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PharmaVentures
Experts in deals and alliances

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Heads of Terms

Focus or diversify?

The moods of strategists have changed over the decades arguing at one time that companies should focus and in other times that they should diversify. The argument for focusing is clear, i.e. stick to your strengths, build and streamline them and you can compete successfully in the market place. The argument for diversifying is also clear, i.e. do not depend on one aspect of business, diversify and spread your bets so that if one aspect underperforms you have a at least a chance with the others.

The same arguments can be made for a company's R&D portfolio. By focusing on one or two products in a single therapeutic area you can build your expertise and focus all your resources on the success of that single area, i.e. you are more likely to be successful because you are not distracted by a bigger portfolio. By having a broader portfolio you are spreading your risk and you have a back-up if a product fails.

The decision to focus or to diversify is influenced by the resources and financial capital available to the company. For larger corporations, the decision to diversify is often easier as they have both the resources and the capital. For smaller corporations, such as biotech and medtech/diagnostics innovators , the decision is down to the investors who must cough up the capital to allow for a larger portfolio of R&D products. In fact, venture capital (VC) firms, prefer to hold a portfolio of focussed biotech and medtech companies rather than to focus on a few companies adopting a large portfolio.

But can these types of companies do both? Is it possible for them to simultaneously focus and spread their risk? In my view, the answer is they can do both! The advantages of a larger portfolio spread is in reducing risk. By having a broader range of products in a focussed area enables the company to reduce risk while running resources efficiently and cost effectively. If you can build the internal expertise with great talent, you can use it to its optimal effect in managing your portfolio. VCs, too, can benefit from investing more money into well managed smaller portfolio companies. After all isn't it management talent that largely influences outcomes?

Dr Fintan Walton
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industry insight

EU medical device and diagnostic regulatory overhaul: a guide for novices

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On May 26th 2017, a new set of European Medical Device Regulations ("MDR") and In Vitro Diagnostic Regulations ("IVDR") entered into force. They represent a major overhaul and tightening of the previous directives and affect all companies marketing or developing devices and/or diagnostics under their name or trademark in the EU (termed 'manufacturers' in the regulations). The changes introduce a standardised regulatory framework for the EU that aims to be robust, transparent, and to overcome differences in interpretation and weaknesses brought to light in recent safety scandals.

The transition period for the MDR and the IVDR are three and five years, respectively. However, manufacturers should evaluate the effects of the changes now and act quickly to ensure they are compliant once the transition periods conclude, on 26th May 2020 for the MDR and 26th May 2022 for the IVDR. Not doing so before these dates – termed the dates of application - may result in significant delays in getting new products to market and obtaining recertification of conformity for existing products.

The European Commission's final versions of the MDR and IVDR introduce very complex changes, which are likely to affect all parties involved in the development, commercialisation and use of these products from manufacturers, authorities, distributors, patients and beyond. The increased clinical and regulatory requirements are likely to have significant commercial implications, such as added development costs and time to market. The prospect of these additional processes eating further into the patent life of the product may lead developers and manufacturers to expect a noticeable drop in their revenue generating potential. However, the silver lining is that the regulations should result in higher quality products supported by stronger clinical data, and this may strengthen the confidence of the key stakeholders, patients and payers, whereby higher quality supports higher prices and the overall outcome is positive for producers and consumers alike. In this paper, we discuss the changing regulations and their wider implications in more detail.

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EU medical device and diagnostic regulatory overhaul: a guide for novices

Watch PharmaVentures Insights interviews with Tamsin Bateman and Ben Jacoby for more details on the impact of these changing regulations for medical device and diagnostic businesses:

Tamsin Bateman (Associate, PharmaVentures) on the commercial implications of the changing European MD/IVD regulations.

Ben Jacoby (Associate, PharamaVentures) on the technicalities of the changing European MD/IVD regulations and their impact on businesses.

Scope

The new regulations update the scope and classification of products covered by the previous directives. Four device classes are maintained under the MDR, as summarised in Appendix 1, although the scope of what is included has changed slightly. Manufacturers will need to review whether their products have been reclassified and if this impacts on their current or planned approach to ensuring they conform to the new regulations and what action they may need to take as a result.

The MDR effectively combines two previously independent directives, on active implantable medical devices and on medical devices, into one regulation. The following are examples of the types of products that were not previously covered but now fall within the scope of the MDR or will be subject to stricter controls:

- Aesthetic products similar to medical devices but without an intended medical purpose, such as liposuction equipment
- Software products, now classified according to the level of risk
- Devices incorporating nanomaterials, now reclassified as class IIa, IIb or III, depending on the potential for internal exposure.
- Surgical meshes and total or partial joint replacements, now upclassified to class III representing perceived greater risk
- Active implantable medical devices and their accessories, now brought into the MDR as class III's
- Devices produced using industrial manufacturing processes will no longer be considered mass-produced if they are custom-made
- Accessories, which now have an expanded definition

The IVDR introduces a class A – D system based on a set of rules that reflect inherent risk. These have been summarised in Appendix 2. This is a major shift for class B-D IVD manufacturers and will see approximately 80% of IVDs requiring the involvement of a notified body (see below), an increase from approximately 20%. The impact of this will be significant in terms of added cost and time to get to market since these manufacturers will be subject to stricter scrutiny and clinical evidence requirements. Manufacturers will need to account for this in their project planning and allow for extended timeframes and the possibility of requiring additional capital.

Notified bodies (NBs)

All medical devices, with the exception of certain class I devices, will continue to be assessed for conformity by third party designated organisations known as Notified Bodies (NBs), which are designated and monitored by Member States and subject to EU control. Under the IVDR this extends to class B-D IVDs, while class A products will continue to be self-certified by the manufacturer. This is a key adjustment to the previous directive that will result in NBs having to process significantly more applications. Moreover, changes in the obligations of NBs, such as the requirement to carry out unannounced on-site audits and increased reporting responsibilities, will further increase their administrative burden and costs. Significantly, all NBs must be redesignated (reapply for authorisation to operate) and the process may only begin in November 2017. Since the redesignation process could take several months and NBs will have to recruit and train staff, it is possible that they may not be ready to operate until mid-late 2018. The new regulations are also likely to result in some reorganisation of NBs, with the possibility of closures and mergers. This is likely to increase the application costs for manufacturers in order to offset the increased NB obligations, as well as causing possible delays in conformity assessment and certification, and therefore delays in revenue generation. For small companies with limited capital, any delay to market launch could have significant impact on the company's viability.

Clinical evidence

Clinical evidence requirements will significantly increase under the new regulations and, with some exceptions, will almost certainly result in the need for additional clinical investigations. NBs will now be obliged to notify the national authority (termed the competent authority) of certificates granted for some high-risk products and submit the assessment documentation for

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those devices. They may also request consultation with expert panels. In addition to these changes, a revised official guidance on medical device clinical evaluation was introduced in 2016 (MEDDEV 2.7.1 Revision 4) under the medical device directives (therefore not affecting IVDs). Although not linked to the new MDR, compliance with the revised guidance in addition to the MDR is still expected for new products as well as already marketed products, and manufacturers must carefully consider both. The formatting and content requirements of technical documentation are now specified in detail in the MDR, and data for both new and marketed products must now be presented to NBs in a much more specific way. This presents a significant task to manufacturers with multiple approved products on the market, who must now resubmit amended technical documents for each product. These changes increase the burden of proof manufacturers must provide and puts an emphasis on higher quality devices. While this may result in fewer devices meeting the standard or having the capital to conduct the necessary studies, it is likely to improve the quality of products that are entering the market. It may also see small innovators having to partner by way of licensing, acquisition or collaboration at an earlier stage of development, in order to support these additional development costs.

Post-market requirements

The new regulations mandate a more demanding and proactive post-market surveillance system for both medical devices and IVDs. Systems must now include post-market clinical follow-up (PMCF) for devices and post-market performance follow-up (PMPF) for IVDs. Post-market experiences must be actively and systematically gathered, and clinical evidence and technical documentation must be regularly updated to keep pace with scientific and other changes. It is also mandatory for manufacturers to make publicly available a summary of the main safety and performance aspects and the outcome of clinical evaluations (for class III and implantable devices) or performance evaluations (for class C and D IVDs). Vigilance requirements have also been tightened. For instance, the reporting of serious incidents must be completed within 15 days, a reduction from 30 days. There are new requirements around trend reporting, and it will be easier for patients, users and healthcare professionals to report suspected serious incidents. Overall, the post-market requirements will be significantly more demanding, resulting in increased workloads for manufacturers and other stakeholders, and possibly the need to hire additional personnel. Nevertheless, the increased vigilance reporting and post-market clinical follow-ups are likely to contribute to continuous improvement in these products.

Common specifications (CS) and additional acts

Arguably one of the most impactful changes refers to the introduction of common specifications. Once specified, these will be prescriptive standards that cover a wide range of technical and/or clinical requirements, including those for general safety and performance, technical documentation, performance studies and evaluation, and post-market clinical follow-up. Despite the publication date being unknown, the CS will apply from either the date of application or six months after their entry into force, whichever is later. Therefore, manufacturers should be aware that, in general, they will be expected to adopt precise, although currently undefined, standards to demonstrate compliance. Besides the CS, more than 50 acts are yet to be drafted and published, so there is currently a level of uncertainty that is likely to persist well into the transition period and possibly beyond.

Transparency and traceability

One of the main objectives of the new regulations is to increase transparency and traceability. It is intended that a publicly available European Database on Medical Devices, Eudamed, will be introduced by spring 2020, which will act as a repository of information on marketed medical devices and IVDs. A range of information must be entered into the database, such as certifications, the summary of safety and performance data (for class III and implantable devices and class C and D IVDs), outcomes of clinical investigations and data on vigilance and post-market surveillance. Transparency efforts also extend to clinical investigations, and all such investigations will need to be recorded in a publicly accessible database. A new Unique Device Identification (UDI) system will be introduced to improve the traceability of products. The system will be phased in by device class and will require manufacturers to attach a UDI to each product to enable it to be tracked throughout the supply chain. For implanted devices, an 'implant card' containing device information will need to be distributed to patients receiving the device. These additional requirements will increase the workload for manufacturers but are likely to improve the safety and quality of devices and IVDs on the market. They will also provide patients and other stakeholders with better access to information to make more informed decisions when selecting and using medical devices and IVDs.

Supply chain implications

The new regulations establish additional obligations for several parties in the supply chain, termed economic operators, which includes manufacturers (whose changing obligations have been discussed in detail), authorised representatives, distributors and importers. Authorised representatives, who act on behalf of manufacturers located outside of the EU, have had their responsibilities intensified. Under the new system, they will be legally liable, jointly and individually, for defective devices along with manufacturers, even though the processes leading to defects may be outside of their control. Furthermore, they must be able to produce all documentation to demonstrate conformity at the request of a competent authority. Importers and distributors also face additional responsibilities and must have confidence that the product is in conformity, is correctly labelled, fixed with a UDI and accompanied by the required instructions for use. They must now also keep a register of product complaints, recalls and withdrawals and keep the other economic operators informed. Importers must also ensure that their details are included with the device. Furthermore, all economic operators except distributors must now register with the Eudamed database. Finally, economic operators may be subject to announced and, if necessary, unannounced inspections of their premises by competent authorities. This extends to

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suppliers and/or subcontractors, which is a major shift that requires manufacturers to maintain confidence in their practices and perhaps conduct audits. While seemingly minor, most legal contracts between the economic operators and suppliers/ subcontractors will need to be updated, and these and other changes will result in additional costs that will likely be passed on to manufacturers.

Cost implications

The new MDR and IVDR will require many changes that together have the potential to significantly increase costs. Manufacturers will be faced with providing increased clinical evidence, thus needing to fund additional clinical and performance evaluations. They will also be required to be sufficiently insured to provide financial coverage if compensation is required for damages due to defective products. NBs will face a substantially higher administrative burden that is likely to result in increased fees for manufacturers. The additional obligations of economic operators will result in cost increases that will also be passed onto manufacturers. Ultimately, these cost increases are likely to be passed on by the various players and absorbed by health systems and patients. Despite this, one can expect a significant improvement in the quality of products reaching the market, albeit fewer may get this far. Supported by more robust clinical data, this is likely to elevate payer confidence, thus ultimately offsetting some of the increased burden for manufacturers and delivering value to patients.

Conclusion

This paper provides a summary of very complex changes. The recently released MDR and IVDR introduce much more prescriptive and intensive regulations, the most significant of which are presented here. Manufacturers, authorised representatives, importers, distributors and NBs all face additional obligations that will result in significant increases in their costs and workloads and will possibly require added personnel. The time to get to market may increase, which could eat into the patent life of products and reduce the number of revenue generating years in a sector that already suffers from tight margins. Assuming that these costs are passed on, devices and IVDs will increase in price and may have to demonstrate substantially better performance than incumbent technology to justify the high price tag to payers. Notwithstanding these implications for manufacturers and other stakeholders, the MDR and IVDR seek to introduce a more robust and transparent system that is likely to bring about improvements in the safety and quality of these products. However, the additional barriers they create may also result in a reduction in new technologies reaching the market and favour larger companies with the resources to cope with such demanding regulations.

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Appendix 1

Indicative summary of MDR classifications

Class	Simplified definition (exceptions apply, see Annex VIII)
I	Non-invasive devices not covered in any other category; invasive devices for transient use in orifices
IIa	Non-invasive devices for channeling or storing blood or tissues for infusion or administration; invasive devices for short-term use in orifices; surgically invasive devices for transient / short-term use; active devices to administer or remove medicinal products, exchange energy, or for diagnosis / monitoring
IIb	Non-invasive devices intended for modifying human tissues and liquids for implantation; invasive devices for long-term use in body orifices; implantable / surgically invasive device for long-term use; active devices that emit ionising radiation
III	Non-invasive devices intended for direct contact with human cells, tissues, organs in vitro or embryos before implantation; surgically invasive / implantable devices in direct contact with the heart, central circulatory system or central nervous system; has a biological effect; are absorbed in the body; breast implants; surgical meshes; joint / spinal disc replacements

Appendix 2

Indicative summary of IVDR classifications

Class	Simplified definition (exceptions apply, see Annex VIII)
A	Low risk products and accessories intended for general laboratory use for a specific examination; instruments intended for IVD procedures; specimen receptacles
B	Not covered by any other classification rule; controls without a quantitative or qualitative assigned value
C	Intended for lower risk blood grouping; tissue typing for transfusion, transplantation or cell administration; detecting sexually transmitted agents, cancer, genetic and congenital diseases; use as a companion diagnostic; disease staging and immune status; monitoring of level of medicinal products
D	Intended for the detection of high risk transmissible agents and blood grouping and tissue typing reagents

UK's blueprint for bringing novel dementia therapies to the clinic

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It is unquestionable that disease-modifying treatments for dementia represent one of the greatest unmet medical needs. Little has changed for patients since the launch of donepezil, an acetyl-cholinesterase inhibitor that provides some symptomatic relief, in 1996. The very rapid increase since then in our knowledge of the genetics and pathology of these diseases contrasts starkly with a lack of clinical progress. "A lack of investment in dementia therapies by both drug companies and the public sector has led to a 'negative cycle' of few targets, thin pipelines, suboptimal trial methodologies and expensive clinical failures", explains David Reynolds, CSO of Alzheimer's Research UK ("ARUK"). The broad CNS portfolio of the 'average' large pharma company, including psychiatric as well as neurodegenerative diseases, reduced by over half in the five years from 2009 (*Figure 1*).

CNS programme portfolios in large pharma

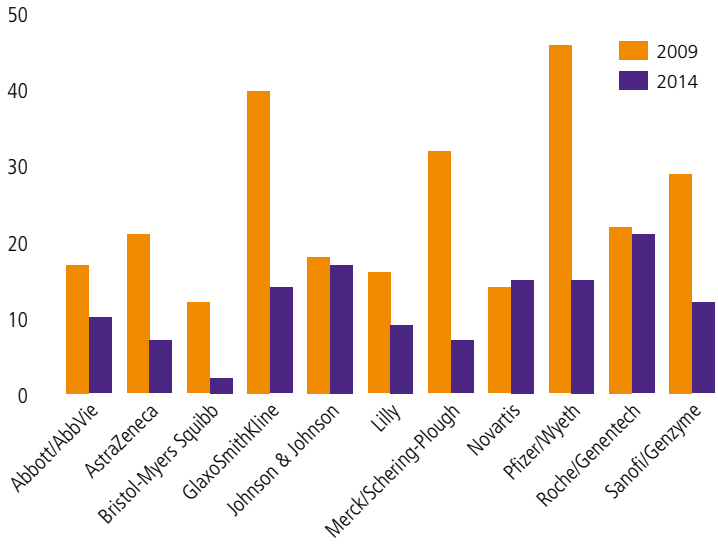

Figure 1
Total number of discovery, preclinical, and clinical drug development programs addressing neurology or psychiatry disease targets, visible from publicly available sources including SEC filings, investor briefings, and company websites.

(From Choi et al., Neuron (2014) 84,554-563 via dementiastatistics.org)

Dementia is a complex syndrome that comprises many diseases with different aetiologies and pathologies. Only about two-thirds of dementia patients are diagnosed with Alzheimer's disease ("AD") and multiple pathologies in a single patient are common. This heterogeneity clearly contributes to the difficulty in assessing clinical candidates, as a therapy that works well in a subset of patients cannot be identified unless the participants are correctly stratified. Since the millennium, companies have mainly focused on treating AD by targeting the production or clearance of beta-amyloid, a promising strategy at the pre-clinical stage that disappointed repeatedly in the clinic.

Despite its general retreat from the CNS area, Eli Lilly's ("Lilly") dementia pipeline has been stronger and better sustained than that of most other large pharmaceutical companies. It has maintained a dedicated neuroscience research site at Windlesham in Surrey, UK, for well over 10 years; its flagship molecule is solanezumab, an antibody against beta-amyloid that is still in Phase III trials despite recent setbacks. Lilly has taken a lead in working collaboratively with academia, research charities and even other companies to explore novel approaches to this most intractable disease. Mike Hutton, CSO of neurodegenerative diseases at Lilly, explains the value of this approach: "Dementia is such a complex disease that we need to look at all possible options; no company can do everything, and the benefits of collaboration can overcome any disadvantage from sharing intellectual property". Until very recently, however, dementia has received only a small fraction of public-sector medical research funds.

The 'step change' that has led to promising new public-private partnerships began in 2013 with an international action plan, launched at a G8 summit in London by the UK's then Prime Minister, David Cameron. This declared the ambition 'to identify a cure or a disease-modifying therapy for dementia by 2025', and promised a steep increase in research funding to meet that goal. Many initiatives have sprung from that announcement, with ARUK taking a leading role (*Figure 2*).

UK government's planned investment in research into treating dementia 2016-20

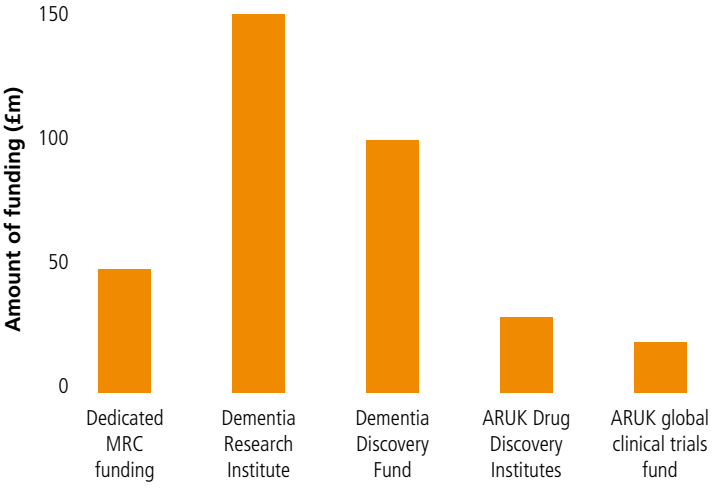

Figure 2
(From https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/507982/PM_Dementia_Annex_2_acc.pdf)

Whilst this is extremely encouraging, everyone is aware that there have been many false dawns in AD therapeutics discovery with success seemingly within reach at Phase II, only to be dashed at Phase III. New discoveries by 2025 may still leave a void until 2035 or beyond, before a completely novel therapeutic is available for patients.

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So does this leave a bleak outlook for the next 17 years, with AD patients condemned to the same fate that we currently see: symptomatic treatments with limited benefit? A potential bridge from old treatments to new may exist and has been evidenced recently by Chase Pharmaceuticals with *CPC-201*; a combination of the most commonly prescribed, symptom-relieving acetylcholinesterase inhibitor, donepezil, and the peripherally acting cholinergic blocker, solifenacin. Unlike conventional acetylcholinesterase inhibitors which display limited efficacy due to dose-limiting side effects, *CPC-201* achieves greater and more tolerable dosing. Whilst this still does not address the fundamental causes of AD and disease modification is not achieved, enhanced symptomatic relief for patients in the intervening time could enable sufficient patients to maintain a level of functionality that keeps them from burdening health and welfare systems. Allergan clearly saw the potential in this approach and acquired the clinical-stage biopharmaceutical company for an upfront of $125m in 2016 with further add-ons if successful. It will be interesting to see if this combination approach can be replicated with other existing treatments where tolerability and dosing are an issue.

Two of ARUK's complementary public-sector initiatives, the Drug Discovery Alliance and the Dementia Consortium work with the broad aim of discovering and validating novel targets for dementia drugs and generating potential lead compound series for companies to take forward. "The DDA uses a 'push' model, funding core institutes in which academics explore mechanisms of neurodegeneration and validate them as dementia targets", explains Reynolds. "The Consortium uses a 'pull' model, inviting applications from researchers who have exploitable ideas but lack the resources and expertise to progress them."

The DDA's core institutes are based at three UK universities generally recognised as ranking within the top 10 worldwide, namely Oxford, Cambridge and University College London, building on well-established research teams. Each institute invites collaborations from industry on either an ongoing, or case-by-case basis.

The institute in Cambridge is led by CSO John Skidmore, who came from a drug discovery role at GSK, and David Rubinsztein, a clinician scientist, as the lead academic. Rubinsztein's research focuses on the mechanisms of autophagy and a key part of the institute's current work involves exploiting pathways through which autophagy might be enhanced to remove the misfolded proteins believed to cause many neurodegenerative diseases. "It is important that our multi-disciplinary team is based in Cambridge's clinical school as it helps us work closely with fundamental scientists and clinicians to identify targets that are likeliest to bring benefit to patients" says Skidmore. Dementia is an insidious disease, and patients with widely varying neurological pathologies can exhibit the same symptoms. "We are working with our clinical colleagues, and with geneticists, to find out ways of stratifying patients so when we get to clinical trials each drug is tested on the most relevant patient group", he adds.

The Oxford institute is based in the university's relatively new Target Discovery Institute. "There were no plans to include dementia drug targets when this institute was set up", says one of its academic leads, Simon Lovestone. "This all changed when we received ARUK funding for the DDI." Lovestone, whose research interests include the regulation of tau phosphorylation, also leads translational research networks set up by the Medical Research Council and the National Institute for Medical Research; the DDI benefits greatly from his extensive outside collaborations. "Our ambition is to generate three different validated targets and get candidate drugs acting at each into clinical trials within five years", he adds. "It will be challenging, but we think we have a chance of success."

The Dementia Consortium was launched in 2014, initially for three years but now for four; Reynolds and his team are planning to extend its grant further. It works as a partnership between the Medical Research Council's technology transfer arm, LifeArc (formerly MRC Technology), ARUK and industry. "We started with Lilly and Eisai as partner companies and have added AbbVie, Astex and MSD", says Justin Bryans, director of drug discovery at LifeArc, "The level of commitment by all these companies to what is still pre-commercial work is outstanding". LifeArc plays a proactive role in the consortium by searching for researchers with novel targets, encouraging them to apply for funding and building collaborations. Funded research, which aims to fill the gap between basic science and commercial drug discovery, validating novel targets and searching for lead compounds, can be based anywhere in the world. The most promising projects to come out of the programme are offered first to the partner companies to take forward into clinical development.

Bryans is keen to emphasise that the Consortium will fund projects with a very wide variety of targets, as long as there is a direct path to the clinic: "Our work is very much about building confidence in targets, so that new therapeutics can be moved more rapidly into clinical trials", he adds. Interestingly, a majority of the currently-funded projects target aspects of the immune system. The first to be funded, led by Diego Gomez-Nicola at the University of Southampton, UK, explores the idea that an excessive immune response to protein accumulation contributes to neurodegeneration; others aim to target NLRP3, a protein associated with inflammatory nerve cell damage seen in Alzheimer's disease, and to boost the action of an anti-inflammatory protein, fractalkine.

The Medical Research Council, the Alzheimer's Society and ARUK have also invested £250m in the Dementia Research Institute, a UK-wide network of six centres of biomedical and translational research, to advance our understanding of dementia and the mechanisms underlying neurodegeneration. "Collaboration is key to the work of the Institute, and its centres will foster strong industry connections so that findings from the DRI can be developed into new ways to help people with dementia as swiftly as possible," adds Reynolds.

None of these initiatives, however, can take compounds coming out of the research they fund into the clinic, and outside a Consortium-like arrangement it will be rare for a large pharmaceutical company to take over a project at this relatively early stage. This further gap, between late pre-clinical and early clinical research, can often be filled by venture capital

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funding. The Dementia Discovery Fund was initiated at the G8 summit with support and funding from Alzheimer's Research UK, six pharma companies and the UK's Department of Health. Managed by SV Life Sciences Managers LLP, the DDF is a specialised venture capital fund aiming to discover and develop breakthrough treatments for dementia. The fund has a mandate to validate novel hypotheses and expand the breadth of targets and mechanisms in development for dementia over 15 years. This long time-scale enables it to invest in truly novel, early-stage projects starting from target identification and to explore novel biological insights for translation into disease-modifying drugs. In addition to its in-house expertise, the DDF's Scientific Advisory Board provides privileged access to experts from ARUK and world-leading pharmaceutical companies. One recent investment has been the acquisition of a library of over 500,000 CNS-focused small molecules that funded researchers can use as 'tool compounds' to validate a target or to search for leads.

These initiatives, and similar ones in other countries, will likely widen the pipeline of drugs progressing into clinical development, but it remains to be seen how quickly this can translate into patient benefit. However, should these initiatives be successful in producing more safe and effective drugs for diseases such as Alzheimer's Disease, the industry will see alignment of medical need and commercial opportunity. From this, one would expect to see a reversal of big pharma's investment trend in areas such as CNS (*Figure 1*), accompanied by an increasing deal activity. Whether the first compounds progress or not, however, this blueprint of collaborative drug discovery should have advantages for other intractable diseases.

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meet the team

Eric Liu
Business Analyst

Born in Beijing and raised in New Zealand, Eric has had a diverse international background covering UK, China, US and New Zealand. Eric brings industry operating experience from Bayer Healthcare R&D as well as from strategic roles within several healthcare start-ups. Eric also spent time with The ICEHOUSE in Auckland, Life Science Angels in Palo Alto, Oxford University Innovation in Oxford and UN Headquarters in New York.

Eric graduated BSc (Honours) in Biomedical Sciences from University of Auckland and was a DPhil candidate researching colorectal cancer stem cells at University of Oxford under Prof Sir Walter Bodmer.

Eric is a native English and Mandarin speaker.

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conference update

Nordic Life Science Days
13-14 September, Malmo, Sweden

Biotech in Europe Investor Summit (SACHs)
26-27 September, Zurich, Switzerland

CPHI Worldwide
24-26 October, Messe Frankfurt, Germany

AusBiotech (International Biofest 2017)
25-27 October, Adelaide, South Australia

Bio-Europe
6-8 November, Berlin, Germany

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