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1 **Psychiatry training in 42 European countries:** 2 **a comparative analysis**

3 Franziska Baessler^{1,*}, Ali Zafar¹, Thomas Gargot^{2,3,4}, Mariana Pinto da Costa^{5,6,7}, Ewelina
4 Maria Biskup^{8,9}, Livia De Picker¹⁰, Katja Koelkebeck¹¹, Florian Riese¹², Howard Ryland¹³,
5 Olga Kazakova¹⁴, Sarah Birkle¹⁵, Thanos Kanellopoulos¹⁶, Roland Grassl¹⁷, Alina Braicu¹⁸,
6 Jobst-Hendrik Schultz¹, Marisa Casanova Dias^{19,20}

7 * Dr Franziska Baessler, franziska.baessler@med.uni-heidelberg.de, phone: +49 6221
8 5634688; fax: +49 6221 565330

9 ¹ Center for Psychosocial Medicine, Department of General Internal and Psychosomatic
10 Medicine, Heidelberg University Hospital, Im Neuenheimer Feld 410, 69120 Heidelberg,
11 Germany

12 ² Psychiatrie de l'Enfant et de l'Adolescent, Pitié Salpêtrière - Charles Foix, Assistance
13 Publique Hôpitaux de Paris, 47/83 boulevard de l'Hôpital, 75013, Paris, France

14 ³ ISIR, Sorbonne Université, 4 Place Jussieu, 75005, Paris, France

15 ⁴ CHART Laboratory - EA 4004, TIM, Paris 8 University, 93526, Saint Denis, France

16 ⁵ Unit for Social and Community Psychiatry (WHO Collaborating Centre for Mental Health
17 Services Development), Queen Mary University of London, London, United Kingdom

18 ⁶ Institute of Biomedical Sciences Abel Salazar, University of Porto, Porto, Portugal

19 ⁷ Hospital de Magalhães Lemos, Porto, Portugal

20 ⁸ Shanghai University of Medicine and Health Sciences Basic Medical College, Shanghai,
21 China

22 ⁹ Division of Internal Medicine, University of Basel, Basel, Switzerland

23 ¹⁰ Collaborative Antwerp Psychiatric Research Institute, University of Antwerp, Antwerp,
24 Belgium; University Psychiatric Department Campus Duffel, Duffel, Belgium

25 ¹¹ LVR-Hospital Essen, Department of Psychiatry and Psychotherapy, Medical Faculty,
26 University of Duisburg-Essen, Essen, Germany

27 ¹² University Hospital of Psychiatry Zurich, Lenggstrasse 31, 8032 Zurich, Switzerland

28 ¹³ Department of Psychiatry, University of Oxford, Oxford, UK

29 ¹⁴ Psychiatric Department, Psychiatric Clinic of Minsk City, Minsk, Belarus

30 ¹⁵ Department of Psychosomatic Medicine and Psychotherapy, University Hospital
31 Tuebingen, Germany

32 ¹⁶Center for Adolescent Medicine and UNESCO Chair on Adolescent Health Care, First
33 Department of Pediatrics, School of Medicine, National and Kapodistrian University of
34 Athens, Aghia Sophia Children`s Hospital, Athens, Greece

35 ¹⁷ University Clinic for Child and Adolescent Psychiatry and Psychotherapy, Vienna, Austria

36 ¹⁸ National Centre for Mental Health, BSMHFT, Birmingham, UK

37 ¹⁹ Department of Psychological Medicine and Clinical Neurosciences, School of Medicine,
38 Cardiff University, Cardiff, UK

39 ²⁰Section of Women's Mental Health, Institute of Psychiatry, Psychology, and Neurosciences,
40 King's College London, London, UK

41 **Abstract**

42 Psychiatry qualifications are automatically recognized among European Union (EU)
43 countries despite differences in national training programs. A widening gap between the
44 number of psychiatrists, their competencies and the growing burden of mental illnesses in
45 Europe has renewed calls for international standardization of training. Comprehensive
46 information about training programs is missing, which limits thorough comparisons and
47 undermines development of an actionable strategy to improve and harmonize psychiatry
48 training. This study describes and compares the existing postgraduate psychiatry programs in
49 42 countries in the European region. Representatives of national psychiatry associations
50 completed a semi-structured, 58-item questionnaire. Training structure and working
51 conditions of each country were compared with population needs calculated by the World
52 Health Organization to determine the European mean and contrasted among pre-2004 and
53 post-2004 EU members and countries with unrecognized qualifications. Differences were
54 tested with nonparametric (Wilcoxon) and parametric (Anova) tests. Median training duration
55 was 60 months, significantly shorter in countries with unrecognized qualifications (48
56 months, $\chi^2 16.5$, $p < 0.001$). In 80% of the countries, placement in a non-psychiatric specialty
57 such as neurology or internal medicine was mandatory. Only 17 countries (40%) stipulated a
58 one-month rotation in substance abuse and 11 (26%) in old-age psychiatry. The overall deficit
59 of training versus population need was 22% for substance abuse and 15% for old-age
60 psychiatry. Salaries were significantly higher in pre-2004 EU members ($\chi^2 22.9$, $p < 0.001$) with
61 the highest in Switzerland (€5,000). Significant variations in curricula, training structure and
62 salaries exist in Europe. Harmonization of training standards could offer significant benefits
63 for improving mental healthcare.

64 **Keywords:** European psychiatry, professional qualifications, psychiatry training, medical
65 education, mental health, psychiatry curricula.

66 **1. Introduction**

67 Mental health disorders comprise a considerable proportion of the global disease
68 burden (EC; James et al., 2018). In Europe alone, mental healthcare expenses exceed €800
69 billion yearly (Gustavsson et al., 2011) and the mismatch between population needs and
70 available resources continues to grow (Patel et al., 2013; Saxena et al., 2007). International
71 migration of psychiatrists facilitated by the European Union's (EU) free movement laws (EC,
72 2005, 2011a, 2013) can help mitigate local shortages (EC, 2013, 2019; Pinto da Costa et al.,
73 2017). However, national shortages are exacerbated by skilled professionals leaving their
74 countries of origin after completion of training, resulting in unbalanced distribution of mental
75 healthcare resources across Europe (Pinto da Costa et al., 2017). One of the major factors
76 identified for driving psychiatrists' emigration is a lack of high-quality educational
77 opportunities in their home countries (Barrett et al., 2020; EC, 2005, 2011a, 2013; Pinto da
78 Costa et al., 2017), which raises questions about regional differences in training standards.

79 Previous studies of postgraduate psychiatry programs have reported considerable
80 competencies gaps in European countries with some trainees, for instance, not having access
81 to training in psychotherapy, psychiatry of intellectual disabilities, neuromodulation or
82 community psychiatry (Baessler et al., 2015; Casanova Dias et al., 2020; Gargot et al., 2017;
83 Karabekiroglu et al., 2006; Kuzman et al., 2012; Lotz-Rambaldi et al., 2008; Mayer et al.,
84 2014; Muijen, 2010; Naber and Hohagen, 2008; Pinto da Costa et al., 2019; Simmons et al.,
85 2012). Recent studies on child and adolescent psychiatry (CAP) and transitional care from
86 child to adult psychiatry also highlight variations in the assessment of trainees and their
87 access to clinical and educational supervision and medical education (Barrett et al., 2020;
88 Hendrickx et al., 2020; Russet et al., 2019; Tuomainen et al., 2018). A lack of supervision and
89 training in essential and evidence-based components of psychiatric care also negatively
90 impacts patients' quality of care in those countries (Baessler et al., 2015; Gargot et al., 2017;
91 Karabekiroglu et al., 2006; Kuzman et al., 2012; Lotz-Rambaldi et al., 2008; Mayer et al.,
92 2014; Muijen, 2010; Naber and Hohagen, 2008; Pinto da Costa et al., 2019; Simmons et al.,
93 2012). Since working conditions and quality of training are linked to workforce migration and
94 retention (Pinto da Costa et al., 2017), suboptimal training and shortage of psychiatrists can
95 lead to suboptimal patient care.

96 Regulatory guidelines for psychiatry training were first published in 2003 in the
97 'Charter on Training of Medical Specialists in the EU: Training Requirements for the
98 Specialty of Psychiatry' (UEMS, 2000, 2009, 2017; WHO, 2018). After an evaluation of the
99 EU professional qualifications directive in 2011, the European Commission (EC) concluded

100 that the minimum training requirements were to be updated to better reflect current practices
101 (EC, 2013). The latest revision of the guidelines was published in 2017 (UEMS, 2017) by the
102 Union Européenne des Médecins Spécialistes (UEMS) with input from the European
103 Federation of Psychiatric Trainees (EFPT), an umbrella organization for psychiatry trainee
104 associations. However, these guidelines are non-binding and training standards are usually set
105 by local governing bodies or medical associations (Dias et al., 2016). Every country decides
106 its own requirements and modifies its training curricula according to its specific needs and
107 objectives (Kuzman et al., 2012; Mayer et al., 2014; Nawka et al., 2010; Ross and Rohrbaugh,
108 2014).

109 Even though voluntary standardized European examinations are in place for more than
110 15 medical specialties (Brittlebank et al., 2016; Pandey et al., 2008), curricula for psychiatry
111 training within the EU and the wider European region continue to fall short of best practice
112 examples and minimal competency requirements identified by international organizations as
113 well as European population's mental health needs (Gaebel et al., 2017; UEMS, 2015).
114 Comprehensive information about the details of training programs in Europe is currently
115 missing, which has limited thorough comparisons and undermined the development of an
116 actionable strategy to improve and harmonize psychiatry training throughout Europe.

117 **Aims and objectives**

118 High mobility of medical professionals in Europe and heterogeneous living, working
119 and training conditions mean meeting the mental health needs across all European countries
120 by providing an adequately trained workforce of psychiatrists is a challenge. Our aim was to
121 comprehensively map differences and similarities in psychiatry programs across Europe by
122 means of a survey of national training structure and working conditions. We hypothesized that
123 the training conditions would significantly differ between three groups of countries i.e.
124 countries that comprised the EU before 2004; countries which joined the EU after 2004; and
125 countries whose training credentials are not automatically recognized in the EU. We also
126 aimed to determine national training requirements versus the population needs calculated by
127 the World Health Organization (WHO). Based on our findings, we propose a checklist to
128 monitor future changes to psychiatric training for facilitating the quantification of future
129 harmonization efforts.

130 **2. Experimental procedures**

131 **Study design**

132 This cross-sectional study was conducted between 2014 and 2016 via an online
133 questionnaire sent to the national representative of the European Federation of Psychiatric
134 Trainees (EFPT) in the following 42 countries:

- 135 • EU member countries (28): Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech
136 Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland,
137 Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania,
138 Slovakia, Slovenia, Spain, Sweden and the United Kingdom (UK).
- 139 • Non-EU countries (14): Albania, Azerbaijan, Belarus, Bosnia-Herzegovina, Georgia,
140 Israel, Macedonia, Montenegro, Norway, Russia, Serbia, Switzerland, Turkey and
141 Ukraine.

142 Survey responses were compared with information from literature sources related to
143 mental healthcare, population, national income and institutionalization of psychiatric care to
144 determine population needs and deficits. Answers were descriptively analyzed to calculate the
145 percentage agreement among the variables for determining variance among countries. For
146 further comparison of heterogeneity, variables were compared between pre-2004 and post-
147 2004 EU members and countries with unrecognized psychiatry qualifications. When a
148 training association was not in place, people in comparable positions or former country
149 representatives e.g. Early Career Psychiatrists representative for the WPA, completed the
150 questionnaire. In countries with an established national committee representing trainees, this
151 would usually be a prominent member of that committee. In countries where no such
152 committee existed, a trainee with access to a comparable level of information was contacted.

153 **Questionnaire**

154 A questionnaire comprising 58 closed- and open-ended questions was used to collect
155 data. This questionnaire was developed iteratively over several years by trainee
156 representatives, who identified important factors for postgraduate psychiatric training from
157 fieldwork and attendance at annual EFPT meetings. Development was also based on feedback
158 from previous surveys (Kuzman et al., 2012; Nawka et al., 2010; Oakley and Malik, 2010).
159 The questions concerned the organization, content and working conditions of the national
160 training program in the respondents' country such as the number of trainees in the country,
161 average salaries and working hours, minimum duration of training program and proportion of

162 rotations spent in subspecialties or separate specialties, standardization of curricula and
163 perceived shortcomings.

164 The questionnaire was sent by email to the participants. In one case, the questionnaire
165 was completed via a telephone interview.

166 **Participants**

167 We approached national representatives of 42 national psychiatry trainee associations
168 who registered for the EFPT Forum 2014, London. EFPT fora are annual meetings of trainee
169 representatives that provide an opportunity for national representatives to meet and discuss
170 pertinent issues, with the primary objective of enhancing standards of psychiatric education
171 and training across Europe. EFPT membership is open to any national association in a country
172 within the European region, as defined by the World Health Organization (WHO). National
173 trainee associations aim to (1) represent and connect psychiatry trainees in each country; and
174 (2) represent them internationally to improve psychiatry training in each country and within
175 Europe as a whole.

176 National representatives, have assumed leadership positions within their respective
177 associations and are capable of providing accurate and comprehensive responses, either
178 through their own knowledge base or their access to reliable local data sources. In countries
179 where no such association existed, an individual with access to a comparable level of
180 information was contacted to complete the questionnaire.

181 **Data validation**

182 To ensure accuracy, responses obtained from questionnaires were compared with a
183 number of external sources, including published scientific literature, national curricula and
184 training guidelines, and contacting national training organizations (CPI, 2012). Data were also
185 cross-checked with EFPT board members and psychiatrists with personal experience of
186 training in other European countries. For Bosnia-Herzegovina, data were combined and
187 recalculated because there were two national programs in two similar-sized regions of the
188 country.

189 For clarity, specializations related to but independent from psychiatry, such as
190 neurology or internal medicine, are referred to as ‘separate’ specialties in this paper. The term
191 ‘subspecialty’ was used to refer to rotations within psychiatry such as ‘addiction psychiatry’
192 and ‘old-age psychiatry’. For undefined rotations, we have used ‘not specified’. Questionnaire
193 responses using synonyms were identified and categorized under the primary heading for ease

194 of data analysis. For instance, rotations for substance misuse, substance dependence or
195 substance use were clustered under addiction psychiatry.

196 **Comparative analysis**

197 In order to determine gaps between population needs and available resources,
198 additional variables such as country population (WB, 2016), national gross domestic product
199 (WB, 2016), hospital beds per 100,000 citizens (WHO, 2013), number of psychiatrists (WHO,
200 2014), automatic recognition of the specialization (EC, 2005) and disability-adjusted life
201 years (DALYs) (WHO, 2018) were calculated. From annual DALYs lost (WHO, 2016, 2018),
202 the largest morbidity burden in Europe was identified for unipolar depression (ICD-10 F32-
203 F39), substance use disorders (ICD-10 F10) and dementia (ICD-10 F0x, G20). Together with
204 anxiety disorders (ICD-10 F4x), these four disorders were among the top three psychological
205 problems in 95% of the surveyed countries (WHO, 2016, 2018) and therefore chosen for our
206 comparative analysis.

207 Population needs deficit was calculated from the DALYs lost for each condition per
208 country in percentage compared with the duration of the training rotation in the specific
209 specialty/subspecialty. For example, time spent in addiction psychiatry and old age psychiatry
210 rotations was compared with the DALYs for substance use disorders and dementia,
211 respectively. The deficit could be calculated by subtracting the proportion of DALYs from the
212 proportion of training in the specific subject. The European mean was calculated by
213 combining the population deficits for all countries. The heterogeneity of psychiatry training
214 programs was compared for all variables, including the content and length of training, number
215 of trainees, salary, working hours, mandatory rotations, etc. among countries. The variance
216 was calculated with percentage agreement. Percentage agreement between variables of up to
217 76-100% was classified as ‘minimally heterogeneous’; between 60% and 75% as ‘moderately
218 heterogeneous’; and 50-59% agreement as ‘very heterogeneous’.

219 For an aggregated regional comparison, the countries were divided into three groups:
220 a) pre-2004 EU members; b) post-2004 EU members; and c) countries whose psychiatry
221 qualifications are not recognized by the EU or ‘countries with unrecognized qualifications’
222 (Table 1). Switzerland and Norway were not included in the groupings since their psychiatric
223 qualifications are automatically recognized within the EU although they are not members.

224

225 *Table 1: The division of surveyed countries for regional comparison.*

226

227 **Statistical analysis**

228 Characteristics of psychiatry training in European countries were examined by
229 descriptive statistics. All data are presented as median (IQR) unless stated otherwise.
230 Normality of distribution was assessed by examination of quantile-quantile plots (not shown).
231 Differences across the three country groups (pre-2004 EU members, post-2004 EU members
232 and countries with unrecognized qualifications) were performed with nonparametric
233 (Wilcoxon test) and parametric (ANOVA) tests depending on whether the relevant data was
234 normally distributed. Comparisons were performed with pre-2004 EU member countries as
235 the reference group using Dunn method for joint ranking. Switzerland and Norway were again
236 excluded from this analysis. Associations between continuous variables were examined using
237 Spearman correlation analysis. $P < 0.05$ for intergroup comparisons and 0.01 for correlations
238 were considered statistically significant.

239 Statistical data were analyzed with JMP Pro (v14.3).

240

241 **3. Results**

242 **Training and working conditions**

243 Median psychiatry training program duration was 60 months, ranging between 12
244 months in Ukraine and 84 months in Ireland. The UK had the highest (n=2,900) number of
245 trainees. Trainees worked between 35 hours per week (in Belarus, Bosnia-Herzegovina,
246 Bulgaria and Ukraine) and 65 hours per week (in Malta).

247 Net income ranged between €0 in Georgia and €5,000 in Switzerland. In Switzerland,
248 trainees earned 35 times more than their counterparts in Ukraine who also worked eight hours
249 more per week. In North Macedonia, trainees opting for training in the private sector had to
250 pay about €8,000 themselves over five years to receive training.

251 Table 2 provides a summary of the major characteristics of psychiatry training
252 conditions in all surveyed countries.

253

254 ***Table 2: An overview of psychiatry training programs in 42 surveyed countries.***

255

256 Training was nationally standardized (i.e. a single national curriculum) in 34 of the 42
257 countries. There was no training program in Luxembourg and trainees followed the curricula
258 of neighboring countries. Psychiatrists received the title of ‘psychiatrist and psychotherapist’

259 in Austria, Germany, Liechtenstein and Switzerland (German-language speaking countries)
260 that recognized CAP as a separate discipline. In the UK, where six psychiatry specialties
261 exist, the formal term was ‘general psychiatry’ for adult psychiatry. In Belgium, the title
262 specified ‘psychiatrist for adults’ and separately for CAP as ‘psychiatrist for children and
263 adolescents’.

264 **Training structure**

265 A summary of the average proportion of time spent in rotations specified for
266 psychiatry training programs in Europe is provided in Figure 1. Two examples are discussed
267 below:

268 In the UK, psychiatry training provided an example of the ‘common trunk’ or ‘core
269 training’ approach. The six-year training was preceded by a two-year foundation program
270 divided into four-month placements in a variety of specialties. The training was split into two
271 three-year components: core and higher training. Trainees first completed the core training
272 which required at least 12 months in general adult psychiatry; a placement in developmental
273 psychiatry (in CAP or intellectual disability psychiatry); a minimum number of nights on call;
274 assessing a minimum number of patients in emergency settings; and the completion of basic
275 psychotherapy training. To progress to the ‘higher’ training program, trainees completed the
276 membership examinations of the Royal College of Psychiatrists, two written papers and an
277 Objective Structured Clinical Examination (OSCE) test to assess clinical skills. Entry to the
278 higher training level depended on a competitive system in one of the six areas of
279 specialization: general adult, CAP, old age, forensics, intellectual disability or psychotherapy.
280 Dual accreditation was also possible e.g. old age and general adult psychiatry (accordingly
281 longer training period).

282 In Germany, the five-year psychiatry program was distinctly separate from CAP training or
283 training in psychosomatics, which were both offered as separate specializations. There was
284 one compulsory rotation (one year in neurology) with options of one year in CAP or
285 psychosomatics, or six months in internal medicine, general practice, neurosurgery or
286 neuropathology.

287

288 *Figure 1: The mean organization of psychiatry training programs for specialties and*
289 *subspecialties mandatory in the curricula in all countries.*

290

291 **Differences in training programs**

292 CAP was a separate specialization from adult psychiatry in 32 countries. The other 10
293 countries (Azerbaijan, Belarus, France, Georgia, Latvia, Malta, Netherlands, Russia, Slovenia
294 and Spain) recognized CAP as a sub-specialty of psychiatry. One-fifth of the psychiatry
295 placements consisted of rotations in allied/independent specialties, which were mainly in
296 neurology, internal medicine and radiology.

297 In 80% of the countries, experience of up to 18 months in a separate specialty was
298 mandatory. Up to 84% of psychiatry training (44 months) was in adult psychiatry. Rotations
299 in ‘adult psychiatry’ were categorized by subspecialties such as ‘old age psychiatry’,
300 ‘psychosis’, and ‘in/out-patient services’, ‘acute’, ‘prolonged’ or ‘rehabilitation’ psychiatric
301 care or type of hospital (e.g. university hospital). Five countries included psychosomatics
302 placements during a training program. Two countries required rotations in a university
303 hospital (six months in France, three in Hungary); one country (Greece) required six months
304 in the psychiatry ward of a general hospital; and one country (Switzerland) required spending
305 time in a hospital separate from the training institution. In 29 countries, it was compulsory or
306 optional to train in neurology to qualify as a psychiatrist. For 12 countries, rotations reported
307 infrequently were clustered under the category of ‘various’.

308 In many countries, the structure of the curriculum did not reflect the prevalence of any
309 specific psychiatric disorder. For instance, for alcohol use disorders DALYs, Hungary had the
310 second highest percentage (39%) in Europe but its rotation in substance misuse comprised
311 only 5% of the training. Conversely, Estonia with the third-highest percentage for alcohol
312 (35%) plus 11% for substance misuse dedicated 21% of the curriculum towards addiction.

313 The heterogeneity of psychiatry programs is detailed in Table 3.

314

315 *Table 3: Heterogeneity of influential factors on training conditions in the surveyed*
316 *countries.*

317

318 **Regional comparison**

319 Differences in psychiatry training were examined across three different European
320 geographic and political regions (pre-2004 EU members, post-2004 EU members and
321 countries with unrecognized qualifications). The three regions differed significantly in terms
322 of the duration of training (Wilcoxon test χ^2 16.5, $p < 0.001$) and average trainees’ net salary
323 (χ^2 22.9, $p < 0.001$). Trainees in pre-2004 EU member countries earned a significantly higher
324 monthly net salary compared to other European countries (pre-2004 EU members vs post-

2004 EU members $p=0.002$ and vs countries with unrecognized qualifications $p<0.001$; Figure 2). However, the regions did not differ in terms of trainees' reported weekly working hours and the ratio of trainees' net income compared to the average net income in a country.

Psychiatry training was significantly longer in pre-2004 EU countries compared to countries with unrecognized qualifications ($p<0.001$; Figure 2) but not from the post-2004 EU members ($p=0.123$, Figure 2). The number of trainees was also significantly higher in pre-2004 EU member countries (318.2 trainees per 100,000 inhabitants (IQR (median with interquartile range) 222.2; 568)) compared with countries with unrecognized qualifications (IQR 66.7/100,000 inhabitants (IQR 24; 125), $p=0.001$) and post-2004 EU countries (200/100,000 inhabitants (IQR 115; 328.8)).

The duration of psychiatry training correlated significantly with trainees' salary (Spearman's $\rho=0.703$, $p<0.001$) and the number of trainees per 100,000 inhabitants ($\rho=0.615$, $p<0.001$). Trainees' salary also correlated with countries' GDP ($\rho=0.527$, $p<0.001$) and number of psychiatrists ($\rho=0.563$, $p<0.001$) as well as trainees ($\rho=0.684$, $p<0.001$) per 100,000 inhabitants. Finally, the number of trainees per 100,000 inhabitants correlated with a country's GDP ($\rho=0.407$, $p=0.008$) and the number of psychiatrists per 100,000 inhabitants ($\rho=0.488$, $p=0.001$), but not with country population, nor the number of hospital beds per 100,000 inhabitants. Trainees' reported weekly working hours did not correlate with any of the studied variables.

Figure 2: Heterogeneity of major training characteristics among different blocs of European countries.

4. Discussion

The growing gap between mental health care needs and number of psychiatrists and rising migration of skilled professionals has renewed debates about international standardization of psychiatry programs in European countries. This study is the first to describe the working conditions and quality of psychiatry training in 42 countries of the wider European region in an effort to quantify these differences of educational qualifications. Our results show that psychiatry training curricula vary considerably between countries and the emphasis remains on completing a minimum amount of time in training, rather than the acquisition of defined competencies. We also confirmed our hypothesis that significant differences in training conditions exist between countries clustered into geopolitical groups of

357 pre-2004 EU members, post-2004 EU members and countries from the wider European region
358 whose credentials are not recognized in the EU.

359 Differences in salaries, working hours and training conditions combined with freedom
360 of movement and automatic recognition of qualifications are understood as precursors of
361 ‘training tourism’ or workforce migration usually towards pre-2004 EU countries (Pinto da
362 Costa et al., 2017). Previous studies have shown that a lot of patients in the EU (ranging
363 between 33% in Austria and 82% in Malta) are comfortable with the idea of treatment by a
364 physician trained anywhere in the EU (EC, 2011b). On the one hand, this suggests a
365 widespread belief that medical training is standardized across the EU, and on the other hand,
366 completely sidelines psychiatry’s distinctiveness as ‘speaking medicine’ (Galasiński, 2018)
367 since European countries do not share a common language. Language proficiency has been
368 correlated with underutilization of psychiatric services (Ai Ohtani et al., 2015). While native
369 populations might be skeptical about foreign psychiatrists on assumptions that they may not
370 be fully understood, there is also an important lack of psychiatrists fluent in foreign languages
371 that becomes a barrier for migrant populations (Ai Ohtani et al., 2015; Jenkins et al., 2010).
372 Thus, one can anticipate a balance in how migration of psychiatrists with standardized
373 training might close healthcare gaps and increase health equity.

374 **Working conditions**

375 The average salary for psychiatry trainees in pre-2004 EU member countries was four
376 times higher than in countries whose credentials are not recognized and almost 2.5 times more
377 than in countries that joined the EU after 2004. Income is recognized as a major reason for
378 migration within European countries with Switzerland, Sweden and the UK considered
379 attractive destinations for psychiatrists (Giurgiuca et al., 2018; Kilic et al., 2019; Pinto da
380 Costa et al., 2017). This financial factor is significantly relevant for trainees in lower income
381 countries (<€500) but less important for psychiatry trainees in high-income countries
382 (>€2,500), where personal reasons are the most influential drivers of migration (Pinto da
383 Costa et al., 2017). This high migration tendency could improve the opportunities for
384 professionals but exacerbates the mental health treatment gap in donor countries.

385 The minimum official duration of training programs was on average 23 months shorter
386 in countries without automatic recognition of qualifications when compared with the pre-2004
387 EU countries. While the EU stipulates a minimum four-year psychiatry program, the UEMS
388 guidelines recommend a minimum of a five years (UEMS, 2009; WHO, 2018). Even though
389 the national authorities only determine the minimum duration of training, the timeframes for
390 completing the program vary from individual to individual (for example if they have career

391 breaks for parenting or other reasons). Only Azerbaijan, Belarus, Georgia, Russia and Ukraine
392 had stipulated less than four years for national psychiatry programs. Qualifications obtained in
393 these countries are not mutually recognized within EU countries since they do not meet the
394 minimum conditions.

395 Countries which joined the EU before 2004 have the highest number of psychiatrists and
396 trainees, highest salaries and their training programs are more often tailored according to local
397 population needs. For instance, in these countries the mean was one psychiatrist for 6,993
398 people (318.2 trainees per 100,000 inhabitants) compared with one psychiatrist for 10,989
399 people in the newer EU countries (200 trainees per 100,000 inhabitants). In countries with
400 unrecognized qualifications this difference increased further to one psychiatrist for 14,925
401 people (66.7 trainees per 100,000 inhabitants) (WHO, 2014). We expect these differences can
402 be attributed to some extent to the relative differences in average GDPs between the three
403 groups. Countries with higher GDPs are likely to have more money to invest in healthcare
404 systems and, therefore, afford more psychiatrists.

405 **Training structure and differences**

406 Psychiatry curricula have historically been duration-oriented. In the majority of the
407 training programs surveyed, the rotations were defined only by the length of rotation and not
408 by skills-based outcomes despite recent calls for competency-based education (WHO, 2018).
409 Newer curricula increasingly employ a variety of modern educational methods such as
410 simulation techniques, e-learning or blended learning. (Al-Elq, 2010; Casanova Dias et al.,
411 2017; Crawford et al., 2016; EFPT, 2016; Gargot et al., 2020; Jani et al., 2017; Reynolds et
412 al., 2011; Sørensen et al., 2017; Ten Cate, 2017). More evidence is needed to know the
413 advantages, efficacy and economical sustainability of these approaches and their learning
414 outcomes in order to standardize psychiatry training and its harmonization in Europe.

415 Rotations should be available in different branches of mental health services to
416 improve the quality and breadth of training. Europe has the highest proportion in the world of
417 total ill health and premature deaths due to alcohol, and the highest level of alcohol and
418 tobacco consumption in the world (WHO, 2015) but psychiatry training in substance misuse
419 was found to be lacking. Our results corroborate a recent study looking specifically at trainees
420 attitudes, knowledge and training in addiction psychiatry (Orsolini et al., 2020). Similarly,
421 rotations in old-age psychiatry were found to be 15% below the required level. Given the
422 forecast for European ageing patterns, it would be prudent to ensure that psychiatrists are
423 trained adequately in old age psychiatry, including an understanding of comorbidities and

424 treatment interactions. A lack of training was also evident in community-based psychiatry,
425 echoing previous findings (EFPT, 2013). This could have negative consequences in terms of
426 stigmatization of patients, prioritization of more acute psychiatric presentations and a lack of
427 interest in prevention, psychotherapy and recovery techniques.

428 **Towards standardization**

429 The ‘minimum conditions’ for European recognition of psychiatry training were
430 agreed among EU countries about 35 years ago (EC, 2011a). A standardized European
431 competency-based curriculum with innovative training methods needs to be developed with
432 specific timeframes for competencies. Training curricula should be redesigned, to account for
433 the gap between written curricula and practical implementation to meet the needs of the
434 population. Simply adding certain requirements might not bring additional benefits. In the
435 process of harmonization of European curricula it would be wise to take the differences in
436 mental health needs into consideration. Thus, it would be advisable to reserve a proportion of
437 a baseline curriculum, which could be customized according to the particular needs of each
438 country.

439 Future studies will need to assess the relative efficacy of different structures of training
440 (e.g. with CAP as a different specialty or as a sub-specialization) and teaching methods (e.g.
441 e-learning), level of salary and satisfaction with the job, the advantages and pitfalls to have
442 more specialized services in psychiatry. We recommend continuing the evaluation of training
443 across Europe at regular intervals and propose a checklist of variables derived from a
444 descriptive analysis of our data verification process and results. This is intended as a research
445 tool for curriculum planners, trainee associations, trainers, trainees, etc. to compare, quantify
446 and ensure the uniformity of standards of psychiatry programs in Europe (Table 4).

447

448 *Table 4: The Training-24 checklist: recommended checklist on training in psychiatry.*

449 **Limitations**

450 The survey was based on responses from the EFPT delegates. Directly contacting the
451 trainees in every country could improve representativeness and generalizability of data. Some
452 questions were subjective and survey responses could be different from the official figures.
453 Others included a broad range of possible answers, making representativeness more difficult.
454 For example, the questionnaire asked for the average salary including on-call reimbursements
455 and after-tax deductions, which in the UK varies between £31,301 and £47,175 with
456 additional on-call supplement of 20%-40%. This corresponds to a take-home salary of

457 between £2,789 and £3,155 per month (€3,600 in 2014), which is lower than that reported in
458 the survey and used for analysis. In Portugal for instance, trainees receive two extra monthly
459 salaries per year, meaning the real income is higher than reported.

460 Data were collected during 2014-2016 and even though developments on the
461 international front have been minimal, the local situation might have changed in many
462 countries. For example in France, the training was recently divided into three stages with
463 different pedagogical objectives (DGOS, 2017).

464 **Conclusions**

465 Significant variations in postgraduate psychiatry training conditions, structure and
466 content exist among European countries. Although the current European psychiatry training
467 recommendations cannot be enforced at a national level, countries that have been part of the
468 EU longer evidently perform better in terms of training quality and conditions. A European
469 certification for psychiatrists can not only help to create a quality standard for psychiatrists
470 working in the region, but could also serve as a benchmark for national training programs
471 against a clear set of internationally recognized competencies, resulting in further
472 improvements and harmonization of psychiatric training and patient care in Europe.

473 Our study shows that current psychiatry training programs are failing certain patient
474 populations. Future research on the relationship between training programs and population
475 needs is required to determine which deficits are currently most urgent to address and
476 understand why they occur.

477

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