	UKRI Engineering and Physical Sciences I	Tarit K Mukhopadhyay	Apr 18 - Sep 21	£6,968,179	£	6,968,179.00	S Graham (2020)	This study was supported by U
EP/S025243/1	UKRI Engineering and Physical Sciences I	James Henderson Naismith	Nov 18 - May 20	£1,649,512	£	1,649,512.00	S Graham (2020)	andEPSRC Grant No. EP/S025
-	University of Oxford	-	-	-			Warimwe et al (2016)	This work was conducted with
MRF/TT2015/2150	University of Oxford	Coughlan L	-	-			Bliss (2020)	This research project was sup
	USAID	-	-	-			Payne et al (2017)	This work was supported by fu
-	Vaccine Research Center	-	-	-			Tapia et al (2016)	This study was funded by a W
-	Vaccitech Ltd	-		-			Tuthill M. (2020)	European Union Seventh Fram
-	Wellcome Trust	-	-	-			Ewer et al (2013)	The study was funded by gran
76438	Wellcome Trust	-	-	-		-	Reyes-Sandoval et al (2010	We thank the Jenner Institu
206194	Wellcome Trust	-	-	-		-	Payne et al (2017)	This work was supported by fu
-	Wellcome Trust	-	-	-		-	Bowyer G (2020)	The Oxford clinical trial was s
-	Wellcome Trust	AVSH	-	-		-	Capone et al (2010)	This work was supported by th
-	Wellcome Trust	-	-	-		-	Capone et al (2010)	This work was supported by th
-	Wellcome Trust	Hill AVS	-	-		-	Capuccini et al (2017)	This work was supported by O
-	Wellcome Trust	-	-	-		-	Reyes-Sandoval (2010)	Work in the Oxford malaria va
-	Wellcome Trust	Reyes-Sandoval A	-	-		-	Reyes-Sandoval et al (2010	We thank the Jenner Institu
-	Wellcome Trust	-	-	-		-	Rollier C (2020)	This work was funded by a gra
-	Wellcome Trust	Hill A.V.S.	-	-		-	Rollier C (2020)	This work was funded by a gra
-	Wellcome Trust	-	-	-		-	Venkatraman N (2019)	This work was supported
084113/Z/07/Z	Wellcome Trust	-	-	-		-	Afolabi et al (2016)	Trials Partnership (EDCTP) and
084113/Z/07/Z	Wellcome Trust	-	-	-		-	Longley et al (2017)	Funding for manufacture and
084113/Z/07/Z	Wellcome Trust	-	-	-		-	Payne et al (2017)	This work was supported by fu
095540/Z/11/Z	Wellcome Trust	Hill AVS	-	-		-	Longley et al (2017)	Funding for manufacture and
095540/Z/11/Z	Wellcome Trust	Hill AVS	-	-		-	Salman et al (2017)	The work was funded by a We
097395/Z/11/Z	Wellcome Trust	Reyes-Sandoval A	-	-		-	Alves et al (2017)	The work was funded by a We
097395/Z/11/Z	Wellcome Trust	Reyes-Sandoval A	-	-		-	Salman et al (2017)	The work was funded by a We
097940/Z/11/Z	Wellcome Trust	Hodgson SH	-	-		-	Longley et al (2017)	Funding for manufacture and
106917/Z/15/Z	Wellcome Trust	Draper SJ	-	-		-	Payne et al (2017)	This work was supported by fu
204826/Z/16/Z	Wellcome Trust	Prof Matthew Freeman	07/09/2016	£3,000,000.00	£	3,000,000.00	Fedosyuk S (2019)	This work was supported by M
106917/Z/15/Z	Wellcome Trust	Prof Simon Draper	01/04/2015	£1,901,424.00	£	1,901,424.00	Wang (2018)	This work has been supported
095540/Z/11/Z	Wellcome Trust	Hill A.V.S	10/05/2011	£1,372,456.00	£	1,372,456.00	Atcheson (2018)	The work was funded by a We
95540/Z/11/Z	Wellcome Trust	Prof Adrian Hill	10/05/2011	£1,372,456.00	£	1,372,456.00	Dicks et al (2015 - 2)	This work has been funded by
97395/Z/11/Z	Wellcome Trust	Reyes-Sandoval A	12/12/2011	£1,081,461.00	£	1,081,461.00	Bauza et al (2014)	The work was funded by a We
201477/Z/16/Z	Wellcome Trust	Dr Alexander Douglas	18/05/2016	£414,492.00	£	414,492.00	Wang (2018)	This work has been supported
201477/Z/16/Z	Wellcome Trust	Douglas AD	18/05/2016	£414,492.00	£	414,492.00	Fedosyuk S (2019)	This work was supported by M
098635/B/12/Z	Wellcome Trust	Warimwe GM	21/06/2012	£253,778.00	£	253,778.00	Dulal et al (2016)	This study was conducted with
098635/B/12/Z	Wellcome Trust	Warimwe GM	21/06/2012	£253,778.00	£	253,778.00	Warimwe et al (2013)	This work was supported by a
094449/Z/10/Z	Wellcome Trust	Duncan CJ	31/08/2010	£218,216.00	£	218,216.00	Sheehy et al (2012)	This work was supported by
089455/Z/09/Z	Wellcome Trust	Douglas AD	29/05/2009	£217,651	£	217,651.00	Payne et al (2017)	This work was supported by fu
97395/Z/11/A	Wellcome Trust	Reyes-Sandoval A	01/08/2013	£203,200.00	£	203,200.00		
097940/Z/11/Z	Wellcome Trust	Hodgson SH	29/03/2012	£195,304.00	£	195,304.00	Kimani et al (2014)	This work was supported by
76438	Wellcome Trust	Prof Adrian Hill	16/09/2008	£84,023.00	£	84,023.00	Reyes-Sandoval et al (2008	The work was supported by a
098635/Z/12/Z	Wellcome Trust	Warimwe GM	21/06/2012	£74,551.00	£	74,551.00	Dulal et al (2016)	This study was conducted with
-	Wellcome Trust	-	-	-			Barnes et al (2012)	European Union (Framework

-	Wellcome Trust	-	-	-	Bliss (2018)	This study was funded by the
-	Wellcome Trust	-	-	-	Boyd et al (2013)	The Biotechnology and Biolog
-	Wellcome Trust	Hill AVS	-	-	Capuccini et al (2016)	This work was supported by C
-	Wellcome Trust	-	-	-	Colloca et al (2012)	This work was supported in pa
-	Wellcome Trust	-	-	-	Cottingham et al (2012)	This work was supported by th
-	Wellcome Trust	Hill AVS	-	-	de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
-	Wellcome Trust	-	-	-	Dicks et al (2012)	This work has been funded by
-	Wellcome Trust	Hill AVS	-	-	Dicks et al (2015 - 2)	This work has been funded by
-	Wellcome Trust	Hill A.V.S	-	-	Draper et al (2010)	This work was funded by the V
-	Wellcome Trust	Hill A.V.S.	-	-	Draper et al (2011)	SB was funded by MalParTrai
-	Wellcome Trust	Gilbert SC	-	-	Draper et al (2011)	SB was funded by MalParTrai
-	Wellcome Trust	-	-	-	Ewer et al (2013)	The study was funded by gran
-	Wellcome Trust	Hill AVS	-	-	Ewer et al (2013)	The study was funded by gran
-	Wellcome Trust	-	-	-	Forbes et al (2012)	This work was funded by the V
-	Wellcome Trust	Hill AVS	-	-	Forbes et al (2012)	This work was funded by the V
-	Wellcome Trust	Hill A.V.S	-	-	Gola (2018)	A.G. is funded by the Wellcom
-	Wellcome Trust	Hill A.V.S	-	-	Gola (2018)	A.G. is funded by the Wellcom
-	Wellcome Trust	Hill A.V.S.	-	-	Goodman et al (2011)	This work was supported prim
-	Wellcome Trust	-	-	-	Halbroth (2018)	BRH received funding from th
-	Wellcome Trust	-	-	-	Kelly et al (2016)	Supported by a Medical Resea
-	Wellcome Trust	Gavin Screaton	-	-	Lopez-Camacho (2018)	This report is independent res
-	Wellcome Trust	-	-	-	Tapia et al (2016)	This study was funded by a W
-	Wellcome Trust	-	-	-	Tapia et al (2016)	This study was funded by a W
-	Wellcome Trust	Hill AVS	-	-	Walker et al (2015)	Andrew S. Walker, José Loure
-	Wellcome Trust	Hill A.V.S			Halbroth (2018)	BRH received funding from th
-	Wellcome Trust	Hill AVS	-	-	Colloca et al (2012)	This work was supported in pa
-	Wellcome Trust	-	-	-	Ewer et al (2016)	Supported by the Wellcome T
-	Wellcome Trust	Kelly C	-	-	Swadling (2016)	Supported by the Medical Res
-	Wellcome Trust	Klenerman P	-	-	Swadling (2016)	Supported by the Medical Res
084113/Z/07/Z	Wellcome Trust	-	-	-	de Barra et al (2014)	The study was funded by a gra
084113/Z/07/Z	Wellcome Trust	-	-	-	Elias et al (2013)	This work was supported by th
084113/Z/07/Z	Wellcome Trust	-	-	-	Hodgson et al (2014)	This work was supported by th
084113/Z/07/Z	Wellcome Trust	Hill AVS	-	-	Hodgson et al (2015)	This work was supported by th
084113/Z/07/Z	Wellcome Trust	-	-	-	Kimani et al (2014)	This work was supported by
084113/Z/07/Z	Wellcome Trust	-	-	-	Sheehy et al (2011)	This work was supported by th
084113/Z/07/Z	Wellcome Trust	-	-	-	Sheehy et al (2012 - 2)	This work was supported by th
084113/Z/07/Z	Wellcome Trust	Prof Adrian Hill	-	-	Sheehy et al (2012)	This work was supported by
091663MA	Wellcome Trust	-	-	-	Colston et al (2016)	This work was supported by W
095540/Z/11/Z	Wellcome Trust	-	-	-	Dicks et al (2015)	This work has been funded by
095540/Z/11/Z	Wellcome Trust	-	-	-	Longley et al (2015)	This work has been funded by
095540/Z/11/Z	Wellcome Trust	-	-	-	Spencer et al (2014)	This work has been funded by
097940/Z/11/Z	Wellcome Trust	Hodgson SH	-	-	de Barra et al (2014)	The study was funded by a gra
097940/Z/11/Z	Wellcome Trust	Hodgson SH	-	-	Hodgson et al (2015)	This work was supported by th
097940/Z/11/Z)	Wellcome Trust	Hodgson SH	-	-	Biswas et al (2014)	This work was supported by th
099897/Z/12/A	Wellcome Trust	-	-	-	Colston et al (2016)	This work was supported by W
45488/Z/05	Wellcome Trust	Hill AVS	-	-	de Barra et al (2014)	The study was funded by a gra
45488/Z/05	Wellcome Trust	Hill AVS	-	-	Hodgson et al (2015)	This work was supported by th
45488/Z/05	Wellcome Trust	Hill AVS	-	-	Sheehy et al (2011)	This work was supported by th
45488/Z/05	Wellcome Trust	Hill AVS	-	-	Sheehy et al (2012 - 2)	This work was supported by th
45488/Z/05	Wellcome Trust	Hill AVS	-	-	Sheehy et al (2012)	This work was supported by
RTEI0	Wellcome Trust	Duncan CJ	-	-	Sheehy et al (2012 - 2)	This work was supported by th
WT076943MA	Wellcome Trust	McShane H	-	-	Betts et al (2012)	Funding was provided by NEW
WT098051	Wellcome Trust	-	-	-	Bauza et al (2014)	The work was funded by a We
WT098635	Wellcome Trust	Warimwe GM	-	-	Warimwe et al (2016)	This work was conducted with

97395	Wellcome Trust	Reyes-Sandoval A	-	-	-	Betts et al (2012)	Funding was provided by NEW
-	Wellcome Trust	Hill AVS	-	-	-	Dicks et al (2012)	This work has been funded by
-	Wellcome Trust	-	-	-	-	O'Hara et al (2012)	Financial support. This work w
084113/Z/07/Z	Wellcome Trust	-	-	-	-	Ogwang et al (2013)	This work was performed by t
WT 098051	Wellcome Trust	Otto TD	-	-	-	Payne (2017)	This work was supported by a
203077/Z/16/Z	Wellcome Trust	Prof Philip Bejon	30/06/2016	£26,595,243.00	£ 26,595,243.00	Stedman (2019)	This study was funded by the
084113/Z/07/Z	Wellcome Trust	Prof Adrian Hill	07/11/2007	£3,400,000.00	£ 3,400,000.00	de Cassan et al (2011)	S.C.d.C. is a Ph.D. student sup
084113/Z/07/Z	Wellcome Trust	Prof Adrian Hill	07/11/2007	£3,400,000.00	£ 3,400,000.00	Payne (2017)	This work was supported by a
106325/Z/14/A	Wellcome Trust	A.V.S Hill	19/12/2014	£2,100,000.00	£ 2,100,000.00	Venkatraman N (2019)	This work was supported
106917/Z/15/Z	Wellcome Trust	Draper SJ	01/04/2015	£1,901,424.00	£ 1,901,424.00	Payne (2017)	This work was supported by a
097395/Z/11/Z	Wellcome Trust	Reyes-Sandoval A	12/12/2011	£1,081,461.00	£ 1,081,461.00	Atcheson (2018)	The work was funded by a We
108734/Z/15/Z	Wellcome Trust	Rawlinson TA	24/06/2015	£271,399.00	£ 271,399.00	Payne (2017)	This work was supported by a
-	Wellcome Trust	A.V.S Hill	-	-		Bowyer (2018)	The clinical trial was supporte
-	Wellcome Trust	Gola A	-	-		Gola (2018)	A.G. is funded by the Wellcom
-	Wellcome Trust	-	-	-		Mensah (2017)	This work was supported by a
-	Wellcome Trust Clinical Research Facilit	-	-	-		Barnes et al (2012)	European Union (Framework

SUMMARY OF DONATIONS (CASH RECEIVED) TO THE UNIVERSITY OF OXFORD IN SUPPORT OF PROFFESOR SARAH GILBERT AND PROFESSOR ADRIAN HILL to 17/12/2020

Donor	Donation	Date	Title of funding
Anonymous	£750,000 - £999,999	15/04/2020	To support Professor Adrian Hill's work on COVID-19 vaccine
Anonymous	£100,000 - £249,999	15/04/2020	To support Professor Adrian Hill's work on COVID-19 vaccine development
Anonymous	£100,000 - £249,999	21/04/2020	To scale production and manufacturing of Oxford's Vaccine Candidate; Jenner Institute for Professor Adrian Hill
FIAP, International Federation of Photographic Art	£25,000 - £49,999	14/09/2020	Professor Adrian Hill and Professor Sarah Gilbert – vaccine research
Karin B. Sinniger	£25,000 - £49,999	12/05/2020	To support Professor Adrian Hill's vaccine research
Lakshmi Mittal	£500,000 - £750,000	03/07/2020	Lakshmi Mittal and Family Professorship for Vaccinology, Professor Adrian Hill
Richard A. Sanders	£250,000 - £499,999	23/04/2020	Professor Adrian Hill and Professor Sarah Gilbert – vaccine research
TrustBridge Global	£25,000 - £49,999	13/08/2020	Professor Adrian Hill and Professor Sarah Gilbert – vaccine research
Wafic R. Saïd	Confidential	28/07/2020	Saïd Professorship of Vaccinology, Professor Sarah Gilbert

Sponsor	Project Number	Funding Type	Project Name	Principal Investigator	Project Start Date	Project End Date	Total Budget	Classification
European Commission	HCRGZJ00	EU Government	AN INTEGRATED PROJECT FOR THE DESIGN & TESTING OF VACCINE CANDIDATES AGAINST TUBERCULOSIS:IDENTIFCATION	Hill, Prof. Adrian	01-Jan-2004	31-Jan-2010	371,005.17	Other vaccine research
European Commission	HCRGZJ00	EU Government	AN INTEGRATED PROJECT FOR THE DESIGN & TESTING OF VACCINE CANDIDATES AGAINST TUBERCULOSIS:IDENTIFCATION	Hill, Prof. Adrian	01-Jan-2004	31-Jan-2010	423,717.11	Other vaccine research
Jenner Vaccine Foundation	HCRIPL00	UK Charity (no QR)	EJIVR fellowship	Hill, Prof. Adrian	01-Aug-2005	30-Sep-2014	12,723.28	Not relevant to ChAdOx
Jenner Vaccine Foundation	HCRIPL00	UK Charity (no QR)	EJIVR fellowship	Hill, Prof. Adrian	01-Aug-2005	30-Sep-2014	247,066.09	Not relevant to ChAdOx
Jenner Vaccine Foundation	HCRIPL00	UK Charity (no QR)	EJIVR fellowship	Hill, Prof. Adrian	01-Aug-2005	30-Sep-2014	597,272.77	Not relevant to ChAdOx
Foundation for National Institutes of Health	HCRJFN00	Non-EU Other	ENHANCING THE IMMUNOGENICITY AND EFFICACY OF VECTORED VACCINES	Hill, Prof. Adrian	01-Aug-2005	30-Nov-2013	1,928,792.16	ChAdOx technology
Foundation for National Institutes of Health	HCRJFN00	Non-EU Other	ENHANCING THE IMMUNOGENICITY AND EFFICACY OF VECTORED VACCINES	Hill, Prof. Adrian	01-Aug-2005	30-Nov-2013	390,640.00	ChAdOx technology
Foundation for National Institutes of Health	HCRJFN00	Non-EU Other	ENHANCING THE IMMUNOGENICITY AND EFFICACY OF VECTORED VACCINES	Hill, Prof. Adrian	01-Aug-2005	30-Nov-2013	3,301,513.13	ChAdOx technology
Foundation for National Institutes of Health	HCRJFN00	Non-EU Other	ENHANCING THE IMMUNOGENICITY AND EFFICACY OF VECTORED VACCINES	Hill, Prof. Adrian	01-Aug-2005	30-Nov-2013	108,347.00	ChAdOx technology
European Commission	HCRNHU00	EU Government	New Preventative and therapeutic Hepatits C Vaccines: from pre-clinical to phase 1 (HEPACIVAC)	Hill, Prof. Adrian	01-Feb-2007	06-Nov-2012	905,482.61	Other vaccine research
Department of Health and Social Care	HCRNFZ00	UK Public Sector	Vaccines Theme	Hill, Prof. Adrian	01-Apr-2007	30-Jun-2012	1,887,190.90	ChAdOx technology
Department of Health and Social Care	HCRNFZ00	UK Public Sector	Vaccines Theme	Hill, Prof. Adrian	01-Apr-2007	30-Jun-2012	97,763.92	ChAdOx technology
Department of Health and Social Care	HCRNFZ00	UK Public Sector	Vaccines Theme	Hill, Prof. Adrian	01-Apr-2007	30-Jun-2012	37,846.92	ChAdOx technology
Department of Health and Social Care	HCRNFZ00	UK Public Sector	Vaccines Theme	Hill, Prof. Adrian	01-Apr-2007	30-Jun-2012	1,327,807.87	ChAdOx technology
Department of Health and Social Care	HCRNFZ00	UK Public Sector	Vaccines Theme	Hill, Prof. Adrian	01-Apr-2007	30-Jun-2012	14,760.28	ChAdOx technology
Wellcome Trust	HCROPS00	UK Charity (QR)	Human and veterinary vaccinology	Hill, Prof. Adrian	01-Jul-2008	30-Sep-2013	2,500,000.00	ChAdOx technology
European & Developing Countries Clinical Trials Partnership	HCRRZI10	EU Government	INTEGRATING CAPACITY BUILDING AND NETWORKING IN THE DESIGN AND CINDUCT OF PHASE 1 AND 11 CLINICAL TRIALS OF	Hill, Prof. Adrian	01-Nov-2009	31-May-2015	2,038,038.98	ChAdOx technology
European Commission	HCRRVU00	EU Government	IDEA: DISSECTING THE IMMUNOLOGICAL INTERPLAY BETWEEN POVERTY RELATED DISEASES AND HELMINTH INFECTIONS: AI	Hill, Prof. Adrian	01-Mar-2010	31-Oct-2015	638,805.39	Other vaccine research
James Martin (Individual)	HCRSKB00	Non-EU Other	VACCINE DESIGN INSTITUTE (MATCHED FUNDING)	Hill, Prof. Adrian	01-Jun-2010	31-Aug-2013	129,311.00	Not relevant to ChAdOx
James Martin (Individual)	HCRSKB00	Non-EU Other	VACCINE DESIGN INSTITUTE (MATCHED FUNDING)	Hill, Prof. Adrian	01-Jun-2010	31-Aug-2013	145,796.00	Not relevant to ChAdOx
James Martin (Individual)	HCRSKB00	Non-EU Other	VACCINE DESIGN INSTITUTE (MATCHED FUNDING)	Hill, Prof. Adrian	01-Jun-2010	31-Aug-2013	444,324.00	Not relevant to ChAdOx
James Martin (Individual)	HCRSKB00	Non-EU Other	VACCINE DESIGN INSTITUTE (MATCHED FUNDING)	Hill, Prof. Adrian	01-Jun-2010	31-Aug-2013	247,210.00	Not relevant to ChAdOx
European Vaccine Initiative	HCRUXL00	EU Government	Construction and GMP manufacture of AdCh63 CSP and MVA CSP plus clinical trials	Hill, Prof. Adrian	01-Aug-2010	22-Apr-2014	497,082.81	ChAdOx technology
Wellcome Trust	HCRUZZ00	UK Charity (QR)	T-Cell Inducing Vaccines	Hill, Prof. Adrian	01-Sep-2011	31-Dec-2014	68,228.00	ChAdOx technology
Wellcome Trust	HCRUZZ00	UK Charity (QR)	T-Cell Inducing Vaccines	Hill, Prof. Adrian	01-Sep-2011	31-Dec-2014	1,304,228.00	ChAdOx technology
Name withheld	HCRVJB00	EU Industry (QR)	Vaccine Thermostability	Hill, Prof. Adrian	01-Oct-2011	28-Feb-2014	149,707.00	ChAdOx technology
Program for Assessment Technology in Health	HCRWJS00	Non-EU Other	Clinical Testing of Multi-Antigen Adnovirus-Vectored Malaria Vaccines in Prime-Boost Regimens with DNA and MVA (VAC045)Igen Adnovirus	Hill, Prof. Adrian	15-Mar-2012	31-May-2014	574,070.40	ChAdOx technology
Department of Health and Social Care	HCRWAF00	UK Public Sector	BRC2 VACCINES THEME	Hill, Prof. Adrian	01-Apr-2012	31-May-2015	36,468.48	ChAdOx technology
Department of Health and Social Care	HCRWAF00	UK Public Sector	BRC2 VACCINES THEME	Hill, Prof. Adrian	01-Apr-2012	31-May-2015	1,764,079.63	ChAdOx technology
Department of Health and Social Care	HCRWAF00	UK Public Sector	BRC2 VACCINES THEME		01-Apr-2012	31-May-2015	933,269.78	ChAdOx technology
European Commission	HCRWMY00	EU Government	Immunogene: Immunogenetics of Severe Bacterial Disease Susceptibility and Vaccine Responses in Humans	Hill, Prof. Adrian	01-Jun-2012	30-Sep-2017	1,095,942.39	Other vaccine research
European Commission	HCRWMY00	EU Government	Immunogene: Immunogenetics of Severe Bacterial Disease Susceptibility and Vaccine Responses in Humans	Hill, Prof. Adrian	01-Jun-2012	30-Sep-2017	243,881.65	Other vaccine re Hill, Prof. Adriar
European Commission	HCRXKA00	EU Government	MULTIMALVAX - A MULTI STAGE MALARIA VACCINE	Hill, Prof. Adrian	01-Oct-2012	20-Jul-2017	3,696,129.35	ChAdOx technology
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	28,930.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	121,073.62	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	6,390.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	13,950.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	30,000.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	30,000.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	106,032.38	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	109,486.00	Not relevant to ChAdOx
James Martin 21st Century Foundation	HCRXNO10	Non-EU Other	Vaccines To Tackle Variable Pathogens: Transforming Immunisation Effectiveness in the 21st Century	Hill, Prof. Adrian	01-Oct-2012	30-Nov-2015	4,138.00	Not relevant to ChAdOx
European & Developing Countries Clinical Trials Partnership	HCRYLI00	EU Government	FIELD TRILAS OF A NEW COMBINATION MALARIA VACCINE IN WEST AFRICAN ADULTS AND CHILDREN (MVVC2)	Hill, Prof. Adrian	01-Nov-2012	30-Nov-2015	171,708.16	Other vaccine research
European Commission	HCRZBY00	EU Government	VACTRAIN - Training network for next generation vaccinologists	Hill, Prof. Adrian	01-Nov-2012	28-Feb-2017	178,033.83	Other vaccine research
European Commission	HCRZBY00	EU Government	VACTRAIN - Training network for next generation vaccinologists	Hill, Prof. Adrian	01-Nov-2012	28-Feb-2017	302,698.29	ChAdOx technology
Medical Research Council	HCRXMA00	Research Councils	CLINICAL ASSESSMENT OF A NOVEL SIMIAN ADENOVIRUS-VECTORED INFLUENZA VACCINE DESIGNED TO INDUCE BROADLY I	Gilbert, Prof. Sarah	01-Dec-2012	31-Jul-2016	793,586.40	ChAdOx technology
Bill & Melinda Gates Foundation	HCRXXG00	Multiple Funding Types	VAC052 - MVI PATH. ADRIAN HILL	Hill, Prof. Adrian	01-Dec-2012	31-Jan-2015	560,650.41	ChAdOx technology
Medical Research Council	HCRXWW00	Research Councils	DCS- CLINICAL EVALUATION OF A SPOROZITE AND LIVER STAGE COMBINATION VACCINE FOR PLASMODIUM FALCIPARUM	Hill, Prof. Adrian	31-Dec-2012	30-Apr-2016	916,661.20	Other vaccine research
Bill & Melinda Gates Foundation	HCR00050	Non-EU Other	VAC 055. A phase I/la Sporozite challenge study to assess the protective efficacy of the combination malaria vaccine candidate regime of RTS, S	Hill, Prof. Adrian	01-May-2013	28-Feb-2015	1,034,355.94	ChAdOx technology
Bill & Melinda Gates Foundation	HCRYOT00	Non-EU Charity (QR)	VAC 055 - A PHASE I/la SPOROZITE CHALLENGE STUDY TO ASSESS THE PROTECTIVE EFFICACY OF THE COMBINATION MALARI	Hill, Prof. Adrian	01-May-2013	30-Jun-2014	0.00	ChAdOx technology
Wellcome Trust	HCRYBS00	UK Charity (QR)	ADVANCING HUMAN & VETERINARY VACCINOLOGY	Hill, Prof. Adrian	30-Jun-2013	31-May-2017	940,440.51	Not relevant to ChAdOx
Wellcome Trust	HCRYBS00	UK Charity (QR)	ADVANCING HUMAN & VETERINARY VACCINOLOGY	Hill, Prof. Adrian	30-Jun-2013	31-May-2017	1,119,154.49	Not relevant to ChAdOx
Innovate UK	HCRZJK00	UK Public Sector	Development of a novel VLP based vaccine for malaria	Hill, Prof. Adrian	01-Sep-2013	31-Oct-2014	99,998.08	Other vaccine research
Wellcome Trust	HCR00040	UK Charity (QR)	An investigation of cell dynamics, migration and differentiation resulting in the generation of a CD8+ T-cell memory response following vaccinati	Hill, Prof. Adrian	01-Oct-2013	30-Nov-2017	80,000.00	ChAdOx technology
Animal Health and Veterinary Laboratories Agency	HCR00200	UK Public Sector	Influenza project - Jenner fellow	Gilbert, Prof. Sarah	01-Jan-2014	28-Feb-2017	65,038.79	Not relevant to ChAdOx
Name withheld	HCR00100	UK Industry (QR)	H1N1_CS_01 clinical study	Gilbert, Prof. Sarah	01-Feb-2014	31-Dec-2014	11,426.00	ChAdOx technology
European Commission	HCR00120	EU Government	Improving prostate Cancer Outcomes with Vectored Vaccines	Hill, Prof. Adrian	01-Apr-2014	15-Nov-2019	3,435,675.99	ChAdOx technology
European Commission	HCR00120	EU Government	Improving prostate Cancer Outcomes with Vectored Vaccines	Hill, Prof. Adrian	01-Apr-2014	15-Nov-2019	18,872.52	ChAdOx technology
Biotechnology & Biological Sciences Research Council	HCR00260	Research Councils	Understanding influenza A virus: linking transmission, evolutionary dynamics, pathogenesis and immunity in pigs	Gilbert, Prof. Sarah	01-Apr-2014	31-May-2019	44,838.00	Other vaccine research
Program for Appropriate Technology in Health (PATH)	HCR00170	Non-EU Other	A phase I/lla sporozoite challenge study to assess the safety and protective efficacy of concomitant administration of the Combination Malaria Va	Hill, Prof. Adrian	15-May-2014	31-Mar-2015	271,432.82	ChAdOx technology
Wellcome Trust	HCR00240	Split-Funded	Accelerated Clinical Evaluation of a Monovalent Vectored Ebola vaccine	Hill, Prof. Adrian	01-Sep-2014	28-Feb-2017	2,820,000.00	ChAdOx technology
Wellcome Trust	HCR00340	UK Charity (QR)	A multi-component high efficacy malaria vaccine	Hill, Prof. Adrian	01-Sep-2014	31-Oct-2019	53,470.15	ChAdOx technology
Wellcome Trust	HCR00340	UK Charity (QR)	A multi-component high efficacy malaria vaccine	Hill, Prof. Adrian	01-Sep-2014	31-Oct-2019	1,952,079.53	ChAdOx technology
Name withheld	HCR00171	Non-EU Other	A Phase I/lla Sporozoite Challenge study to access the safety and protective efficacy of concomitant administration of the combination malaria va	Hill, Prof. Adrian	01-Oct-2014	30-Nov-2016	1,166,941.27	ChAdOx technology
European Commission	HCR00320	EU Government	Development of a Chimpanzee Adenovirus Type 3 Ebolavirus Zaire Vaccine	Hill, Prof. Adrian	07-Oct-2014	31-Jul-2018	698,208.30	ChAdOx technology
Wellcome Trust	HCR00310	UK Charity (QR)	Large Scale Biomanufacture of a Monovalent Ebola MVA Vector and Heterologous Boosting of Primed Subjects in Mali and the UK	Hill, Prof. Adrian	01-Dec-2014	28-Feb-2017	2,179,000.00	Other vaccine research
European Commission	HCR00350	EU Government	Standardization & development of assays for assessment of influenza vaccine correlates of protection	Gilbert, Prof. Sarah	01-Mar-2015	30-Apr-2021	90,006.92	Other vaccine research
NIHR Biomedical Research Centre	HCRWAF04	UK Public Sector	BRC2 Vaccines Theme Year 4	Hill, Prof. Adrian	01-Apr-2015	31-May-2016	172,911.59	ChAdOx technology
NIHR Biomedical Research Centre	HCRWAF04	UK Public Sector	BRC2 Vaccines Theme Year 4	Hill, Prof. Adrian	01-Apr-2015	31-May-2016	438,045.00	ChAdOx technology
NIHR Biomedical Research Centre	HCRWAF04	UK Public Sector	BRC2 Vaccines Theme Year 4	Hill, Prof. Adrian	01-Apr-2015	31-May-2016	299,291.00	ChAdOx technology
Janssen Vaccines & Prevention B.V.	HCR00480	EU Industry (QR)	RELATING TO A PHASE I, SAFETY AND IMMUNOGENICITY TRIAL OF THE HETEROLOGOUS PRIME-BOOST REGIMEN COMBININC	Hill, Prof. Adrian	01-May-2015	28-Feb-2020	343,921.36	ChAdOx technology
Name withheld	HCR00481	EU Industry (QR)	RELATING TO A PHASE I, SAFETY AND IMMUNOGENICITY TRIAL OF THE HETEROLOGOUS PRIME-BOOST REGIMEN COMBININC	Hill, Prof. Adrian	01-May-2015	28-Feb-2020	0.00	ChAdOx technology
Name withheld	HCR00481	EU Industry (QR)	RELATING TO A PHASE I, SAFETY AND IMMUNOGENICITY TRIAL OF THE HETEROLOGOUS PRIME-BOOST REGIMEN COMBININC	Hill, Prof. Adrian	01-May-2015	28-Feb-2020	343,921.37	ChAdOx technology

Biotechnology & Biological Sciences Research Council	HCR00410	Research Councils	Stabilisation of Newcastle disease vaccine formulated in sugar-glass on polypropylene membranes	Hill, Prof. Adrian	01-Jun-2015	31-Jan-2017	82,989.96	Other vaccine research
Biotechnology & Biological Sciences Research Council	HCR00410	Research Councils	Stabilisation of Newcastle disease vaccine formulated in sugar-glass on polypropylene membranes	Hill, Prof. Adrian	01-Jun-2015	31-Jan-2017	57,856.44	Other vaccine research
Jenner Vaccine Foundation	HCR00450	UK Charity (no QR)	JVF Public Engagement Award	Hill, Prof. Adrian	01-Jul-2015	28-Feb-2017	50,000.00	Not relevant to ChAdOx
Name withheld	HCR00500	UK Industry (QR)	Agreement for the manufacture of a vaccine for use in clinical trials relating to ChAdOx2	Gilbert, Prof. Sarah	03-Aug-2015	28-Feb-2017	918,721.00	ChAdOx technology
Name withheld	HCR00530	UK Industry (QR)	In support of the manufacture of MVA HAV for use in clinical trials and related toxicology testing/clinical trial support activities	Gilbert, Prof. Sarah	01-Oct-2015	31-Jul-2020	424,033.35	Other vaccine research
Name withheld	HCR00531	UK Industry (QR)	In support of the manufacture of MVA HAV for use in clinical trials and related toxicology testing/clinical trial support activities.	Gilbert, Prof. Sarah	01-Oct-2015	30-Nov-2018	52,622.40	Other vaccine research
Jenner Vaccine Foundation	HCR00630	UK Charity (no QR)	Jenner Vaccine Foundation	Hill, Prof. Adrian	01-Jan-2016	28-Feb-2017	93,000.00	Not relevant to ChAdOx
Name withheld	HCR00730	EU Industry (QR)	Preparatory activities in support of the FLU007 clinical trial	Gilbert, Prof. Sarah	01-Feb-2016	30-Sep-2016	46,242.49	Other vaccine research
Medical Research Council	HCR00670	Research Councils	Pre-clinical development of an influenza vaccine to induce broad protection through multiple immune mechanisms	Gilbert, Prof. Sarah	01-Mar-2016	31-Jul-2018	379,318.93	ChAdOx technology
Medical Research Council	HCR00670	Research Councils	Pre-clinical development of an influenza vaccine to induce broad protection through multiple immune mechanisms	Gilbert, Prof. Sarah	01-Mar-2016	31-Jul-2018	300,241.00	ChAdOx technology
NIHR Biomedical Research Centre	HCRWAF05	UK Public Sector	BRC2 Vaccines Theme Year 5	Hill, Prof. Adrian	01-Apr-2016	31-May-2017	172,912.00	ChAdOx technology
NIHR Biomedical Research Centre	HCRWAF05	UK Public Sector	BRC2 Vaccines Theme Year 5	Hill, Prof. Adrian	01-Apr-2016	31-May-2017	438,223.10	ChAdOx technology
NIHR Biomedical Research Centre	HCRWAF05	UK Public Sector	BRC2 Vaccines Theme Year 5	Hill, Prof. Adrian	01-Apr-2016	31-May-2017	296,014.03	ChAdOx technology
Wellcome Trust	HCR00720	UK Charity (QR)	Prime-Target Vaccination in Malaria	Hill, Prof. Adrian	01-Jun-2016	31-Oct-2019	201,600.00	ChAdOx technology
Name withheld	HCR00940	UK Industry (QR)	INVICTUS Year 1 costs	Gilbert, Prof. Sarah	01-Aug-2016	28-Feb-2018	384,306.14	Other vaccine research
Name withheld	HCR00940	UK Industry (QR)	INVICTUS Year 1 costs	Gilbert, Prof. Sarah	01-Aug-2016	28-Feb-2018	151,549.02	Other vaccine research
Medical Research Council	H5R00610	Research Councils	The Mexican Biobank Project: Building Capacity for Big Data Science in Medical Genomics in Admixed Populations	Hill, Prof. Adrian	14-Aug-2016	18-Nov-2020	191,033.58	Other vaccine research
Medical Research Council	H5R00610	Research Councils	The Mexican Biobank Project: Building Capacity for Big Data Science in Medical Genomics in Admixed Populations	Hill, Prof. Adrian	14-Aug-2016	18-Nov-2020	316,308.00	Other vaccine research
Medical Research Council	HCR00810	Research Councils	Development of a novel biocompatible matrix for sugar membrane technology for thermostability of an adjuvanted malaria vaccine	Hill, Prof. Adrian	01-Oct-2016	31-May-2018	48,239.00	Other vaccine research
EMD Millipore Corporation	HCR00910	Non-EU Industry (QR)	Millipore/Sigma CBF collaboration	Hill, Prof. Adrian	01-Dec-2016	31-Jan-2019	79,636.07	Not relevant to ChAdOx
EMD Millipore Corporation	HCR00910	Non-EU Industry (QR)	Millipore/Sigma CBF collaboration	Hill, Prof. Adrian	01-Dec-2016	31-Jan-2019	59,629.45	Not relevant to ChAdOx
Royal Society	HCR01070	Research Councils	Transcriptomics of African Fruit Bats in response to Ebola virus antigens	Gilbert, Prof. Sarah	01-Dec-2016	31-Jan-2018	5,000.00	Other vaccine research
Name withheld	HCR00870	UK Industry (QR)	HAV-Trial	Gilbert, Prof. Sarah	19-Dec-2016	28-Feb-2021	202,673.09	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	20,222.39	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	118,934.30	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	0.01	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	588,848.64	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	495,448.15	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	980,784.98	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	717,894.57	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	788,672.49	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	3,033,815.56	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	850,687.38	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	1,484,179.25	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	910,006.65	ChAdOx technology
European Commission	HCR00890	EU Government	Optimizing a deployable high efficacy malaria vaccine	Hill, Prof. Adrian	01-Jan-2017	28-Feb-2022	547,709.05	ChAdOx technology
Jenner Vaccine Foundation	HCR00900	UK Charity (no QR)	Jenner Investigator Allowance	Hill, Prof. Adrian	01-Jan-2017	10-Mar-2018	105,000.00	Not relevant to ChAdOx
Name withheld	HCR00920	UK Industry (QR)	Process Development for manufacturing personalised vaccines	Gilbert, Prof. Sarah	01-Feb-2017	28-Feb-2019	399,708.45	Not relevant to ChAdOx
Wellcome Trust	HCR01170	UK Charity (QR)	Development of a high efficacy vaccine against P.falciparum malaria	Hill, Prof. Adrian	01-Feb-2017	30-Nov-2022	0.01	ChAdOx technology
Wellcome Trust	HCR01170	UK Charity (QR)	Development of a high efficacy vaccine against P.falciparum malaria	Hill, Prof. Adrian	01-Feb-2017	30-Nov-2022	3,610,734.99	ChAdOx technology
Wellcome Trust	HCR01170	UK Charity (QR)	Development of a high efficacy vaccine against P.falciparum malaria	Hill, Prof. Adrian	01-Feb-2017	30-Nov-2022	1,554,265.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00951	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 1	Hill, Prof. Adrian	01-Apr-2017	31-May-2018	63,864.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00951	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 1	Hill, Prof. Adrian	01-Apr-2017	31-May-2018	568,273.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00951	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 1	Hill, Prof. Adrian	01-Apr-2017	31-May-2018	279,753.00	ChAdOx technology
European Commission	HCR01110	EU Government	European Vaccine Research and Development Infrastructure (TRANSVAC2)	Hill, Prof. Adrian	01-May-2017	30-Jun-2022	107,313.89	Not relevant to ChAdOx
European Commission	HCR01110	EU Government	European Vaccine Research and Development Infrastructure (TRANSVAC2)	Hill, Prof. Adrian	01-May-2017	30-Jun-2022	414,623.64	Not relevant to ChAdOx
Innovate UK	HCR01100	UK Public Sector	Preclinical Crimean Congo Haemorraghic Fever Vaccine Development	Gilbert, Prof. Sarah	15-May-2017	14-Jul-2018	350,780.00	ChAdOx technology
Name withheld	HCR01090	UK Industry (QR)	A phase I study to determine the safety and immunogenicity influenza vaccine MVA-NP+M1, manufactured on the AGE1.CR.pIX noval avian cell	Gilbert, Prof. Sarah	08-Jun-2017	13-Mar-2018	63,426.26	Other vaccine research
United States Agency for International Development	HCR01080	Non-EU Other	Rebecca Ashfield Leidos April 17	Ashfield, Dr. Rebecca	14-Jun-2017	30-Aug-2019	66,925.52	Other vaccine research
Name withheld	HCR01140	UK Industry (QR)	INVICTUS Main Trial	Gilbert, Prof. Sarah	09-Aug-2017	30-Nov-2019	1,698,717.96	Other vaccine research
Name withheld	HCR01140	UK Industry (QR)	INVICTUS Main Trial	Gilbert, Prof. Sarah	09-Aug-2017	30-Nov-2019	130,328.95	Other vaccine research
Name withheld	HCR01230	UK Industry (QR)	Costs relating to GMP storage of Vaccitech's IMP products	Gilbert, Prof. Sarah	30-Aug-2017	29-Oct-2022	98,318.67	Not relevant to ChAdOx
Jenner Vaccine Foundation	HCR01120	UK Charity (no QR)	Public Engagement - Jenner	Hill, Prof. Adrian	01-Sep-2017	28-Feb-2018	22,200.00	Not relevant to ChAdOx
Medical Research Council	HCR01130	Research Councils	Development and testing of MVA VerOx	Gilbert, Prof. Sarah	01-Sep-2017	30-Apr-2019	46,598.47	Other vaccine research
Innovate UK	HCR01240	UK Public Sector	A Nipah vaccine to eliminate porcine reservoirs and safeguard human health	Gilbert, Prof. Sarah	01-Sep-2017	31-May-2021	53,374.03	ChAdOx technology
Medical Research Council	HCR01180	Research Councils	Clinical Evaluation of "Prime-Target" Immunisation	Hill, Prof. Adrian	01-Feb-2018	30-Jun-2019	670,257.42	Other vaccine research
Biotechnology & Biological Sciences Research Council	HCR01190	Research Councils	A single dose vectored Taenia solium vaccine	Hill, Prof. Adrian	06-Mar-2018	05-May-2019	26,800.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00952	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 2	Hill, Prof. Adrian	01-Apr-2018	31-May-2019	67,895.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00952	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 2	Hill, Prof. Adrian	01-Apr-2018	31-May-2019	564,350.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00952	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 2	Hill, Prof. Adrian	01-Apr-2018	31-May-2019	294,005.00	ChAdOx technology
European Commission	HCR01350	EU Government	Multi-Stage Malaria Vaccine Consortium: field efficacy testing of a multi-stage malaria vaccine MMVC	Hill, Prof. Adrian	01-Apr-2018	30-Nov-2023	2,110,089.62	ChAdOx technology
European Commission	HCR01350	EU Government	Multi-Stage Malaria Vaccine Consortium: field efficacy testing of a multi-stage malaria vaccine MMVC	Hill, Prof. Adrian	01-Apr-2018	30-Nov-2023	2,886,824.83	ChAdOx technology
European Commission	HCR01350	EU Government	Multi-Stage Malaria Vaccine Consortium: field efficacy testing of a multi-stage malaria vaccine MMVC	Hill, Prof. Adrian	01-Apr-2018	30-Nov-2023	162,251.10	ChAdOx technology
Engineering & Physical Sciences Research Council	HCR01420	Research Councils	The Future Vaccine Manufacturing Research Hub	Gilbert, Prof. Sarah	01-Apr-2018	31-May-2021	1,021,747.04	Not relevant to ChAdOx
Engineering & Physical Sciences Research Council	HCR01420	Research Councils	The Future Vaccine Manufacturing Research Hub	Gilbert, Prof. Sarah	01-Apr-2018	31-May-2021	1,590,456.91	Not relevant to ChAdOx
Innovate UK	HCR01210	UK Public Sector	An economically viable vaccine for CCHF virus	Gilbert, Prof. Sarah	10-Apr-2018	30-Sep-2020	25,000.00	Not relevant to ChAdOx
European Commission	HCR01260	EU Government	Addressing the dual emerging threats of African Swine Fever and lumpy skin disease in Europe	Gilbert, Prof. Sarah	01-Jun-2018	31-Jul-2023	87,363.60	Other vaccine research
Medical Research Council	HCR01280	Research Councils	Development of a vaccine to prevent Crimean-Congo haemorrhagic fever virus mediated disease.	Gilbert, Prof. Sarah	01-Aug-2018	31-Oct-2020	47,786.83	Not relevant to ChAdOx
Innovate UK	HCR01340	UK Public Sector	CCHF Vaccine manufacturing and First in Human Clinical Trial	Gilbert, Prof. Sarah	01-Sep-2018	31-May-2021	1,999,524.27	ChAdOx technology
British Medical Association	H5R01110	UK Industry (QR)	Delineating the role of the human leukocyte antigen locus in susceptibility to rheumatic heart disease in Oceania and South Asia	Hill, Prof. Adrian	01-Sep-2018	31-Oct-2021	29,960.00	Other vaccine research
British Medical Association	H5R01110	UK Industry (QR)	Delineating the role of the human leukocyte antigen locus in susceptibility to rheumatic heart disease in Oceania and South Asia	Hill, Prof. Adrian	01-Sep-2018	31-Oct-2021	10,000.00	Other vaccine research
British Medical Association	H5R01110	UK Industry (QR)	Delineating the role of the human leukocyte antigen locus in susceptibility to rheumatic heart disease in Oceania and South Asia	Hill, Prof. Adrian	01-Sep-2018	31-Oct-2021	10,000.00	Other vaccine research
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	0.01	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	4,901,551.72	ChAdOx technology

Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	0.00	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	0.00	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	178,472.28	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	7,530.52	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	787,489.00	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	906,850.08	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01320	Non-EU Other	PADOVAX- MERS	Gilbert, Prof. Sarah	01-Oct-2018	30-Nov-2023	2,615,395.66	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	0.01	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	115,718.23	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	0.00	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	475,936.04	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	281,021.66	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01321	Non-EU Other	PADOVAX-Nipah	Gilbert, Prof. Sarah	01-Oct-2018	28-Feb-2021	538,467.81	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01322	Non-EU Other	Potent, scalable adenoviral vectored vaccines against Lassa	Gilbert, Prof. Sarah	01-Oct-2018	31-Dec-2020	0.01	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01322	Non-EU Other	Potent, scalable adenoviral vectored vaccines against Lassa	Gilbert, Prof. Sarah	01-Oct-2018	31-Dec-2020	84,921.38	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01322	Non-EU Other	Potent, scalable adenoviral vectored vaccines against Lassa	Gilbert, Prof. Sarah	01-Oct-2018	31-Dec-2020	443,988.95	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01322	Non-EU Other	Potent, scalable adenoviral vectored vaccines against Lassa	Gilbert, Prof. Sarah	01-Oct-2018	31-Dec-2020	279,577.40	ChAdOx technology
Coalition for Epidemic Preparedness Innovations	HCR01322	Non-EU Other	Potent, scalable adenoviral vectored vaccines against Lassa	Gilbert, Prof. Sarah	01-Oct-2018	31-Dec-2020	481,339.45	ChAdOx technology
Bill & Melinda Gates Foundation	HCR01530	Non-EU Charity (QR)	R21 Variant Malaria Vaccine Candidate	Hill, Prof. Adrian	01-Jan-2019	31-Jul-2021	387,304.92	Other vaccine research
Oxford Biomedical Research Centre	HCR00953	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 3	Hill, Prof. Adrian	01-Apr-2019	31-May-2020	68,147.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00953	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 3	Hill, Prof. Adrian	01-Apr-2019	31-May-2020	569,583.00	ChAdOx technology
Oxford Biomedical Research Centre	HCR00953	UK Public Sector	BRC3 - Vaccines for Emerging & Endemic Diseases - Year 3	Hill, Prof. Adrian	01-Apr-2019	31-May-2020	303,265.00	ChAdOx technology
Medical Research Council	HCR01490	Research Councils	Broad and effective protection against influenza achieved by viral vectored vaccines	Gilbert, Prof. Sarah	01-May-2019	30-Jun-2022	768,110.18	Not relevant to ChAdOx
Medical Research Council	HCR01490	Research Councils	Broad and effective protection against influenza achieved by viral vectored vaccines	Gilbert, Prof. Sarah	01-May-2019	30-Jun-2022	839,580.80	Not relevant to ChAdOx
Sepsis Research (FEAT) SCIO	H5R01240	UK Charity (no QR)	Finding effective targets to modify the host response to sepsis	Hill, Prof. Adrian	01-Dec-2019	31-Mar-2020	8,900.00	Other vaccine research