Open Orphan plc

March 2022

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Our Vision

World leader *in* ***testing infectious & respiratory disease products*** *using human challenge studies addressing the* growing infectious disease market

Highlights

- ✓ Subject to audit:
  - Expect full year EBITDA profitability FY21
  - Expect c. £40m revenue for FY21
  - Cash & cash equivalents 31 December 2021: £15.6m (30 June 2021: £14.9m)
  - Targeting c. £50m non-Covid revenue FY22
    - Any COVID-19 revenue will be in addition to this
- ✓ Bed capacity increase to 62 from 43 on a low cost basis
- ✓ Strong pipeline of challenge studies
- ✓ Continuing to work towards monetisation of non-core assets

A Fast Growing Business

£46.6m
Disclosed contract wins 2021

7
Challenge study contract wins 2021

£75m
Current Pipeline (Weighted)
BD Pipeline X Probability of Award

Expansion To facilitate growing pipeline & new service offering

FluCamp
Clinical Trials Recruitment

- **QMB: 24 + 7 beds**
- **Whitechapel Clinic: 19 beds**
- **Plumbers Row: 12 beds**
- **Manchester**

62 beds	New Manchester Facility 4,000sq ft	Plumbers Row office + screening site 9,000sq ft
Capacity increase by c. 45%	Old Manchester Facility 500sq ft	Old Alie St. office (opened by previous management) 4,000sq ft
	Same cost	$^1/_3{}^{rd}$ cost

Monetisation of Non-Core Assets

POOLBEG PHARMA

COMPLETED

- In June 2021, the first distribution in specie was handed back to ORPH shareholders
- Created substantial value for Open Orphan shareholders

PrEPBiopharm

62.6% stake

- Viral prophylactic
- Phase II nasal spray solution
- Sale to a Nasdaq cash SPAC aborted
- Optimistic new sale can be completed

IMUTEX

49% stake

- FLU-v, Phase III ready universal flu vaccine
- AGS-v, Phase II ready universal mosquito saliva vaccine
- Still pushing management team of ConserV Bio to help sell 100% Imutex

Disease in Motion®

100%

- Worlds largest database of infectious disease progression data
- Potential applications across a wide variety of end users (big tech, wearables, pharma and biotech)

Benefits of Spin Off's

✓ Cost synergies / savings ✓ Creating value where previously none ✓ Dividend for ORPH shareholders

✓ Removing from balance sheet ✓ Opportunity for assets to be developed

New CEO

Yamin ‘Mo’ Khan appointed as CEO on 24 February

- Cathal Friel will remain hands-on as Executive Chairman

Biotech Experience

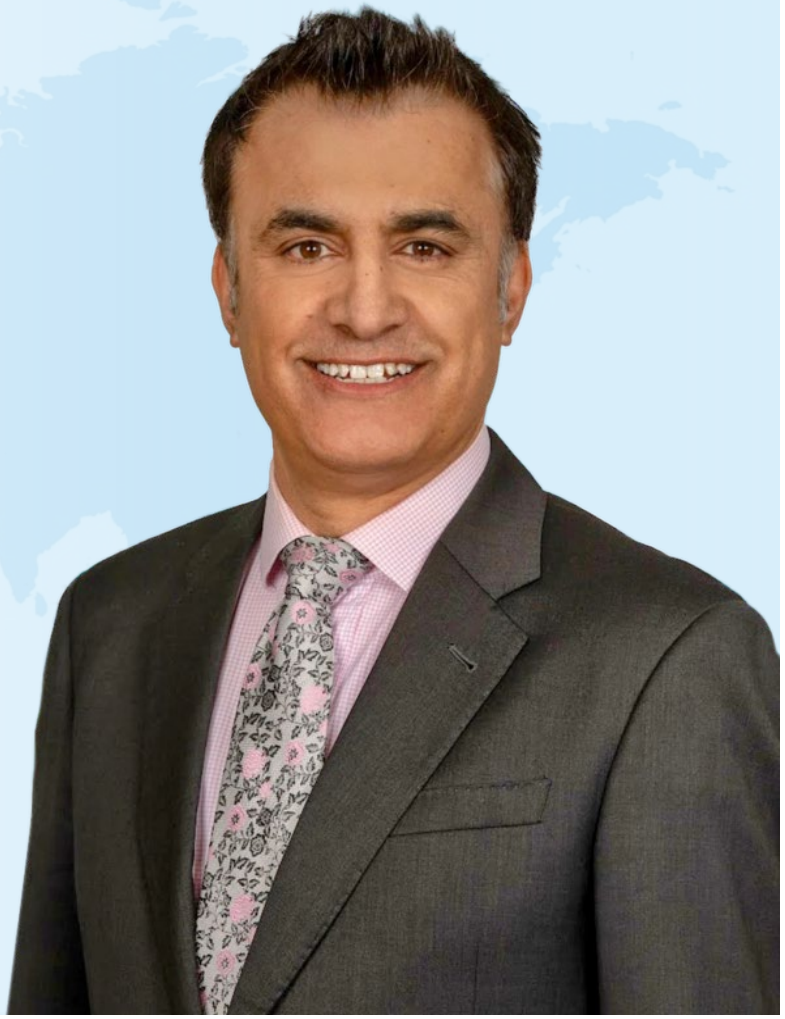
- The Liposome Company

Extensive CRO experience (25+ years)

- Innovex – acquired by Quintiles
- Pharm-Olam – acquired by PE
  - FTE expansion from 20 FTEs to 600+ FTEs
  - 2 countries to 40+ countries

Commercial Management – experience

Operational Management – experience



Open Orphan – at a Glance

1 Undisputed Leader in Challenge Studies

- ✓ 30+ years providing world leading clinical trials service
- ✓ 60+ challenge studies completed
- ✓ 3,300+ patients inoculated
- ✓ Significant long-term projects: £5-10M+ typical study size across 8-10 months average study duration
- ✓ World's largest portfolio of human challenge models
- ✓ Large pharma & smaller biotech client base
- ✓ Deep roots dating back to 1947 with the establishment of the UK Common Cold Clinic (and continuous support from the UK government since)
- ✓ The Company's challenge studies are subject to the most rigorous external regulatory and ethical review
- ✓ WHO guidelines on Challenge studies
- ✓ In 60+ challenge studies completed by the Company, all have recruited successfully

2 A Comprehensive Suite of Services…

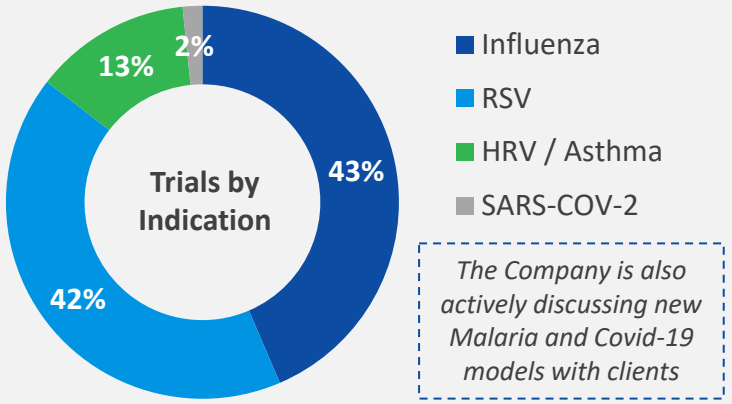
hVIVO Capability Venn Life Sciences Capability

CMC	Preclinical	Phase I	Challenge Study	Lab Services	Phase II	Data Mgmt.	Regulatory

3 Human Challenge Trials Completed

Challenge Model	# of Trials	# Patients Inoculated
HRV / Asthma	8	373
Influenza	27	1,399
RSV	26	1,532
SARS-COV-2	1	36
Total	**62**	**3,340**

4 Experienced Across Various Indications

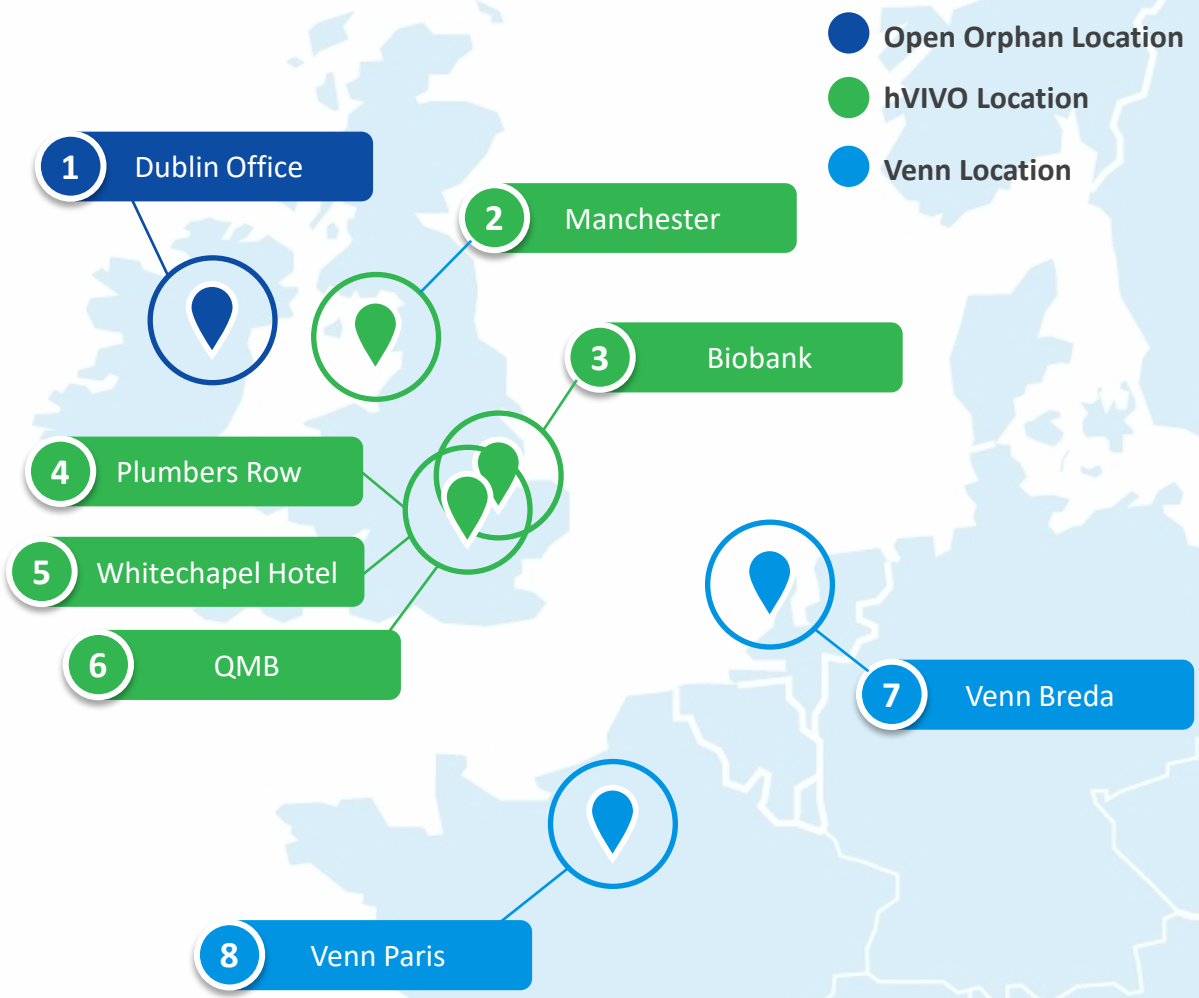


The Company is also actively discussing new Malaria and Covid-19 models with clients

Open Orphan- at a Glance

Overview of the Company's Facilities		
	Name	Description
1	**Dublin Office**	Flexible shared offices
2	**Manchester**	Recruitment & vaccination site
3	**BioBank**	Storage unit for biobank
4	**Plumbers Row***	Office space; volunteer screening; 12-bed unit
5	**Whitechapel Clinic**	19-bed unit; 10 screening, admin & storage rooms
6	**Queen Mary's BioEnterprise Centre (QMB)**	24 + 7 bed unit; virology laboratory
7	**Venn (Breda)**	Flexible shared offices
8	**Venn (Paris)**	Flexible shared offices

*As of 21 March 2022



Differentiated Volunteer / Patient recruitment

FluCamp

Clinical Trials Recruitment

- ✓ Decades of experience attracting suitable healthy subjects to meet recruitment requirements (primarily sourcing subjects for hVIVO trials to date)
- ✓ Leading tech-enabled screening currently pivoting the platform to find patients (as well as healthy volunteers)

- ✓ ***Central London and Manchester screening clinics provide a market leading advantage in recruiting healthy subjects and patients for a broad range of trials amongst diverse population bases***
- ✓ ***Provides ability to recruit efficiently for the significant increase in respiratory & infection disease field trials in a timely, cost-effective manner***
- ✓ ***100% success***

Opportunity #1

Ability to sell our 160k annual leads to other Phase 1 units

Opportunity #2

Opportunity to support the recruiting for Phase 2/3 trials for a strategic partner

30 +
Year History

250,000 +
Active Subjects in Existing Database

160,000 +
New Leads per year through FluCamp.com

1,000+
Weekly Screening Capacity

~85%
of subjects screened for human challenge trials can be utilised for other trials

Why Challenge Studies?

- Potential for **fast track / break through designation**
- Rapid **approval or rejection** of pre-clinical data
- Phase II entry - up to **5x valuation** uplift
- Significant **time / financial savings** on efficacy data vs field-based Phase II
- **Facilitates dose ranging studies** to support efficacy
- Expedites important "**Go/No-Go" decisions**
- Generate **invaluable safety & efficacy data** to optimise Phase III program
- **Reduce no. patients** required for Phase III
- Identify **key biomarkers**
- Test for efficacy against specific **variants**
- Investigate **key scientific questions** for particularly novel products, mechanisms and approaches
- Potential **approval and emergency use** authorization

"Pfizer jumps the queue and leaps into RSV vaccine contention with human challenge trial"

FIERCE Biotech

Pfizer

FDA Breakthrough Therapy Designation Granted for Respiratory Syncytial Virus Vaccine

Janssen PHARMACEUTICAL COMPANIES OF Johnson & Johnson

thepharmaletter

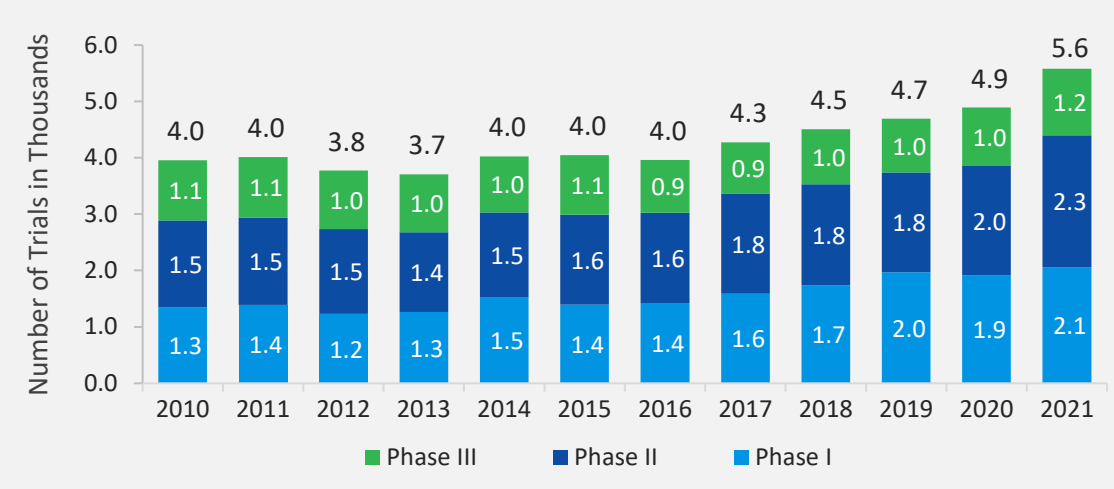
Bavarian Nordic gets Breakthrough status for its RSV vaccine candidate

100 DAYS MISSION to respond to future pandemic threats

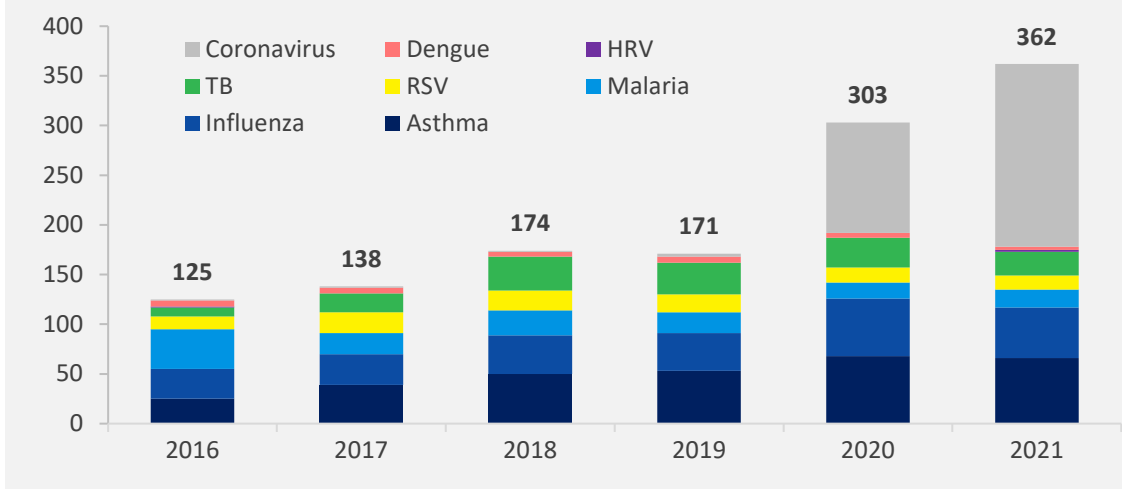
human challenge trials & immunogenicity studies can play an important role in accelerating and improving vaccine testing and development in a pandemic

Potential Market

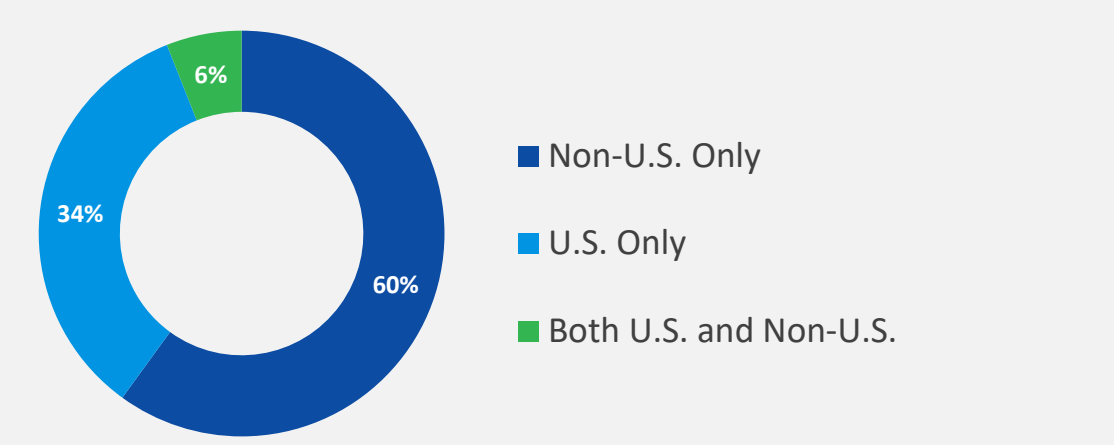
Strong Growth in Phase I and II Clinical Trial Starts[1,2]



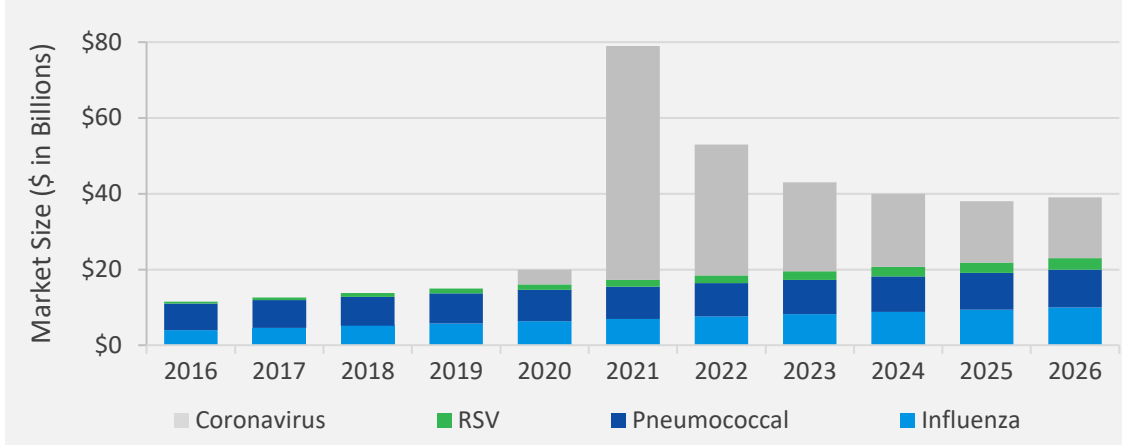
Increase in Phase I & I/II Infectious Disease & Respiratory Trials[3]



Global Clinical Trials Market[1]



Strong Growth Forecasted for Anti-infective & Vaccine Indications[1]



Note (1): Source: Citeline Trialtrove, Jan. 2022 and Pharma R&D Annual Review; IQVIA Institute, Global Trends in R&D – Overview Through 2021; ClinicalTrials.gov; Evaluate Pharma; Edison Investment Research.
Note (2): Phase II includes Phases I/II, II, IIa, IIb. Phase III includes Phase II/III and III. Trials were industry sponsored, interventional trials (device trials were excluded).
Note (3): Source: Citeline Trialtrove, Jan. 2022 and Pharma R&D Annual Review; IQVIA Institute, Global Trends in R&D – Overview Through 2021; Global Data; Evaluate Pharma; Edison Investment Research; Pitchbook

Expanding our Capacity & Service Offering

Capacity & offering

- ✓ New facilities in London & Manchester
- ✓ Supplemental recruitment services
- ✓ Non- first in human Phase I trials
- ✓ Field-based Phase II trials
- ✓ Clinical Site
- ✓ Provision of healthy volunteers
- ✓ Increase in capacity
- ✓ Cross-selling opportunities

Challenge study models

- ✓ STRiVE Project
- ✓ Malaria
- ✓ COVID-19
- ✓ Exploring more

Laboratory facilities & services

- ✓ New facilities
- ✓ Increased biomarker & molecular testing capabilities
- ✓ Virus manufacturing
- ✓ Lab services are progressing towards CAP and UKAS accreditations

Open Orphan – By the Numbers

Rapidly Growing Specialist CRO	c. £40M 2021P Revenue	c. £50M 2022P Non-Covid Revenue	£15.6M Cash at year end 31 December 2021
Leader in Human Challenge Trials	60 + Completed Human Challenge Studies	9+ Challenge Study Models	£50M + Challenge Model Portfolio
Operational Excellence	84k + Volunteers screened 2021	£5-10M Typical Study Size	8-10 mos. Average Study Duration
Well Positioned for Growth	62 + c.45% increased bed capacity	86k + Lab samples analysed 2021	£75M + Current Pipeline (Weighted)*

*Weighted Pipeline = BD Pipeline X Probability of Award

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Questions

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