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1 Pathways towards scaling up Problem Management Plus in Turkey: A  
2 Theory of Change Workshop  
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48 [Abstract](#)

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50

51 **Background**

52 A considerable evidence base has been produced in recent years highlighting the effectiveness of brief  
53 scalable psychological interventions for people living in communities exposed to adversity. However,  
54 practical guidance on how to scale up these interventions to wider populations does not exist. In this  
55 paper we report on the use of Theory of Change (ToC) to plan the scale up of the World Health  
56 Organization’s flagship low intensity psychological intervention “Problem Management Plus” (PM+)  
57 for Syrian refugees in Turkey.

58 **Methods**

59 We conducted a one-day ToC workshop in Istanbul. ToC is a participatory planning process used in the  
60 development, implementation and evaluation of projects. It is similar to driver diagrams or logic  
61 models in that it offers a tool to visually present the components needed to reach a desired long-term  
62 outcome or impact. The overall aim of ToC is to understand the change process of a complex  
63 intervention and to map out causal pathways through which an intervention or strategy has an effect.

64

65 **Results**

66 Twenty-four stakeholders (including governmental officials, mental health providers, officials from  
67 international/national non-governmental organisations, conflict and health researchers) participated  
68 in the ToC workshop. A ToC map was produced identifying three key elements of scaling up (the  
69 resource team; the innovation and the health system; and the user organisation) which are  
70 represented in three distinct causal pathways. Context-specific barriers related to the health system  
71 and the political environment were identified, and possible strategies for overcoming these challenges  
72 were suggested.

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74

75 **Conclusion**

76 ToC is a valuable methodology to develop an integrated framework for scaling up. The results highlight  
77 that the scaling up of PM+ for Syrian refugees in Turkey needs careful planning and investment from  
78 different stakeholders at the national level. Our paper provides a theoretical foundation of the scaling  
79 up of PM+, and exemplifies for the first time the use of ToC in planning the scaling up of an evidence-  
80 based psychological intervention in global mental health.

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82 (317 words)

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## 107 Background

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109 A large number of Syrian refugees have sought refuge in Turkey since the onset of the war in Syria in  
110 2011. Turkey now hosts around 3.6 million Syrian refugees and ranks first as host country for Syrian  
111 refugees in terms of its numbers (1, 2). The majority of Syrian refugees live outside camps in  
112 economically deprived urban areas across Turkey (2, 3), while around 300,000 live in camps on the  
113 Syrian border (4).

114 Refugees are often vulnerable to situational forms of psychosocial distress as a consequence  
115 of exposure to war and violence, potentially traumatic events experienced during the individual's  
116 flight from their home country, and exposure to ongoing daily stressors in their new areas of  
117 settlement, such as impoverishment, unemployment, poor living conditions, social isolation and  
118 discrimination (5). Some forms of distress may be situational while others may be more profound and  
119 can manifest in post-traumatic stress disorder (PTSD), depression and/or anxiety disorder (6).  
120 Currently, there are no population wide estimates on the prevalence of mental disorders among  
121 refugees in Turkey. Acarturk et al (7) investigated the prevalence of probable PTSD and depression  
122 among adult Syrians residing in a camp near the Syrian / Turkish border, and reported that around  
123 83% screened positive for PTSD while around 37% screened positive for symptoms of depression. In a  
124 cross-sectional study conducted in a tent city in Gaziantep, Turkey, Alpak et al reported a PTSD  
125 prevalence of 33.5% among Syrian refugees (8). Data from our own cross-sectional survey of Syrian  
126 refugees in Sultanbeyli, Istanbul revealed a prevalence of symptoms of PTSD, depression and anxiety  
127 of 19.6%, 34.7% and 36.1% respectively (9). Variability of prevalence estimates may result from  
128 differences in the conditions in which the respondents were living, and methodological differences  
129 between the surveys (5).

130 Mental health services in Turkey are overseen by the Turkish Government's Ministry of Health  
131 (10). A national mental health action plan was developed in 2011 (11). However, budget limitations  
132 have hampered the integration of mental health into primary and community care, with most care

133 still delivered by psychiatrists, psychologists and other mental health professionals at the tertiary and  
134 secondary care level (12). This form of treatment might be beneficial for more serious cases of mental  
135 disorders, and for Turkish residents as treatment is delivered in Turkish. Registered Syrian refugees  
136 can formally access the public mental health care health system in Turkey but need to speak Turkish  
137 or have an interpreter available in order to benefit from treatment. Structural and attitudinal barriers  
138 to accessing the public health care system have been reported for refugees, resulting in unmet need  
139 and a large mental health treatment gap for Syrian refugees in Turkey (9, 13). Culturally and  
140 linguistically sensitive health services are provided to Syrian refugees through 178 refugee health  
141 centres established as part of the WHO Refugee Health Programme (14). These centres are not part  
142 of the formal public health care system but are community centres where Syrian doctors provide care  
143 for Syrian patients (15); these centres also serve as gateways to health care for Syrian refugees (14).  
144 There is also a range of nongovernmental organisations (NGOs) involved in provision of mental health  
145 and psychosocial support activities for Syrian refugees in Turkey(16, 17). However, there remains a  
146 need for evidence-based, community-based interventions for Syrian refugees in Turkey which  
147 addresses Syrian refugees' mental health needs in a culturally relevant and scalable way.

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#### 150 **Problem Management Plus (PM+) in Turkey**

151 Problem Management Plus (PM+) was designed by the World Health Organization (WHO) for adults  
152 impaired by distress in communities exposed to adversity (18, 19) (20, 21), and is currently being  
153 adapted for Syrian refugees residing in countries neighbouring Syria, including Turkey (22). PM+ is a  
154 transdiagnostic intervention (i.e., not condition-specific) to reduce common mental health symptoms  
155 such as anxiety, depression and posttraumatic stress and to improve psychosocial functioning. PM+ is  
156 a 5-session intervention, comprised of evidence-based techniques for problem solving, stress  
157 management, behavioural activation, and accessing social support. (19) In South Turkey, the WHO  
158 organized 'trainings for trainers' in PM+ for Syrian mental health professionals who subsequently

159 trained psychosocial workers providing individual PM+ for Syrians in North East Syria and South  
160 Turkey. In Sultanbeyli/Istanbul, PM+ is provided to Syrian refugees in a group setting. Group PM+  
161 providers are female and male peer-refugees with a background in health care, social work or  
162 community care who receive eight days of training, followed by three practice cases, on-the-job  
163 training, and close supervision during implementation delivery. PM+ trainers/supervisors are licensed  
164 mental health care professionals such as psychologists or psychiatrists.

165

### 166 **Objective of this paper**

167 The last decade has seen a rise in the development and evaluation of low-intensity psychological  
168 interventions (23). Many have proven effectiveness for improving mild to moderate mental health  
169 symptoms; however, population-level coverage remains low, due to a range of implementation  
170 challenges related to limited adoption in policies and strategies, insufficient resource allocation,  
171 competing national interests, and a lack of planning and guidance regarding how to take psychological  
172 interventions to scale (24, 25). In this paper we test the use of Theory of Change (ToC) to plan the  
173 scaling up of a low-intensity psychological intervention. ToC is a participatory planning process used  
174 in the development, implementation and evaluation of projects (26). To the best of our knowledge,  
175 ToC has not been applied to scaling up public health interventions yet. The aim of this paper is to  
176 present the ToC map for scaling up group PM+ in Turkey. Our objectives were to (a) investigate the  
177 use of ToC methodology in planning the scale up of PM+ for Syrian refugees in Turkey; (b) to explore  
178 context-specific pathways of scaling up PM+ for Syrian refugees in Turkey; and (c) to identify barriers  
179 and facilitators to scale up.

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## 183 Methods

184 We conducted a one-day ToC workshop on 8 November 2018 in Istanbul, Turkey. Twenty-four  
185 stakeholders participated in the workshop (10 national and international academics and mental  
186 health/conflict researchers from universities in Turkey, the United Kingdom and the Netherlands; 10  
187 staff from national and international NGOs such as UNHCR, Relief International Turkey, War Trauma  
188 Foundation, International Blue Crescent; three psychiatrists and psychologists from local hospitals and  
189 community centres, and one government official from the Ministry of Health in Ankara). At the  
190 beginning of the workshop, PM+ was introduced to external stakeholders who were not involved in  
191 developing and adapting PM+ in Turkey. This was followed by a presentation of results from formative  
192 research and the PM+ pilot trial in Turkey. A short introduction to scaling up innovations and the  
193 concept of ToC was provided to participants. The ToC workshop and the development of the ToC map  
194 was informed by the ExpandNet framework of scaling up health service innovations (25, 27, 28).

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196

### 197 **Scaling up interventions**

198 The literature offers a number of frameworks and theories of how interventions can be taken to scale  
199 (25, 27-34). Perhaps the most comprehensive framework and systematic approach for implementers  
200 is the WHO ExpandNet framework of scaling up(25, 27) which understands scaling up as “*deliberate*  
201 *efforts to increase the impact of health service innovations successfully tested in pilot or experimental*  
202 *projects so as to benefit more people and to foster policy and programme development on a lasting*  
203 *basis*” (35). Compared to other frameworks, the WHO ExpandNet framework elaborates on the  
204 necessary elements of scaling up and the attributes of success (25), and offers practical guidance on  
205 how interventions can be taken to scale (28). The WHO ExpandNet framework understands scaling up  
206 as an open system of five elements: (1) the innovation, (2) the resource organisation or resource team,  
207 (3) the user organisation, (4) the environment, and (5) the scaling up strategy. The innovation refers  
208 to the intervention which is being scaled up. The resource team provides guidance and technical



209 assistance to the deliberate efforts to utilise the innovation at scale. The resource team can include  
210 different stakeholders such as researchers but also personnel from the organisation that seeks to  
211 adopt the innovation such as governmental officials. The user organisation refers to the institutions  
212 or organisations that are expected to adopt and implement the innovation at scale, such as the public  
213 health system, NGOs, the private services or any combination of other services or institutions. The  
214 WHO ExpandNet framework defines the environment as external barriers or facilitators which can  
215 promote or hamper the scale up, such as local or national policies, bureaucratic structures, the health  
216 sector, socio-economic or cultural constraints, as well as people's needs and rights. Finally, the scaling  
217 up strategy is understood as plans and actions for scaling up including the means by which the  
218 innovation is communicated, disseminated, transferred or promoted (36). The WHO ExpandNet  
219 framework suggests that scaling up of an intervention should be planned through a participatory  
220 process with key stakeholders (25, 27), however, it does not suggest a theory or methodology of how  
221 to do this.

222

### 223 **Theory of Change**

224 ToC has been used in global mental health, specifically during formative research to conceptualise the  
225 delivery of mental health programmes (37, 38) but also to plan the implementation of mental health  
226 care plans and services (39, 40). ToC is similar to driver diagrams or logic models in that it offers a tool  
227 to visually present the components needed to reach a desired long-term outcome or impact. However,  
228 in contrast to driver diagrams or logical models, it allows feedback loops and shows how different pre-  
229 conditions interact with each other (38). The overall aim of ToC is to understand the change process  
230 of a project and to map out causal pathways by presenting the sufficient preconditions (called  
231 "*intermediate outcomes*" for the remainder of this paper) which lead to the desired "*long-term*  
232 *outcome*" or envisaged "*impact*" the project intends to achieve (26). Long term outcomes are the final  
233 and measurable outcomes that the project can achieve on its own, whereas impact refers to the  
234 change or real-world impact the project envisages to contribute towards (38). The impact is behind

235 the ceiling of accountability: the level at which implementers stop measuring whether outcomes of  
236 the project have been achieved, and therefore stop accepting responsibility (26, 41). ToC requires  
237 stakeholders to think about “assumptions” and “interventions” as well. Assumptions are external  
238 conditions which must exist for the intermediate outcome on the causal pathway to be achieved,  
239 whereas interventions are strategies or activities that bring about intermediate outcomes (26, 38, 41).

240 The causal pathways of scaling up PM+ for Syrian refugees in Turkey was developed together  
241 with stakeholders in our one-day participatory workshop, and was further contextualised and finalised  
242 afterwards through small group discussions with Turkish researchers and mental health professionals.  
243 Assumptions and interventions of the ToC map were informed by the results of the formative research  
244 and pilot phase in Turkey as well as qualitative data assessing the responsiveness of the Turkish mental  
245 health system. These data will be published elsewhere.

246

## 247 Results

248 The ToC map is presented in Figure 1 alongside a legend describing interventions, assumptions,  
249 rationale, and indicators. The ToC map should be read from left to right. Three key elements of scaling  
250 up were identified (the resource team; the innovation and the health system; and the user  
251 organisation) which are represented in three distinct causal pathways. Thirteen interventions  
252 (intervention 1-13) and 20 assumptions (assumption A-T) were identified by stakeholders. In addition,  
253 intermediate outcomes were supported by 10 rationales (rationale a-j). Key assumptions and  
254 interventions are included in the description of the causal pathways further below. Please refer to the  
255 legend for the complete list of assumptions, interventions and rationales.

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261 <Place figure 1, and legends here>

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265 **Pathways to scale up**

266 The three pathways to scale up led to five long-term outcomes and an envisaged impact (shown on  
267 the right-hand side of the ToC map). Stakeholders identified “Reduced burden of psychological distress  
268 and reduced symptoms of depression, anxiety and PTSD among Syrian refugees in Turkey” as the  
269 vision or impact that the scaling up of group PM+ may be able to contribute towards. Long term  
270 outcomes apply to the population and the health system in the district/region in which PM+ is being  
271 scaled up. Five long term outcomes were identified: Reduced symptom severity among Syrian  
272 refugees; improved psychosocial functioning and quality of life among Syrian refugees; reduced  
273 acculturation stress of Syrian refugees facilitating integration into host communities; increase in  
274 service use and effectiveness coverage; and increased number of human resources for mental health.  
275 Indicators have been developed for these long-term outcomes which can be used to measure success  
276 of the scale up strategy in the region where it will be scaled up. These indicators are outlined under  
277 Figure 1 (see box “indicators”).

278

279 *Resource team pathway*

280 The resource team was perceived as an important pillar of the scaling up strategy. ToC workshop  
281 participants argued that the resource team should comprise of the Ministry of Health, Ministry of  
282 Social and Family Affairs, key NGOs and the Turkish researchers (see assumption C) who developed  
283 and adapted PM+ in Turkey. An early intermediate outcome to the resource team’s pathway is  
284 leadership within the resource team. Leadership was thought to be provided by the Ministry of Health  
285 or other governmental bodies that have the necessary political power to bring about sustainable  
286 funding. It was further argued that sustainable funding should be based upon policy documents

287 outlining reforms for system's change. A key assumption on this pathway was that the innovation  
288 must be supported by senior government officials, and that there is a champion within the  
289 government who advocates for change (assumption A). For scale up to happen stakeholders perceived  
290 a need for the government to initiate changes at the legal, institutional and political levels to ensure  
291 additional financial resources are leveraged (intervention 5).

292

### 293 *Innovation pathway*

294 The second pathway to scale up is the innovation pathway and focuses on the PM+ intervention itself.  
295 It understands scalability of PM+ (i.e. effectiveness of PM+, its wider population reach, and adoption)  
296 as an essential pre-requisite before PM+ can be rolled out. Stakeholders noted that PM+ should build  
297 on a resilient health system. For successful integration, PM+ should be nested in a health service  
298 structure which is functioning well and able to assimilate new organisational arrangements like  
299 collaborative stepped care. In a collaborative stepped care model, PM+ would be understood as first  
300 treatment step for mild or moderate mental disorders. Due to the health service structure in Turkey,  
301 and the need to deliver interventions to Syrian refugees in a cultural relevant way, refugee health  
302 centres were identified as preferred delivery platform for scale up. Screening was suggested to take  
303 place in either refugee health centres or primary health care while PM+ itself would be offered by  
304 Syrian lay health providers in refugee health centres only. Individuals displaying clinical worsening or  
305 serious mental disorders such as psychosis would not receive group PM+ but would be referred to  
306 tertiary care or other community health care centres for appropriate treatment. A few assumptions  
307 around the health system were underlying this pathway; for example, it was assumed that the health  
308 system and its staff are responsive to the needs of Syrian refugees and support change (assumption  
309 M); that a structured referral mechanism would be in place (assumption G); that an increase in  
310 referrals to tertiary care would be absorbed by the public health system (assumption H), and that  
311 translators would be available in secondary or tertiary care to guide Syrians through treatment  
312 (assumption J).

313 *User organisation(s) pathway*

314 The third pathway refers to the user organisation. Participants of the ToC workshop suggested refugee  
315 health centres as user organisation which should offer and implement PM+. A leadership structure  
316 between the Ministry of Health and the refugee health centres was considered essential for success.  
317 Another key requirement was for refugee health centres to have both the capacity and expertise to  
318 implement PM+. Refugee health centres were suggested to work through community leaders and  
319 NGOs to recruit Syrian lay health care providers for treatment delivery. ToC workshop participants  
320 assumed that one refugee health centre would be appointed to take overall responsibility for  
321 managing scaling up of PM+ in the site where it will be scaled up, and that this lead organisation would  
322 also report and update the resource team on progress being made (assumption D).

323 Finding enough Syrian lay PM+ providers was an issue discussed extensively. It was suggested  
324 that refugee health centres work with community leaders and NGOs to identify a sufficient number of  
325 lay health care providers to meet treatment demand (intervention 6). Another key assumption was  
326 the availability of mental health specialists to supervise lay providers (assumption Q), and that those  
327 delivering PM+ would get some form of reimbursement (in form of a stipend or salary) for their work  
328 (assumption S). To support the uptake of PM+, refugee health centres would need to raise community  
329 awareness about the intervention and mental disorders (assumption 11) and foster positive attitudes  
330 and trust in non-specialised health care among Syrian refugees (assumption 10).

331 A key intervention was suggested between the resource team and the user organisation: the  
332 resource team was thought to be responsible to strengthen implementation capacity of refugee  
333 health centers through provision of skills training, personnel and logistics to deliver PM+, and was  
334 thought to be in the best position to train the trainers of PM+ (intervention 2). Both the resource  
335 team, and the refugee health centers would be required to monitor quality and accountability of the  
336 scale up, and follow a thorough monitoring and evaluation plan (intervention 4).

337

338

## 339 Discussion

340

341 To the best of our knowledge, this is the first paper which reports the use of ToC in planning the scale  
342 up of a public health intervention. Scaling up of evidence-based interventions is essential to overcome  
343 the mental health treatment gap. Unfortunately, we are still far from reaching that goal (24). Evidence-  
344 based interventions to improve mental health outcomes are available; however, they need to be  
345 implementable in the community or primary health care for coverage to be expanded. Barriers to  
346 successful integration and scale up are known and include low acceptability, appropriateness, and  
347 programme credibility from patient and provider; lack of knowledge and skills of the provider; poor  
348 motivation to change (provider and health system); poor management and/or leadership; and lack of  
349 financial resources (23, 42). Some of these barriers can be overcome during intervention development  
350 by conducting comprehensive formative research with patients, providers and key stakeholders  
351 regarding the acceptability, feasibility and likely sustainability of the intervention.

352

### 353 **Importance of the ToC workshop in Turkey**

354 We found several advantages of exploring the scale up of PM+ using ToC. First, scaling up is a process  
355 which is not neutral (35), and usually involves balancing the conflicting interests of different  
356 stakeholders. ToC helped us develop an integrated framework for scaling up PM+ in Turkey by  
357 engaging with key stakeholder groups in national/local government, NGOs, and Syrian refugee health  
358 care clinics who had provided different perspective and knowledge of the local health system and  
359 socio-political context. The structured working approach of ToC and the guidance received by the ToC  
360 facilitator who was neutral to the development of the ToC map supported allowing ToC participants  
361 to discuss critical issues in an equitable way. Second, the ToC workshop also provided opportunities  
362 for participants to discuss potential health system bottlenecks, and institutional, operational and  
363 political barriers to scaling up. Facilitators to overcome some of these barriers (i.e. interventions) were

364 then suggested. Third, the ToC map highlighted the complexity of scaling up PM+ to local stakeholders,  
365 and the importance of early planning and engagement.

366

367 A critical issue for ToC workshop participants was the platform of care where PM+ would be delivered.  
368 PM+ delivery was suggested through refugee health centres rather than NGOs or primary health care.  
369 Currently, refugee health centres receive financial support from the government and the European  
370 Union (43, 44). Implementation through refugee health centres was thought to be more sustainable  
371 compared to implementation by NGOs as NGOs may operate on a time-limited budget. Moreover,  
372 work permission of NGOs is reviewed annually by the Turkish government. Implementation of PM+  
373 through primary health care was also not considered feasible as Syrian doctors or nurses are not  
374 allowed to work in the public health system in Turkey (45) so that PM+ would have to be delivered in  
375 Turkish by Turkish providers. Treatment delivery by a foreign provider who does not speak the mother  
376 tongue of the patient has been found to be a barrier to mental health treatment seeking and  
377 continuation (46, 47). Refugee health centres were therefore thought to be the most viable option.  
378 Syrian medical doctors receive training from Turkish providers before being able to work in refugee  
379 health centres, and this includes trainings with materials from the mental health Gap Action  
380 Programme (mhGAP)(48). The mhGAP Intervention Guide recommends brief psychological  
381 treatments for depression or posttraumatic stress disorder such as PM+ for mild or moderate  
382 symptoms(48). However, currently no evidence-based manualised psychological interventions are  
383 being offered in refugee health centres, which limits the implementation of mhGAP guidelines by  
384 Syrian providers. The implementation capacity of refugee health centres remains key and is an  
385 essential intermediate outcome on the causal pathway to scale up PM+. To address limited staff  
386 capacity, PM+ could be offered in selected refugee health centres to which Syrian refugees with  
387 mental health problems would be referred. The government would have to make an additional  
388 investment in those refugee health centres, and equip them with additional funding to support a core  
389 team working exclusively on PM+. Scaling up PM+ through refugee health centres relies on a good

390 working relationship and collaboration with the public health system as more serious cases of mental  
391 disorders would then need to be referred to higher intensity treatment in the public health care  
392 system.

393

394

### 395 **Limitations**

396 Our paper has a number of limitations. First, the ToC map is built upon a hypothetical scenario as the  
397 scalability of PM+ in Turkey has not yet been determined; the trial in Turkey is currently ongoing, with  
398 results expected by December 2021. Second, we developed indicators for long-term outcomes only,  
399 as the ToC map will not yet be used to monitor or evaluate the success of the scaling up pathways.  
400 We also suggest that our indicators for long-term outcomes be made more specific once a region for  
401 scaling up PM+ has been selected. These indicators should then be time-related, specifying when  
402 results be achieved. Third, we were unable to involve patient user groups in our ToC workshop. Patient  
403 user groups could have provided additional insights into the implementation of PM+ during scale-up  
404 which may not have been captured by stakeholders who were present at the workshop. However,  
405 patients have been interviewed in the formative research phase in Turkey, and findings of these  
406 qualitative interviews informed the development of the ToC map. Fourth, ToC is a methodology to  
407 map out how change occurs and outlines the sufficient and essential intermediate outcomes. It does  
408 not investigate the reasoning behind the change process itself and this could be further investigated  
409 through in-depth qualitative research. Finally, we did not discuss the scaling up strategy as such. The  
410 scaling up strategy is understood as “plans and actions for scaling up including the means by which  
411 the innovation is communicated, disseminated, transferred or promoted” (25). Stakeholders at the  
412 government and other key stakeholders such as the ones who participated in the ToC workshop may  
413 want to discuss details of the scaling up strategy once the framework of scaling up has been finalised.

414

415



## 416 [Conclusions](#)

417 Research results, such as from randomised controlled trials, are rarely sufficient to change service  
418 structures, and it can take a long time for evidence-based interventions to be implemented on a large  
419 scale (25). We found ToC a particularly useful exercise to discuss the potential scale up of PM+ for  
420 refugees in Turkey, and will test its use for planning the scale up of PM+ in other sites in the future.  
421 Early planning and engagement of key stakeholders is essential to pave the way for scaling up an  
422 evidence-based intervention. With the help of ToC, we were able to provide a framework of scaling  
423 up PM+ which can be further adapted by stakeholders once the (cost-)effectiveness and reach of the  
424 PM+ trial in Turkey is known.

425

## 426 [List of abbreviations](#)

427

428 ToC – Theory of Change

429 PM+ - Problem Management Plus

430 WHO – World Health Organization

431

## 432 [Declarations](#)

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