Comparative Evaluation of the HTA Processes and Outcomes for Digital Health Technologies in Germany and UK

HTA223

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Background & Objectives

- Digital health technologies (DHTs) are increasingly being assessed by regulatory bodies.
- Few DHTs to-date have undergone formal health technology assessment (HTA), resulting in limited analogues to compare evidence requirements between HTA bodies.
- To improve transparency, a comparative review of the evidence requirements of Germany's BfArM and UK's NICE was conducted.

Methods

- A search of an international database of extracted HTAs (HTA Accelerator) was conducted in July 2022.
- Many DHTs are indicated for use in the treatment of depression. HTAs were restricted to assessments of DHTs intended for patients with depression undertaken by NICE and BfArM, as these countries have conducted a high number of formal DHTs evaluations to date.
- Data extractions included the evidence under assessment, agency critique and outcome. An update on the status of the extracted HTAs was conducted in September 2023 for BfArM and NICE (under the new early value assessment [EVA] framework) assessments.

1 Data extracted from DHTs assessed by BfArM between 2020 and 2022

Criteria	Analogue DHTs Assessed By BfArM			
	deprexis	HelloBetter	FÜHL DICH BESSER NOVEGO	Selfapy Online course for Depression
Recommendation	POSITIVE - 2021 -	POSITIVE - 2021 -	POSITIVE WITH RESTRICTIONS conditional on further data collection	POSITIVE after approbation period - 2020 -
Indication	Unipolar depression or depressive mood (mild-severe)	Depressive symptoms in type 1/2 diabetes	Mild-moderate depression or dysthymia	Moderate depression
RCT used?	✓	✓	✓	✓
Number of RCTs (total N participants)	2 RCTs (N=1176)	1 RCT (N=254)	4 RCTs (N=580)*, 1 is currently running	1 RCT (N=401)
RCT locations	Germany, Switzerland	Germany	Germany	Germany
RCT comparator	• Wait list control • Care as usual	• Wait list control • Wait list control and care as usual	• Wait list control	• Selfapy with guidance by a psychotherapist-in-training* • Wait list control and care as usual
RCT primary endpoint	PHQ-9 after 3 months	ADS after 8 weeks	BDI-II, PHQ-9, CES-D, PANSS after 3 months	BDI-II after 12 weeks
Effect size (Cohen´s d)	Depression level, mild: 0.31, moderate: 0.44, severe: 0.57	0.94	-	1.41
RWE used?	✗	✗	✗	✗
Number of RWE studies (total N participants)	-	-	-	-
Supplementary studies?	ES 10 weeks Meta-analysis of 12 RCTs	-	-	2 evaluation studies for patients with panic and bulimia nervosa
Assessment	-	-	Study concept was deemed adequate to **generate evidence during approbation period**	-
Outcome of assessment (e.g. reimbursement)	**Permanent** listing in directory, reimbursement of **negotiated** price	**Permanent** listing in directory, reimbursement of **negotiated** price	**Preliminary** listing in directory, reimbursement of **manufacturer** price	**Permanent** listing in directory, reimbursement of **negotiated** price

Abbreviations: ADS: Anxiety Depression Scale; BDI-II: Beck's Depression Inventory 2nd edition; BfArM: Bundesinstitut für Arzneimittel und Medizinprodukte; CBT: Cognitive behavioural therapy; CES-D: Center for Epidemiologic Studies Depression Scale; ES: Extension study; F2F: Face-to-face; IAPT: Improving Access to Psychological Therapies; PANSS: Positive and Negative Syndrome Scale; PHQ-9: Patient Health Questionnaire-Depression Scale; NICE: National Institute for Health and Care Excellence; RCT: Randomised controlled trial; RWE: Real-world evidence.
* Population in the 3 previous RCTs seemed not to fit indication ** Second intervention arm which was not assessed by BfArM. **Blue boxes highlight key findings.**

Results

- A total of 6 and 4 DHTs assessed by NICE and BfArM since 2018, respectively, were reviewed.
- For both agencies, it is observed that the evidence generation plan must include a well-designed study, ideally conducted in local clinical setting, with the population and comparator studied in the RCT reflecting the intended positioning in current treatment pathway.
- Real world evidence was often required by NICE but was not required by any of the reviewed BfArM assessments.
- EQ-5D appears to be a good scale to have for NICE.
- Therapeutic content is not assessed by BfArM beyond the positive care effect, while NICE assesses content using current practice.
- The economic assessment by NICE is limited to a cost analysis quantifying the budget impact for the NHS.
- Previous NICE recommendations in the UK often require the company to collect local data on its use, while BfArM provides immediate reimbursement with no requirements for data collection on costs.
- Since the first extraction, 2 out of 6 DHTs assessed by NICE were recommended as treatment options while further evidence is to be generated on their clinical and cost effectiveness under the new EVA approach.
- 1 of the 6 DHTs assessed by NICE did not receive a positive recommendation on its use under the EVA approach due to a lack of any eligible evidence for the scoped population and outcomes.

2 Data extracted from DHTs assessed by NICE between 2018 and 2022

Criteria	Analogue DHTs assessed by NICE under IAPT between 2018 and 2022[1]						
	Be Mindful	deprexis	minddistrict	SHADE	Space from Depression		The Wellbeing Course
Recommendation	NEGATIVE - *2019* -	POSITIVE WITH RESTRICTIONS conditional on further data collection - *2018* -	POSITIVE WITH RESTRICTIONS conditional on further data collection - *2019* -	NEGATIVE - *2018* -	POSITIVE WITH RESTRICTIONS conditional on further data collection - *Initial submission: 2018* -	POSITIVE WITH RESTRICTIONS conditional on further data collection - *2020* -	NEGATIVE - *2019* -
Indication	Mild-moderate or moderate-severe depression	Mild-moderate depression	Depression	Mild-moderate depression + drug/alcohol misuse	Mild-moderate depression	Depression	Depression
RCT used?	✓	✓	✓	✓	✓	✗	✓
Number of RCTs (total N participants)	1 RCT (N=118)	3 RCTs (N=1187)	2 RCTs (N=345)	1 RCT (N=371)	1 RCT (N=188)	-	3 RCTs (N=460)
RCT locations	UK	Germany, Switzerland	Germany, Netherlands	Australia	Ireland	-	Australia
RCT comparator	• Wait list control	• Wait list control • Care as usual	• Psychoeducation programme + standard of care	• Wait list control • F2F CBT	• Wait list control	-	• Wait list control
RCT primary endpoint	PHQ-9 after 3 months	BDI-II after 12 weeks	BDI-II after 3 months	BDI-II after 12 months	BDI-II after 8 weeks	-	PHQ-9 after 3 months
RWE used?	✗	✗	✓	✗	✗	✓	✗
Number of RWE studies (total N participants)	-	-	1 observational study in IAPT services (N=92)	-	-	1 questionnaire across 3 IAPT services (N=6966)	-
Supplementary studies?	-	-	-	ES 3-months	-	-	ES 12 month
Critique (clinical)	Inappropriate patient population	-	-	Inappropriate clinical trial design, insufficient clinical data, uncertain clinical benefit	-	-	Inappropriate patient population, insufficient clinical data
Critique (economic)	Potential cost-saving + company would offer volume discounts	Potential cost-saving + lower cost compared to F2F CBT	Resource-saving + low budget impact	Unlikely to deliver cash-releasing savings	Low budget impact	Potential cost-saving compared with standard care + low budget impact	Unlikely to deliver cash-releasing savings
Outcome of assessment (e.g. reimbursement)	Assessed as **not suitable** for IAPT and **not recommended** for the evaluation in practice phase of the NICE & IAPT assessment programme	Assessed as **provisionally suitable** for IAPT and **recommended** for the **evaluation in practice phase** of the NICE & IAPT assessment programme	Assessed as **provisionally suitable** for IAPT and **recommended** for the **evaluation in practice phase** of the NICE & IAPT assessment programme	Assessed as **not suitable** for IAPT and **not recommended** for the evaluation in practice phase of the NICE & IAPT assessment programme	Assessed as **provisionally suitable** for IAPT and **recommended** for the **evaluation in practice phase** of the NICE & IAPT assessment programme	Case for adoption in IAPT services is **partially supported**	Assessed as **not suitable** for IAPT and **not recommended** for the evaluation in practice phase of the NICE & IAPT assessment programme

Notes: [1] IAPT is now designated as NHS Talking Therapies
Abbreviations. BDI-II: Beck Depression Inventory 2nd edition; CBT: Cognitive behavioural therapy; DASS: Depression Anxiety Stress Scale; DHT: Digital health technology; ES: Extension study; F2F: Face-to-face; IAPT: Improving Access to Psychological Therapies (NHS England); NICE: National Institute for Health and Care Excellence; PHQ-9: Patient Health Questionnaire-Depression Scale; QIDS-SR16: Quick Inventory of Depressive Symptomatology-Self Reported; RCT: Randomised controlled trial; RWE: Real-world evidence; UK: United Kingdom: USA: United States of America. // * Only depression-related outcomes are listed here. **Blue boxes highlight key findings**

Conclusions

- Evidence generation planning to support local reimbursement decisions for DHTs should include locally collected data on their use in the form of a robustly designed RCT to be successful for BfArM.
- Although RCTs are also considered the gold standard for NICE, a UK location was not mandatory. Local data can be collected through RWE in the UK setting.
- Additionally, data describing the impact on local resources is needed for NICE and might also be of benefit for the price negotiation in Germany.

Acknowledgements: This research was funded by Otsuka Pharmaceutical Development and Commercialization, Inc., Princeton, NJ. The poster was created by IQVIA Ltd, London, United Kingdom, IQVIA Commercial GmbH & Co. OHG, Munich, Germany, IQVIA Solutions Portugal, Lda.

Disclosures: ML, AE, EC and VB are employees of Otsuka, and JG, MM and CM are employees of IQVIA, who were contracted to perform this research on behalf of Otsuka.

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ISPOR Europe 2023, 12 – 15 November 2023