Joint Working Agreement Summary

1. Project Name:	**Developing a pathway for the early and accurate diagnosis of Alzheimer's Disease (AD) including biomarker assessment via cerebrospinal fluid (CSF)**
2. Organisations involved with this Joint Working Project are:	A Joint Working Agreement between Eli Lilly and Company Ltd & NHS Partners: • Oxford Health NHS Foundation Trust • Greater Manchester Mental Health NHS Foundation Trust • University Hospitals Sussex NHS Trust • Sheffield Teaching Hospital NHS Foundation Trust Supported by Dementias Platform UK (DPUK) and The Trials Delivery Framework (TDF) DPUK is credited with project conception and bringing together all contracted parties and will play an active role in the project through the provision of project and data management services.
3. The objectives for this project are:	The project consists of a primary workstream (workstream 1) and 2 supporting workstreams (workstreams 2 & 3) each with their own measurable outcomes: 1. Primary workstream: Increasing CSF testing capability and capacity 2. Validating the value of a common clinical assessment battery (including CSF testing) for early AD to support a business case for future commissioned service. 3. Mapping the local memory health pathway to support adoption of the CSF testing model into clinical practice. Primary objectives: • Improved diagnosis (and diagnostic accuracy) of AD at an early stage through CSF testing • Validation of the value of early diagnosis of AD by CSF testing (benefit to clinician, patient and onward healthcare utilisation) • Understanding the requirements for successful adoption of CSF testing into clinical practice in community-based memory clinics • Development of a business case enabling the model to be commissioned and scaled. Secondary objectives: • Reduce health inequality by providing diagnostic capabilities in Mental Health & Acute NHS Trusts • Support establishment of a Mild Cognitive Impairment (MCI) pathway. This project will provide evidence and recommendations as to how that pathway could be structured, with a shift from a traditional quantitative approach to outcomes, evidence and needs based.

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	• Increase in diagnostic certainty and improvement in clinician diagnostic skills.
4. Roles and Responsibilities, including any funding	**Responsibilities Lilly** • Lead the contracting process across all organisations • Facilitate workshops at steering group and local site level in relation to workstreams 1 & 2. • Facilitate the development of solutions at steering group or individual site levels with regards to workstream 1 using a Lean Six Sigma approach • Map all supporting processes needed for implementation of workstream 1 & 2 such as estates, lab processes, administration etc. • Co-development of data collection plan and surveys aligned to project outcome measures • Provide service planning expertise via a Lilly approved 3rd party vendor (Tranoca) in relation to all activities involved in workstream 3 and be responsible for contracting arrangements with the vendor. • Contracting of Oxford University Health Economics Research unit in relation to workstream 2 • Provide project management support in relation to delivery of 3 workstreams co-ordinated between multiple organisations. Including setting up a shared online repository for project documentation and management of this repository. • Facilitation of project steering group meetings • Development and maintenance of core project documents including the master project plan. • Materials tracker: Lilly is responsible for the certification of materials produced under the scope of this project in line with the ABPI code of Practice. Lilly will maintain a tracker to this effect. • Support with business case development • All materials must provide a transparency statement at the outset covering the involvement of Lilly in the project. Lilly will provide standard wording for this statement in advance. • Publication of results within 6 months of project completion. As a minimum on the Lilly UK corporate site and the ABPI Case Study Repository, with a further ambition of publication in clinical journals and or trade press with the objective of sharing practice. • All clinical decisions remain the sole responsibility of the NHS. Lilly will not have any influence over and decisions regarding patient management. • Lilly will not be privy to any patient identifiable information. **Roles of NHS Partners** • Co-development of contract (Joint Working Agreement, JWA) • Understanding of governance requirements at individual NHS site level to enter into JWA with Lilly • Assigning a single point of contact / project manager per NHS site

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	• Maintenance of all core project documentation (plans, logs and registers) as appropriate • Provision of appropriate delegates at required workshops • Each NHS site will be responsible for recruiting appropriate HCP's to be trained in performing Lumbar Punctures (LP's) and suitably qualified HCPs to deliver the training, as well as all costs associated with providing this training. Lilly will have no direct or indirect role in this matter. • The NHS will be responsible for consenting all patients to the LP procedure including the explanation of potential risks associated with the LP procedure. • Development of an SOP in relation to workstream 1 including eligibility of patients for LP's, training, governance, supervision and management of risks associated with LP procedures in alignment with usual Trust policy. • Ensuring adherence to SOP • All contractual agreements with regards additional staff time requirements required under the scope of this project is the responsibility of the NHS at individual site level. • Staff recruitment associated with the project is the responsibility of the individual NHS Organisation • Patient recruitment for LP's and subsequent CSF testing (min, per site for validity of outcomes measures = 20, max for funding = 100 patients per site) • Choice of assays will be made at individual NHS Organisation site level (Lilly will have no influence in assay choice) • The NHS sites will each be responsible for providing the infrastructure required for successful implementation of workstreams 1 & 2 as identified during the mapping exercise (estates, lab process, administration etc) • Co-development of the data collection plan and surveys aligned to project outcomes • Surveying of staff and service users including obtaining any necessary consents for the information to be used in possible publication and ensuring anonymity of survey participants. • Analysis of HCP and patient survey responses • Provision of data and information required to map existing services as per workstream 3 and ensuring this information is at aggregate level (Lilly should never be privy to any patient identifiable information) • All clinical risk and governance remains the responsibility of each individual NHS site • All clinical decisions remain the sole responsibility of the NHS. Lilly will have no influence over and decisions regarding a patients management. • Data collection and analysis across 4 sites in line with the data collection plan aligning to the project outcomes. Data will be housed collectively at DPUK data portal • Stakeholder engagement strategy to support future service commissioning and replication of model at further NHS sites if appropriate.

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	• Provision of and materials developed under the scope of the project to Lilly for certification purposes and co-maintenance of the Lilly developed materials tracker. • Publication of results within 6 months of project completion. As a minimum on the Lilly UK corporate site and the ABPI Case Study Repository, with a further ambition of publication in clinical journals and or trade press with the objective of sharing practice (following approval from Lilly). **Financial Arrangements:** Total Project costs estimated £766,634 Lilly Total Contribution £331,801 - £429,810 (depending on uptake) NHS estimated contribution: £276,787 DPUK estimated benefit in kind contribution (project and data management): £60,037
5. The expected benefits for patients on delivery of this project are:	Early accurate diagnosis of AD may provide earlier access to current and approved interventions (pharmacological and non-pharmacological), non-medical support (social, legal, future care planning, etc), current approved treatments and potential entry to clinical trials. An expanded model of testing may reduce inequality of access to diagnosis. Reduction in misdiagnosis of AD may lead to patients pursuing a correct diagnosis and therefore receiving appropriate support and management.
6. The expected benefits for the partner organisation(s) on delivery of this project are:	Resource efficiency: • Future time saved by earlier diagnosis. • Potential to discharge from memory clinics. • Reduce the number of re-referrals for patients with MCI. At a local level, meetings with commissioners and memory clinicians have identified a major unmet need for CSF biomarker provision and this project would allow acquisition of the necessary information to make a case for a long-term NHS commissioned biomarker service. NHS labs local to the NHS sites involved in this project have indicated an interest in local assay provision if there is an expectation of greater volume of tests requested in order to achieve an accurate diagnosis to improve patient outcomes which would be required to justify costs and time. The ability to do CSF local biomarker testing paves the way for the local labs to provide regional biomarker services. This would benefit:

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	• The geographically wider patient cohort in terms of diagnosis and consideration of suitability for approved interventions (pharmacological and non-pharmacological). • The NHS Trust, as an income-generating service provision. The provision of a larger cohort of MCI patients with biomarker evidence of early AD would be of significant benefit for research studies in terms of local (PI-led) level, national (eg DPUK-led) level and potential future clinical trials.
7. The expected benefits for Lilly UK on delivery of this are:	Lilly is committed to improving the efficiency and quality of the delivery of patient care through a programme of innovative service improvement projects with NHS partners. This project will potentially support patients receiving a more accurate diagnosis and will identify future requirements of NHS mental health memory clinics with regards to diagnosis and management of patients with AD. If successful, this project, or parts thereof may be used by Lilly as a blueprint to support similar initiatives in other NHS organisations and may support Lilly in the development of budget impact and cost consequence tools which can be shared with other NHS Organisations wishing to increase their CSF testing capacity in relation to AD diagnosis. This project will provide Lilly with better understanding of AD patient pathways barriers and insight into to setting up a CSF service.