



Appendix

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: Hamilton MP, Hetrick SE, Mihalopoulos C, et al. Targeting mental health care attributes by diagnosis and clinical stage: the views of youth mental health clinicians. *Med J Aust* 2017; 207 (10 Suppl). doi: 10.5694/mja17.00692.

SUPPLEMENTARY INFORMATION: STAGE AND PHENOTYPE TARGETING OF MENTAL HEALTH SERVICES – THE VIEWS OF YOUTH MENTAL HEALTH CLINICALS

Survey Questions

Welcome to the Optimising Youth Mental Health Services survey. Thank you for agreeing to participate in this survey. Orygen - The National Centre of Excellence in Youth Mental Health is currently developing a new evidence-based, expert-informed framework for planning mental health services for young people between 12 and 25 years of age. This survey of youth mental health professionals is a key step in developing the new framework and has two parts: About you. This part of the survey has between four and seven questions and is designed to help us understand the background of survey participants and to appropriately target questions in the next part of the survey to the expertise and interests of participants. Responding to emerging mental ill-health in young people. In this part, you will be presented with brief descriptions of young people with mental or substance use problems at different stages of development. The type of mental health problems described will relate to your answers in the previous section about your expertise and interests. You will be asked two multi-part questions about aspects of appropriate assessment and care for these young people. For most participants the survey can be completed by using check box and slider inputs as free text input is only requested for optional additional information questions. Based on feedback from piloting this survey, we estimate that the survey will take you under 10 minutes to complete.

Part 1: About You. In this part of the survey we will ask a few questions to find out a little more about your background.

Which of the following role descriptions currently apply to you? You may select more than one option.

- Clinician (holder of a current registration)
- Clinical Service Leadership and Management
- Policy Analyst / Policy Maker
- Researcher
- Service Development / Trainer
- Other (please specify) _____

Display This Question:

If Which of the following role descriptions currently apply to you? You may select more than one option. Clinician (holder of a current registration) Is Selected

Which of the following clinical role descriptions is the best match for you? You may select only one option.

- Counsellor
- General Practitioner
- Medical Doctor (other than psychiatrist, psychiatry registrar or general practitioner)
- Occupational Therapist
- Nurse - Mental Health
- Nurse - Other
- Psychiatrist
- Psychiatry Registrar
- Psychologist - Clinical
- Psychologist - Registered
- Social Worker
- Other _____

Display This Question:

If Which of the following role descriptions currently apply to you? You may select more than one option. Researcher Is Selected

Q37 Which of the following best describes your role as a researcher? You may select only one option.

- Professor
- Associate Professor
- Senior Research Fellow / Senior Lecturer
- Research Fellow / Lecturer
- Research Associate / Assistant
- Other (please specify) _____

Q9 Provide a summary of your years of experience in the following areas.

_____ Years of experience in working clinically with young people aged 12-25.

_____ Years of experience working clinically with mental health issues for any age group, including young people.

Q55 In which country do you currently work?

Q57 With which of the following settings do you have most experience?

- Online Mental Health Services
- Primary Mental Health Care Services
- Schools Mental Health Services
- Secondary Mental Health Care Services
- Specialist Outpatient Mental Health Services
- Specialist Inpatient Mental Health Services
- Other (please specify) _____

Q27 Please specify the type of mental health problems that are the closest match for your expertise and interests. This question determines what subsequent questions will be presented to you in the rest of this survey. In order to proceed with the rest of this survey, you must select one response from each drop down list.

- Anxiety - Generalised Anxiety
- Eating - Anorexia Nervosa
- Mood - Major Depressive Disorder
- Personality - Borderline Personality
- Psychosis
- Substance Use - Alcohol Misuse

Please note: This is your last chance to review and change your answers in the previous section. Once you click the next button on this page, you will no longer be able to revisit the previous section.

Part 2: Responding to emerging mental ill-health in young people In this part of the survey, you will be asked about your opinions about aspects of the assessment and support needs of two young people, $\{\text{Im://Field/2}\}$ and $\{\text{Im://Field/8}\}$.

$\{\text{Im://Field/6}\}$

Think of your current caseload and prior experience. What proportion of young people with mental health problems very similar to those of $\{\text{Im://Field/2}\}$ do you think would clinically benefit from each of the following potential aspects of assessment and care?

- Assessment involves neurocognitive assessment and symptom tools.
- Assessment and care are provided outside of normal school / work hours.
- Assessment and care involve information exchange with other service providers (e.g. education, physical health or social care).
- Assessment and care involve engagement and participation of family/carers of young person.
- Assessment and care are delivered using e-health.
- Assessment and care are based on face to face consultations in the same room.
- Assessment and care are delivered face to face in the young person's home.
- Care is provided using a case management approach with a multidisciplinary team.
- Monitoring involves collection and processing of biological samples.
- Care includes peer support of family/carers of young person.
- Care includes peer support for the young person.
- Care involves delivery in sub-acute residential settings.

$\{\text{Im://Field/11}\}$

Think of your current caseload and prior experience. What proportion of young people with mental health problems very similar to those of do you think would clinically benefit from each of the following potential aspects of assessment and care?

- Assessment involves neurocognitive assessment and symptom tools
- Assessment and care are provided outside of normal school / work hours.
- Assessment and care involve information exchange with other service providers (e.g. education, physical health or social care).
- Assessment and care involve engagement and participation of family/carers of young person.
- Assessment and care are delivered using e-health.
- Assessment and care are based on face to face consultations in the same room.
- Assessment and care are delivered face to face in the young person's home.
- Care is provided using a case management approach with a multidisciplinary team.
- Monitoring involves collection and processing of biological samples.
- Care includes peer support of family/carers of young person.
- Care includes peer support for the young person.
- Care involves delivery in sub-acute residential settings.

If you have any additional information or comments about the assessment and support needs of the young people described in this survey, please add them in the box below.

Please note: Once you click the next button below, you will complete the survey and no longer be able to revisit this section.

Figure 1: Survey participants who currently work as clinicians – discipline areas (%)

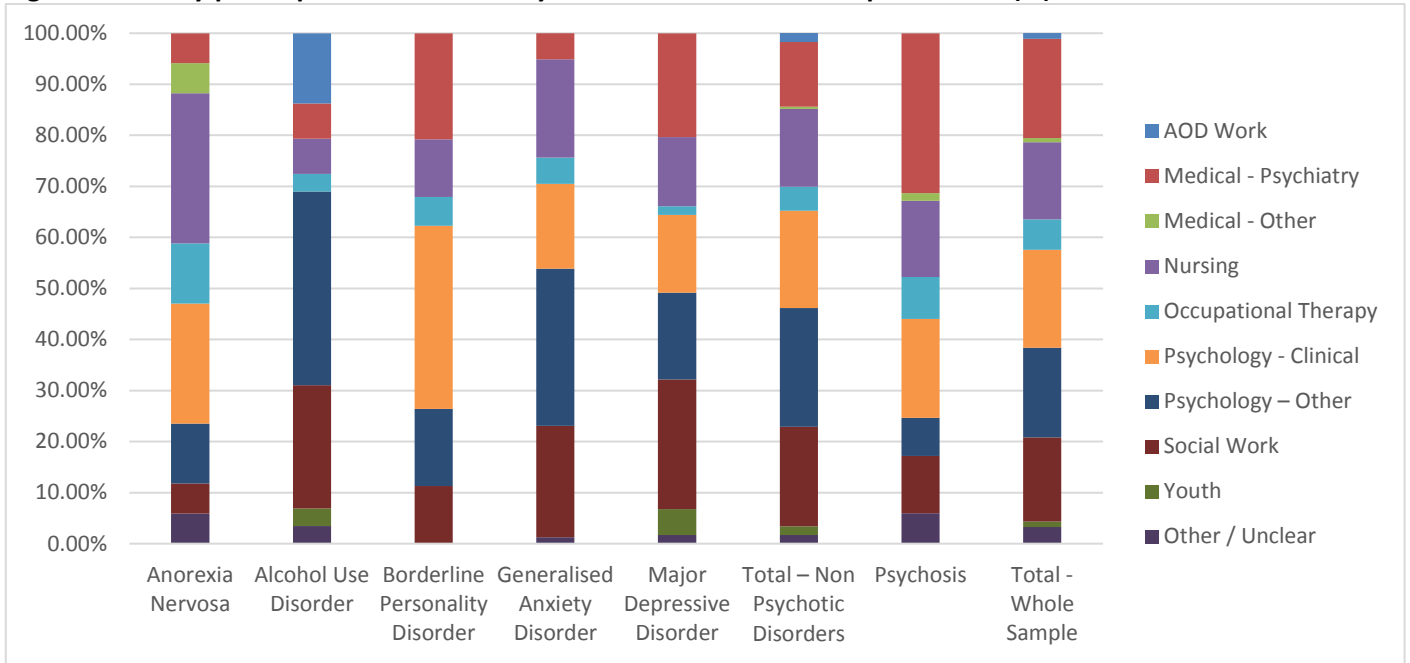


Figure 2: Survey participants – setting in which they have most experience (%)

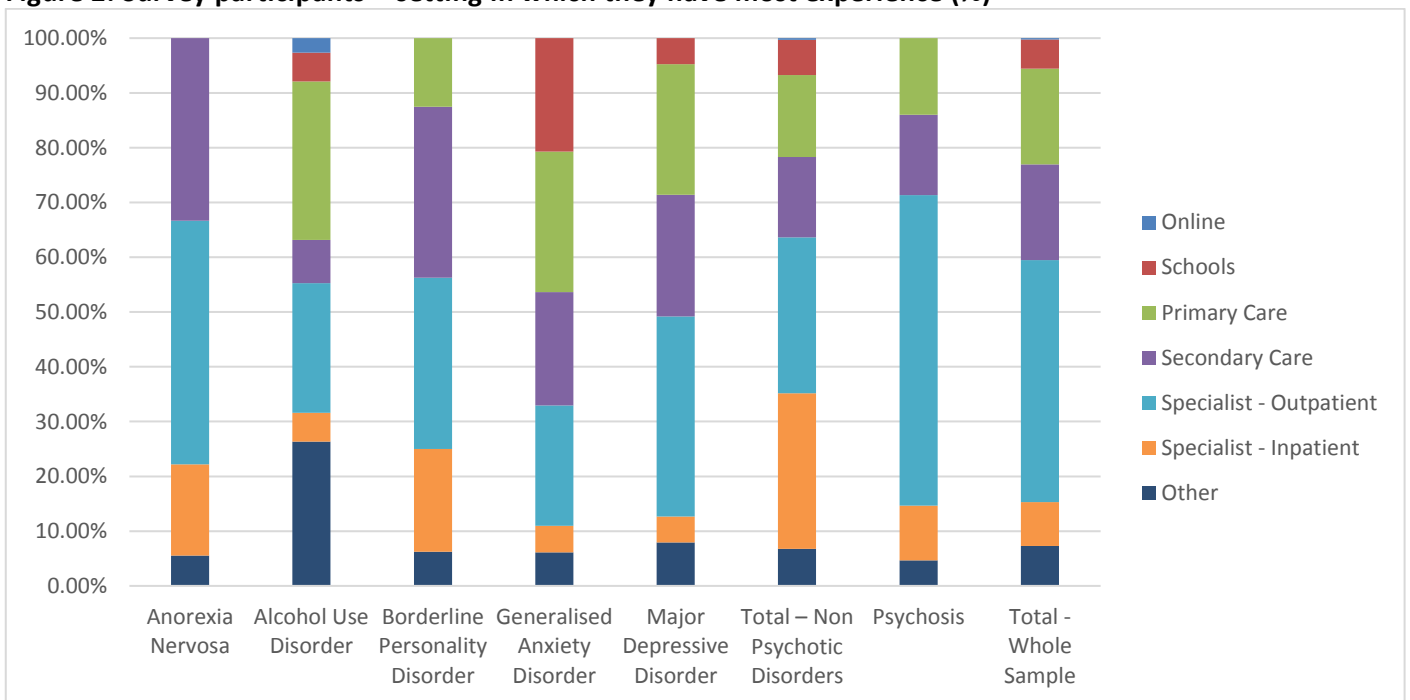


Figure 3: Survey participants – region (%)

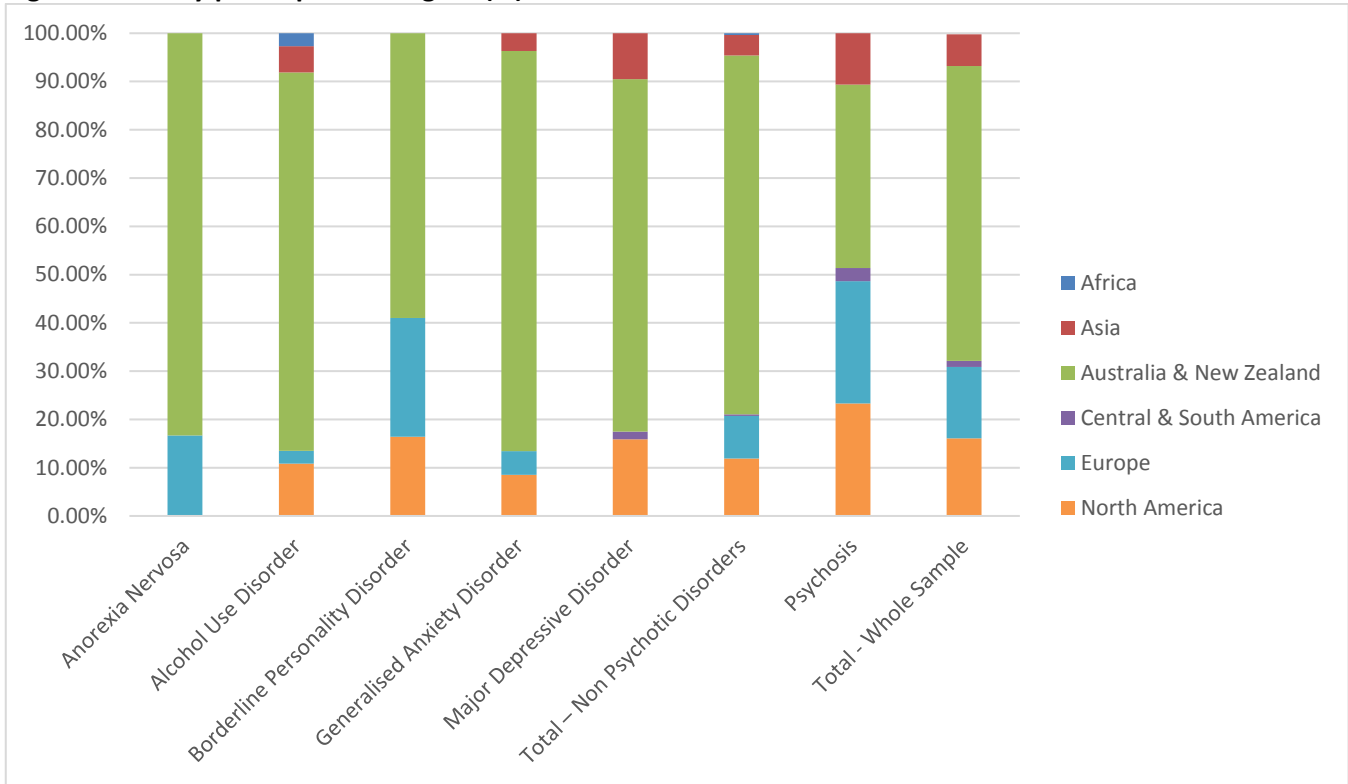


Figure 4: Survey results – number of disorder categories where disorder (including subthreshold disorders) significantly differentiated the estimated proportion of young people that would clinically benefit from each service attribute

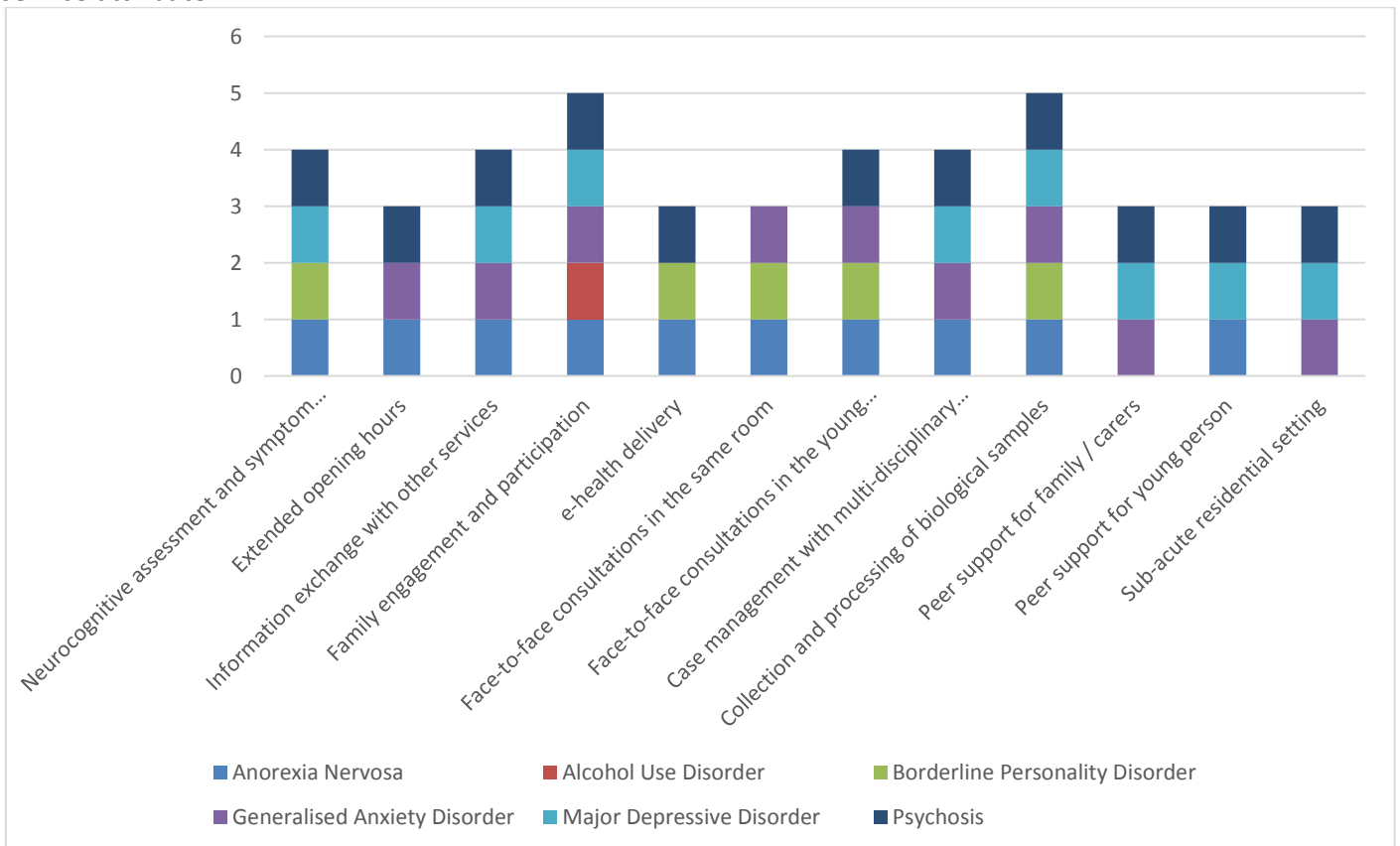


Figure 5: Survey results – number of disorder categories where clinical stage significantly differentiated the estimated proportion of young people that would clinically benefit from each service attribute

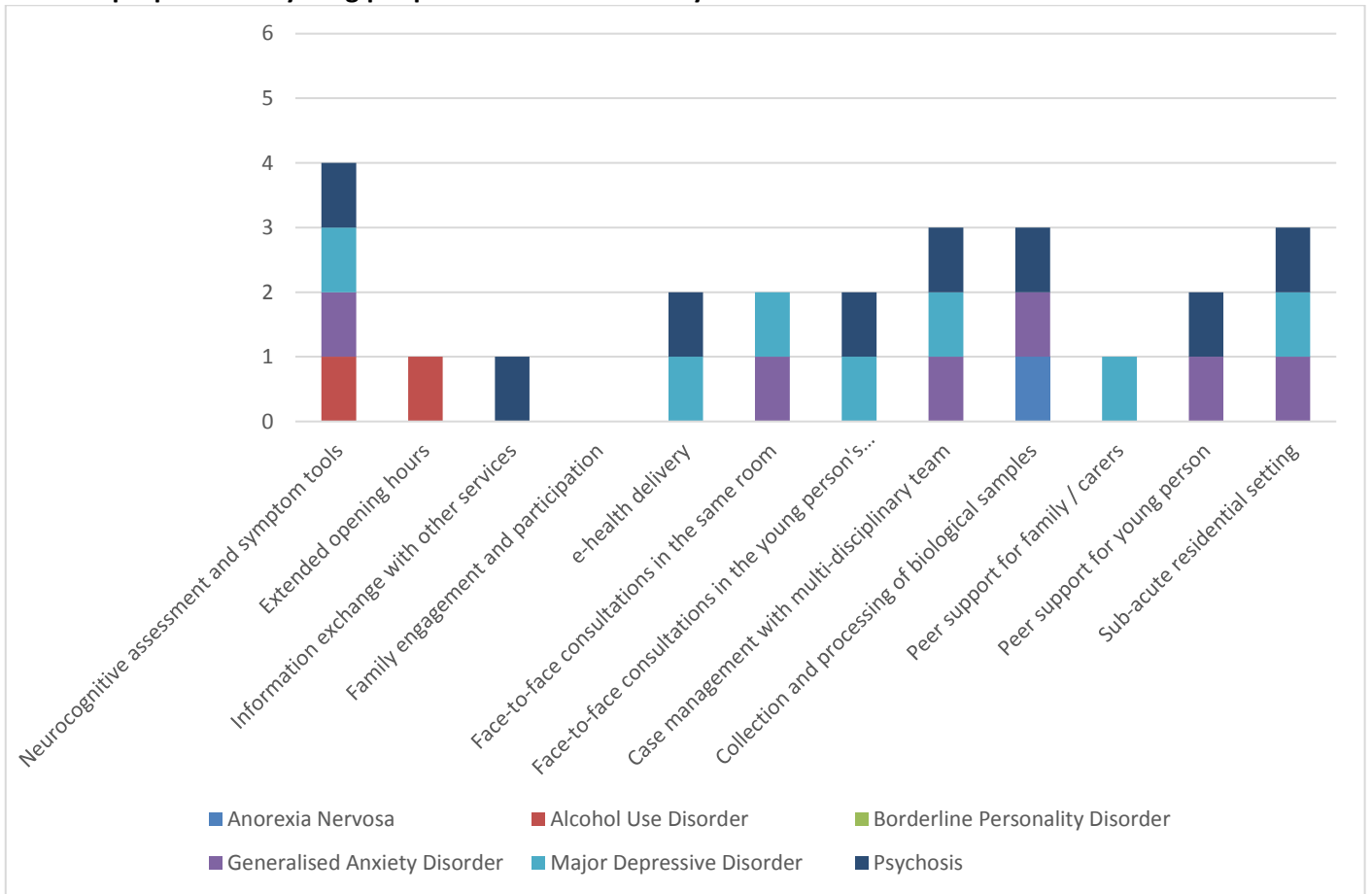


Table 1: Model comparison

	Model 1	Model 2#	Model 3	Model 4	Model 5
Mental health care attributes (reference category: extended opening hours)					
Assessment tools	-0.01	0.32*	0.32*	0.33*	0.32*
Information exchange	2.92*	3.67*	3.68*	3.68*	3.68*
Family engagement	3.92*	4.31*	4.31*	4.32*	4.31*
E-health	-1.49*	-1.53*	-1.53*	-1.52*	-1.53*
Face-to-face in clinic	2.88*	3.32*	3.32*	3.32*	3.31*
Face-to-face at home	-0.51*	-0.36*	-0.36*	-0.36*	-0.36*
Case management	2.91*	3.34*	3.35*	3.35*	3.35*
Biological samples	-1.60*	-0.75*	-0.73*	-0.73*	-0.73*
Family peers support	1.78*	2.55*	2.55*	2.56*	2.55*
Youth peer support	1.29*	1.73*	1.74*	1.74*	1.73*
Sub-acute residential	-2.26*	-1.70*	-1.68*	-1.68*	-1.69*
Young person characteristics					
Stage 2	1.15*	1.05*	1.05*	1.05*	1.05*
Disorder (reference category: Psychosis)					
Generalised Anxiety Disorder	-1.57*	-1.62*	-1.52*	-1.49*	-1.33*
Anorexia Nervosa	-1.98*	-2.05*	-1.94*	-1.97*	-2.06*
Major Depressive Disorder	-1.40*	-1.33*	-1.25*	-1.27*	-1.18*
Borderline Personality Disorder	-1.59*	-1.63*	-1.55*	-1.58*	-1.65*
Alcohol Use Disorder	-1.42*	-0.86	-0.75	-0.69	-0.61
Stage/Disorder interactions					
Generalised Anxiety Disorder	-0.80*	-0.81*	-0.82*	-0.82*	-0.82*
Anorexia Nervosa	-0.17	-0.29	-0.30	-0.30	-0.30
Major Depressive Disorder	-0.80*	-1.00*	-1.00*	-1.00*	-1.00*
Borderline Personality Disorder	-0.98*	-1.02*	-1.02*	-1.01*	-1.02*
Alcohol Use Disorder	-1.01*	-1.23*	-1.26*	-1.26*	-1.26*
Respondent characteristics					
Discipline (reference category: Allied Health)					
Medical		0.48	0.42	0.33	0.20
Nursing		-0.30	-0.24	-0.28	-0.27
Psychological		-0.19	-0.18	-0.22	-0.16
Region (reference category: Australia and New Zealand)					
Africa			0.85	0.69	0.85
Asia			0.72	0.76	0.71
Central and South America			-0.33	-0.29	-0.36
Europe			0.32	0.34	0.31
North America			0.12	0.09	0.09

Experience					
>=10 years youth mental health experience				0.37	0.35
Principal Setting (Reference category: Specialist Outpatient)					
Schools Mental Health Services					-0.69
Online Mental Health Services					(empty)
Specialist Inpatient Mental Health Services					0.66
Primary Mental Health Care Services					-0.40
Secondary Mental Health Care Services					-0.19
Other (please specify)					-0.19
Constants					
Cut points					
Cut point 1	-4.20*	-4.04*	-3.87*	-3.70*	-3.79*
Cut point 2	-2.85*	-2.65*	-2.48*	-2.31*	-2.41*
Cut point 3	-0.98*	-0.70*	-0.54	-0.37	-0.47
Cut point 4	0.70*	0.98*	1.14*	1.31*	1.22*
Random Effects					
Respondent					
Constant	6.30	6.55	6.52	6.50	6.42
Akaike's information criterion (AIC) and Bayesian information criterion (BIC)					
Observations	9,624	8,520	8,507	8,507	8,507
DF	27	30	35	36	41
AIC	19108.51	16618.83	16597.09	16597.48	16603.77
BIC	19302.16	16830.34	16843.79	16851.23	16892.76

Preferred Model

* Significant at $p < 0.5$

Table 2: Generalised Mixed Effects Model, Using Logit Link and Binomial Family - Simulated Data

Mixed-effects GLM							
Family:	binomial	Number of obs =		130,840			
Link:	logit						
Group variable:	Responseld	Number of groups =		345			
		Obs	per	group:			
		min	=	20			
		avg	=	379.2			
		max	=	480			
Integration method:	mvaghermite	Integration pts =		7			
		Wald chi2(30) =		433.58			
		Log likelihood =		-69212.466			
		Prob > chi2 =		0			
Fixed effects parameters		Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Service response characteristics							
Service component (Reference category: Extended Opening Hours)							
Assessment tools		-0.29	0.17	-1.71	0.09	-0.61	0.04
Information exchange		1.13*	0.26	4.36	0.00	0.62	1.65
Family engagement		1.44*	0.26	5.54	0.00	0.93	1.95
E-health		-0.83*	0.22	-3.73	0.00	-1.26	-0.39
Face to face in clinic		1.19*	0.25	4.82	0.00	0.71	1.67
Face to face at home		-0.08	0.22	-0.37	0.72	-0.51	0.35
Case management		0.87*	0.28	3.06	0.00	0.31	1.43
Biological samples		-0.96*	0.24	-3.94	0.00	-1.44	-0.48
Family peers support		0.38	0.24	1.55	0.12	-0.10	0.85
Youth peer support		0.05	0.24	0.21	0.83	-0.41	0.51
Sub-acute residential		-1.27*	0.23	-5.55	0.00	-1.72	-0.82

Young person characteristics						
Stage						
Stage2	0.47*	0.08	5.92	0.00	0.31	0.62
Disorder (Reference category: psychosis)						
Anxiety - Generalised Anxiety	-0.54*	0.14	-3.74	0.00	-0.82	-0.26
Eating - Anorexia Nervosa	-1.03*	0.25	-4.05	0.00	-1.53	-0.53
Mood - Major Depressive Disorder	-0.84*	0.15	-5.61	0.00	-1.14	-0.55
Personality - Borderline Personality	-0.47*	0.16	-3.02	0.00	-0.78	-0.16
Substance Use - Alcohol Misuse	-0.55*	0.20	-2.71	0.01	-0.95	-0.15
Stage/Disorder interactions						
Stage 2 Anxiety - Generalised Anxiety	-0.06	0.12	-0.55	0.58	-0.29	0.17
Stage 2 Eating - Anorexia Nervosa	0.15	0.22	0.69	0.49	-0.28	0.57
Stage 2 Mood - Major Depressive Disorder	0.25*	0.13	1.99	0.05	0.00	0.49
Stage 2 Personality - Borderline Personality	-0.48*	0.13	-3.63	0.00	-0.73	-0.22
Stage 2 Substance Use - Alcohol Misuse	0.36*	0.16	2.25	0.03	0.05	0.68
Respondent characteristics						
Discipline area (Reference category: Allied Health)						
Medical	0.08	0.14	0.58	0.56	-0.19	0.35
Nursing	0.02	0.14	0.11	0.91	-0.27	0.30
Psychological	-0.16	0.11	-1.38	0.17	-0.38	0.07
Location (Reference category: Australia and New Zealand)						
Africa	0.25	0.76	0.32	0.75	-1.25	1.74
Asia	0.19	0.20	0.98	0.33	-0.19	0.58
Central and South America	-0.13	0.42	-0.31	0.76	-0.95	0.69
Europe	0.14	0.15	0.90	0.37	-0.16	0.44
North America	-0.15	0.14	-1.02	0.31	-0.43	0.14
Constant	0.59*	0.18	3.21	0.00	0.23	0.95
Random Effects Parameters						
ResponseId>component						
var(_cons)	1.562474	0.0831555			1.407705	1.73426
LR test vs. logistic model:	chibar2(01)=	27704.14				
Prob	>=	chibar2=	0			

* Significant at p<0.5