



[Figure 1] ILLUSTRATION OF CORE OUTCOME SET DEVELOPMENT PROCESS

Demographics	Patients	Caregivers
TOTAL	19	7
Age (mean, range)	46, 27-66	50, 39-60
Gender		
- Female	7	5
- Male	12	2
Ethnicity		
- White, British	17	6
- Asian/Asian British – [Indian] [Pakistani] [Bangladeshi] [Chinese] [Any other Asian background]	2	0
- Unclear	0	1
Diagnosis	2007-2021	N/A
Glioma type		
- Glioblastoma	6	3
- Astrocytoma	4	1
- Oligodendroglioma	3	1
- Anaplastic astrocytoma	2	0
- Anaplastic pilocytic astrocytoma	1	1
- Anaplastic oligodendroglioma	1	0
- PXA tumour	1	0
- Grade 3 glioma	1	1
Glioma grade		
- Grade 2	8	2
- Grade 3	4	2
- Grade 4	7	3

[Table 1] DEMOGRAPHIC TABLE LIVED EXPERIENCE PARTICIPANTS – PATIENTS AND CARERS

Delphi Survey demographics (both round participants)

Demographics	Stakeholder			
	Patients	Caregivers	Clinicians/ other healthcare professionals	Other
Stakeholder group	34	14	19	Researchers – 4 Third Sector – 4 Regulator – 2 Pharmaceutical - 1
Age (Range)	22-67	27-70	26-59	25-55
Gender				
- Female	16 (47%)	8 (57%)	6 (32%)	7 (70%)
- Male	18 (53%)	6 (43%)	13 (68%)	3 (30%)
Ethnicity				
- White, British	33 (97%)	14 (100%)	14 (74%)	8 (80%)
- Asian/Asian British	1 (3%)	0 (0%)	3 (16%)	0 (0%)
- Black/Black British	0 (0%)	(0%)	1 (5%)	0 (0%)
- Other ethnic group	0 (0%)	(0%)	1 (5%)	1 (10%)
- Prefer not to say	0 (0%)	(0%)	0 (0%)	1 (10%)
Region				
- England	27 (79%)	13 (93%)	12 (63%)	6 (60%)
- Northern Ireland	1 (3%)	0 (0%)	0 (0%)	0 (0%)
- Scotland	4 (12%)	1 (7%)	6 (32%)	2 (20%)
- Wales	1 (3%)	0 (0%)	1 (5%)	1 (10%)
- Prefer not to say	1 (3%)	0 (0%)	0 (0%)	1 (10%)
Participated in a trial				
- Yes	8 (24%)			
- No	26 (76%)			
Relationship to patient				
- Spouse		9 (64%)		
- Parent		1 (7%)		
- Child		3 (21%)		
- Other (Sibling)		1 (7%)		
Self-reported glioma diagnosis				
- Astrocytoma	6 (18%)	1 (7%)		
- Anaplastic astrocytoma	4 (12%)	1 (7%)		
- Glioblastoma	11 (32%)	6 (43%)		
- Oligodendroglioma	7 (21%)	2 (14%)		
- Anaplastic oligodendroglioma	2 (6%)	0 (0%)		
- Diffuse astrocytoma	1 (3%)	0 (0%)		
- Neuroectodermal tumour	0 (0%)	1 (7%)		
- Optic nerve glioma	2 (6%)	3 (21%)		
- Unknown/Unclear				
Self-reported glioma grade				
- Grade 2				

- Grade 2/3	12 (35%)	2 (14%)		
- Grade 3	4 (12%)	1 (7%)		
- Grade 3/4	6 (18%)	0 (0%)		
- Grade 4	1 (3%)	1 (7%)		
- Unknown/Unclear	10 (29%)	7 (50%)		
	1 (3%)	3 (21%)		
Professional role				
- Neurosurgery			10	0
- Neurooncologist			5	0
- Nurse			2	0
- Radiographer			1	0
- Researcher			0	3
- Third Sector			0	4
- Regulator			0	2
- Pharmaceutical			0	1
- Other			1	0
Secondary Roles				
			- Caregiver	1
			- Clinician/ other healthcare professional	3
			- Researcher	8
			- Policymaker	1
Round 1 demographics – attrition between Round 1 to Round 2				
Patients	7 – 1 Glioblastoma, 1 Oligodendroglioma, 1 PXA tumour, 1 Low grade glioma, 1 Diffuse midline glioma, 1 Anaplastic oligodendroglioma, 1 Diffuse astrocytoma*			
Caregivers	7 - 4 carers of Glioblastoma, 2 carers of Oligodendroglioma, 1 unknown/unclear*			
Clinicians/Researchers	5 – 3 neurosurgeons, 1 oncologist, 1 researcher			
	*self-reported diagnoses			

[Table 2] DEMOGRAPHIC TABLE FOR DELPHI PARTICIPANTS FOR EACH ROUND

Participant Stakeholder group	No	Representation
Patients	3	3 Glioblastoma
Caregivers	2	1 Glioblastoma 1 Astrocytoma
Healthcare Professional	5	1 Consultant neurosurgeon 1 Neurosurgeon and researcher 1 Neurosurgery and Neuro-oncology PhD candidate 1 Manager of neuro-oncology network 1 Consultant Psychiatrist
Researcher	1	1 Clinical researcher
Third Sector	1	1 Third Sector
Regulator	1	1 Regulator
Policymaker	1* –	[See healthcare professionals – secondary role of working in 'Health Policy'] *duplicate role, not included in final number count
TOTAL	13	

[Table 3] TABLE OF DEMOGRAPHIC CHARACTERISTICS OF CONSENSUS MEETING PARTICIPANTS

Outcome domains, outcomes, and definitions	Final voting results [Consensus meeting]	
	Retain	Remove
<p>Survival</p> <ul style="list-style-type: none"> - Overall Survival <i>In a clinical trial, the time to a person's death from any cause, starting from the time they joined the trial.</i> - Survival Rate <i>In a clinical trial, the time from when a person starts a trial, to when their disease worsens or they die.</i> - Survival without neurocognitive deterioration <i>The time from when a person starts a clinical trial to when their neurocognitive symptoms (e.g., memory) become worse or they die due to any cause, whichever occurs first.</i> 	75%	25%
<p>Adverse Events</p> <ul style="list-style-type: none"> - Frequency of adverse events <i>How often a person experiences any unfavourable, unexpected symptoms or signs that may be related to the treatment, including neurological adverse events (e.g., seizure activity), in a given time period.</i> - Severity of adverse events <i>The severity of any unfavourable, unexpected symptoms or signs a person experiences that may be related to the treatment, including neurological adverse events (e.g., seizure activity).</i> - Interference of adverse events <i>How unfavourable, unexpected symptoms or signs a person experiences, interferes with their daily activities. These may be related to the treatment, including neurological adverse events (e.g., seizure activity).</i> - Overall Tolerability <i>The degree to which adverse events (symptoms or signs) of the intervention (e.g., chemotherapy or peer support), can be tolerated by a person, overall.</i> - Evaluation of late adverse events <i>The assessment of unfavourable, unexpected late symptoms or signs of an intervention (e.g., chemotherapy or peer support), experienced by a person after the intervention period has finished.</i> 	83%	17%
<p>Activities of Daily Living</p> <ul style="list-style-type: none"> - Activities of daily living – basic <i>A person's daily functioning including feeding, personal toileting, bathing, dressing and undressing, getting on and off a toilet, controlling bladder, controlling bowel, moving from wheelchair to bed and returning, walking on level surface (or propelling a wheelchair if unable to walk) and ascending and descending stairs.</i> - Activities of daily living – instrumental <i>A person's ability to undertake activities which allow them to live independently and participate in the community (including driving/ transportation, work, shopping, cooking meals, participating in social activities).</i> - Performance Status <i>A measurement of a person's overall function, including mobility, self-care and work.</i> 	92%	8%
<p>Health-related Quality of Life</p> <ul style="list-style-type: none"> - Health-Related Quality of Life <i>A person's assessment how their physical, emotional, social or other types of well-being are affected by glioma or its treatment.</i> 	92%	8%
Seizure Activity		

<ul style="list-style-type: none"> - Seizure Activity <p><i>An overall measure of how often a person experiences seizures and their severity.</i></p>	83%	17%
<p>Neurocognitive Function</p> <ul style="list-style-type: none"> - Neurocognitive Function <p><i>An overall assessment of a person's neurocognitive function.</i></p> <ul style="list-style-type: none"> - Higher Executive Function <p><i>A person's ability to plan, execute and monitor their goals.</i></p> <ul style="list-style-type: none"> - Memory <p><i>A person's ability to register and store information, and retrieve it as needed.</i></p> <ul style="list-style-type: none"> - Dysphasia <p><i>A person's experience of difficulty in comprehending or expressing language in its written or spoken form, sometimes described as aphasia.</i></p>	83%	17%
<p>Physical Function</p> <ul style="list-style-type: none"> - Hemiparesis <p><i>A person's experience of difficulty or inability to intentionally move parts of the body or to coordinate movements.</i></p> <ul style="list-style-type: none"> - Vision <p><i>A person's experience of partial and/or double vision.</i></p>	92%	8%

Table 4] FINAL CORE OUTCOME SET, NUMBER OF VOTING ROUNDS AND SCORES.

Core Outcome Set domains	Survival	Adverse Events	Activities of Daily Living	Health-related Quality of Life	Seizure Activity	Cognitive Function	Physical Function
Registry Review – patient-reported outcome measures (PROM)	-			EQ-5D-5L EORTC QLQ-BN20 EORTC QLQ-C30 MDASI-BT FACT-Br LASA (Linear Analogue Self Assessment)			
Registry Review – Quality of life PROM overlap with COS domains	-	FACT-Br - Overall Tolerability: GP5 [definition of GP5 below – encompassing frequency, severity and interference of adverse events]	FACT-Br - Activities of daily living (ADL) (instrumental): Physical, social and Functional well-being – work, enjoying life, usual activities; Additional concerns (driving, independence, basic activities) LASA (writing, mobility, self-care, physical activity, recreation, social life, housework, family relations) MDASI-BT ADL (basic and instrumental): B: general activity, walking I: work, enjoyment of life EORTC QLQ-C30 ADL (basic and instrumental) B: carrying shopping, walking, eating, dressing, washing, using toilet; I: work, hobbies, leisure time activities, social and family interference due to symptoms EQ-5D-5L ADL (basic and instrumental)		FACT-Br - Seizure Activity: Br2, Br5 MDASI-BT - Seizures EORTC QLQ-BN20 - Seizure ('did you have seizures')	FACT-Br - Memory Br3 Dysphasia Br8, Br9 - Cognitive and Executive Function Br1, Br11, Br13, Br15, Br16, Br17 LASA - Speech MDASI-BT - Memory: difficulty remembering - Dysphasia (difficulty speaking) - Cognitive Function, Executive function – difficulty understanding, difficulty concentrating EORTC QLQ-BN20 - Dysphasia EORTC QLQ-C30 - Memory - Cognitive Function (concentrating, reading, watching TV)	FACT-Br - Hemiparesis: Br19, 20, 21 - Vision: Br6 LASA - Mobility MDASI-BT - Hemiparesis (weakness on one side) - Vision (problems with vision) EORTC QLQ-BN20 - Vision - Hemiparesis

[Table 5] TRIAL REGISTRY REVIEW PATIENT-REPORTED OUTCOME MEASURES MAPPED TO FINAL CORE OUTCOME SET DOMAINS.