

# Recruitment and Retention of the Rural Podiatry Workforce in Aotearoa New Zealand: A Qualitative Descriptive Study of Podiatrist Perceptions

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## Research Article

**Keywords:** Podiatry, rural workforce, workforce recruitment, workforce retention

**Posted Date:** March 21st, 2022

**DOI:** <https://doi.org/10.21203/rs.3.rs-1447866/v1>

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1 **Recruitment and retention of the rural podiatry workforce**  
2 **in Aotearoa New Zealand: a qualitative descriptive study**  
3 **of podiatrist perceptions**

4

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## 22 **Abstract**

### 23 **Background**

24 Past research into the Aotearoa New Zealand (NZ) podiatry workforce has indicated a  
25 shortage of podiatrists, particularly in rural NZ. However, there has been no research  
26 investigating the characteristics of the NZ rural podiatry workforce. This study aimed to  
27 explore the factors which contribute to recruitment and retention of primary care podiatrists  
28 in rural NZ.

### 29 **Methods**

30 A qualitative descriptive approach was implemented for data collection and analysis. Semi-  
31 structured interviews were conducted with 15 podiatrists who currently, or previously, worked  
32 in a rural podiatry practice. Manifest content analysis was used to analyse participant's  
33 responses. A deductive approach was used where data were identified and coded according  
34 to predetermined themes from the literature.

### 35 **Results**

36 Four themes that influenced recruitment and retention were derived from the interviews: (1)  
37 professional factors, (2) economic factors, (3) social factors, and (4) external factors.  
38 Interviews revealed that clinical inexperience, a sole practice environment, professional and  
39 social isolation, and workload pressures combined to affect recruitment and retention. Strong  
40 community bonds, family ties, and a rural background were crucial to thrive in the rural  
41 setting.

### 42 **Conclusion**

43 A sustainable rural podiatry workforce is required to reduce health disparities that exist in NZ  
44 rural communities. The study identified that most practitioners entered the rural workforce  
45 into self-employed positions, often shortly following graduation from university. They soon  
46 reported feelings of professional isolation due to limited support networks. Practitioners

47 established in the rural workforce noted significant workload stresses. Stresses stemming  
48 from an inability to source locums, take time away from work, or recruit new staff to fill  
49 vacant positions. Research examining support mechanisms for inexperienced practitioners  
50 and targeted strategies to grow the rural workforce and reduce attrition is required.

51

## 52 **Keywords**

53 Podiatry, rural workforce, workforce recruitment, workforce retention

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## 55 **Background**

56 The estimated population of Aotearoa New Zealand (NZ) as of December 2021 was 5.12  
57 million people (1). One in four New Zealanders live in a rural area, with a greater percentage  
58 of children, older people, and Māori (the indigenous people of NZ) living rurally (1). In  
59 general rural communities have a lower socioeconomic demographic compared with urban  
60 areas, and the poorest access to health services (1, 2). Indeed, the health status of rural  
61 communities is reported to be poorer than that of their urban counterparts (3).

62

63 Workforce recruitment (identifying and filling staffing requirements) and retention (a measure  
64 of workforce length of stay) are key issues for the rural health workforce, and important to  
65 the long-term sustainability of rural healthcare systems (2, 3). The ability of the NZ health  
66 sector to deliver services rurally is stretched, with health workforce shortages frequently  
67 articulated (4, 5). Workforce shortages result in service gaps, manifesting to create health  
68 inequities (6, 7). In NZ rural communities health inequities between Māori and non-Māori are  
69 most evident (8). Across age groups and health conditions, rural Māori have higher mortality  
70 and morbidity, and lower life expectancy (9).

71

72 Many NZ health providers find recruitment and retention difficult. For health providers in rural  
73 settings the challenges are even greater, with fewer applicants and shorter tenures (10).  
74 Previous work in Australia has shown that sourcing future workers from a rural background,  
75 coined the 'rural background effect' (11), is a strong predictor of future entry into rural  
76 practice (12). Additionally, a desire for a rural lifestyle, being connected to the community, an  
77 enjoyable patient base, and the autonomy offered by the nature of rural work are factors  
78 shown to positively influence rural health workforce recruitment and retention (13, 14).  
79 Conversely, poor matching of people to positions, excessive travel, issues with leave and  
80 locum access, professional isolation, increased workload, limited access to continuing  
81 professional development, limited job opportunities for partners, difficulties in building a  
82 social and professional network, and insufficient supervision are factors linked to poor  
83 retention within rural health workforces (13-17).

84

85 There is currently limited research that has investigated the sustainability of the NZ podiatry  
86 workforce. Carroll et al concluded that the NZ podiatry workforce is in crisis and  
87 demonstrated there were a smaller number of podiatrists working outside of major urban  
88 cities (Auckland, Wellington, Christchurch) (18). However, this research provided no insight  
89 into the rural workforce. Accordingly, the aim of this study was to explore the factors which  
90 contribute to recruitment and retention of rural podiatrists in NZ.

91

## 92 **Methods**

93 This research used a qualitative descriptive approach with semi-structured interviews to gain  
94 insight into rural primary care podiatrists' views around recruitment and retention of rural  
95 podiatrists in NZ (19). Participants were registered podiatrists with current or prior  
96 experience working in a rural podiatry practice. As there is no consistent agreed definition of  
97 rurality (22), potential participants self-identified as working/having worked rurally. An email

98 invitation to participate was sent by the Registrar of the Podiatrists Board of NZ (PBNZ) and  
99 an advertisement was posted on the NZ Podiatry Alumni Facebook page. Eligible  
100 participants were then purposively selected to achieve diversity across the following  
101 characteristics: gender, age, practice background (rural or urban) and place of podiatry  
102 education. Ethical approval was granted by the Auckland University of Technology ethics  
103 committee (AUTEK) 20/166.

104

105 Interviews were conducted via video conferencing (Zoom) or telephone by one researcher  
106 (EB). All interviews were recorded, with verbal consent obtained prior to recording, and were  
107 between 45 and 80 minutes in duration. Interview questions (**Additional File 1**) were based  
108 on previous work relating to rural recruitment and retention of healthcare workers in Australia  
109 (7). Questions were broad and open-ended to gain a rich description of participant's  
110 thoughts, feelings, and experiences.

111

112 Data collection and analysis occurred simultaneously. As such dialogue from participant  
113 interviews influenced subsequent interviews and data analysis. Interviews continued until  
114 information power was reached (20). Information power was determined by items such as  
115 study aim, sample specificity, use of established theory, quality of dialogue and analysis  
116 strategy (20). Audio recordings were transcribed verbatim prior to analysis. To ensure  
117 accuracy, each transcript was listened to repeatedly, and accompanying transcripts were  
118 read and re-read to immerse the researcher in the data. Manifest content analysis was used  
119 to analyse the participant's responses (21). Analysis was undertaken by one researcher (EB)  
120 using a three-step process: preparation, organisation, and reporting (22). A deductive  
121 approach was used where data were identified and coded according to predetermined  
122 themes from the literature: economic, professional, social, and external factors. Supporting

123 excerpts from transcripts accompanied each category to represent the truthfulness of the  
124 data.

125

## 126 **Results**

127 Eleven females and four males participated in this study. There was diversity across age,  
128 gender, and geographical location (**Table 1**).

129 **Table 1** Participant demographics and number for reference and attribution of quotations

<b>Participant number</b>	<b>Gender</b>	<b>Age range</b>	<b>Workplace setting</b>	<b>Geographic location</b>
<b>P01</b>	Male	30-55	Rural	North Island
<b>P02</b>	Male	30-55	Rural	North Island
<b>P03</b>	Female	30-55	Rural	South Island
<b>P04</b>	Female	55+	Urban <sup>†</sup>	North Island
<b>P05</b>	Female	55+	Urban <sup>†</sup>	South Island
<b>P06</b>	Female	30-55	Rural	South Island
<b>P07</b>	Female	30-55	Rural	North Island
<b>P08</b>	Female	30-55	Rural	North Island
<b>P09</b>	Male	30-55	Rural	North Island
<b>P10</b>	Female	<30	Rural*	North Island
<b>P11</b>	Female	<30	Rural	North Island
<b>P12</b>	Female	55+	Rural	South Island
<b>P13</b>	Female	55+	Rural	South Island
<b>P14</b>	Female	55+	Rural	South Island
<b>P15</b>	Male	55+	Rural	South Island

130 \*now left profession, † started in rural practice

131 The qualitative analysis revealed themes consistent with previous work; economic,  
132 professional, social, and external factors.

### 133 **Theme 1 – Economic factors**

134 Economic factors were specifically related to the influence of remuneration. Most participants  
135 felt that remuneration in rural areas was either the same as what they could earn in an urban  
136 centre, or slightly better:

137 *“I was paid [more] because it was not an Auckland job” (Male, age 30-55, P12).*

138 For some the opposite was true, especially in allowing for travel time and set up of rural  
139 clinic locations:

140 *“In a rural area, you put many more hours in than you actually are getting paid for” (Female,*  
141 *age 30-55, P03).*

142 Whilst higher remuneration was an incentive, some employers felt that other factors were  
143 more important when assessing a candidate's suitability for a role:

144 *“Remuneration is great but if that was a driving force [for working rurally] then I’d be a bit*  
145 *nervous” (Male, age 30-55, P01).*

146 Indeed, one participant stayed longer in their rural employment based on a wage incentive to  
147 do so:

148 *“I wanted to leave but then was offered more money to stay in this rural location” (Male, age*  
149 *30-55, P12).*

150

## 151 **Theme 2 - Professional factors**

152 Professional factors encompassed career progression, workload and type, career fulfillment  
153 and interprofessional relationships. Moving into work in a rural location straight from  
154 university was common:

155 *“I applied for lots of jobs, basically and... I was offered a few around the country...and*  
156 *we liked the area... I grew up rurally so I’m used to it” (Female, age 30-55, P06).*

157 However, participants also sought to grow their experience before moving to rural practices:

158 *“So I was very lucky, I worked over two years, in three different practices all quite*  
159 *different and had some really good experiences... and then I returned to New*  
160 *Zealand after that and set up my own practice [rurally] and felt very confident*

161 *because I had worked in all these other practices and took the best of what I found”*  
162 *(Female, age 55+, P05).*

163 Those who came into the rural location with previous work experience often began work as  
164 self-employed podiatrists:

165 *“I was keen to work for myself, and have my own practice, and shape it” (Male, age*  
166 *30-55, P01).*

167 The decision to become self-employed was based on the ease of finding work, due to a  
168 shortage of rural podiatrists:

169 *“One [rural clinic] came about because no one else wanted to do it... and I didn’t*  
170 *mind a day at the beach” (Male, age 30-55, P02).*

171 Difficulties associated with the nature of working in a rural environment were identified:

172 *“You can’t just leave that day... whatever happens that day has to be dealt with that*  
173 *day, because you’re in another place the next day [and] if somebody is driving for an*  
174 *hour and a half to see you, you can’t say oh just come back tomorrow” (Female, age*  
175 *30-55, P03).*

176 Professional isolation was commonly reported:

177 *“It’s quite a lonely profession, especially when you are doing it on your own... It’s*  
178 *really nice when we get together out of work hours... because who else do you talk*  
179 *to?” (Female, age 55+, P12).*

180 High workload was commonly highlighted and attributed to the small numbers of podiatrists  
181 in the rural workforce:

182 *“There’s not enough podiatrists in the area. Not even close... the more podiatrists in*  
183 *the area the less pressure on me!” (Female, age 55+, P06).*

184 Inability to source locum podiatrists compounded workload pressures:

185           *"I never really went away... any time I had off I worked around Christmas or long*  
186           *weekends... I've never had the terror of trying to find a locum (Female, age 55+,*  
187           *P14).*

188   Despite working in isolation and high workloads most participants did not try to recruit other  
189   podiatrists to work with them:

190           *"I don't employ because I could only offer one or two days, and no-one would*  
191           *relocate for such a small amount of work. I'm too busy for just me, but not busy*  
192           *enough to justify employing someone full time" (Male, age 30-55, P02).*

193   Of the few participants who did employ, finding podiatrist's to fill positions was difficult:

194           *"[We've been] advertising for two years and haven't had anyone apply... I never had*  
195           *any trouble in Auckland hiring anyone... but it's different here, there's just not anyone*  
196           *to even pass the work on to (Female, age 55+, P12).*

197   The difficulty in recruiting new podiatrists was linked to too few graduates entering the  
198   workforce:

199           *"The shortage has to be addressed at the beginning" (Female, age 55+, P12)*

200   The location of the podiatry school (in Auckland) was identified as a barrier to encourage  
201   people from a rural background to train as a podiatrist:

202           *"If it was somewhere more central, not Auckland, Auckland is too expensive"*  
203           *(Female, age 55+, P12).*

204   Difficulties retaining employees were also identified by rural employers:

205           *"I had six podiatrists (including two new graduates) in the last year – one lasted 12*  
206           *months, one lasted 13 and I put hours and hours into helping them" (Female, age <*  
207           *30, P10).*

208 Of the participants who continue to practice in rural podiatry, all discussed career fulfilment  
209 gained from their interpersonal relationships with patients:

210 *“I love the people. They appreciate me, they want to get better, its relaxed and*  
211 *comfortable and I feel like I’m giving something back – and I didn’t get that in my*  
212 *urban practice” (Female, age 55+, P14).*

213 The variety offered through rural podiatry clinics was also a central driver of professional  
214 fulfilment:

215 *“In the city practices people tend to find niches but here you can do a bit of*  
216 *everything” (Male, age 30-55, P01).*

217 Whilst working with other podiatrists is often not possible for rural practitioners, many  
218 participants felt the close-knit nature of rural healthcare was a positive factor of rural podiatry  
219 practice:

220 *“It's one of the strengths of our community, is that we are very well connected [sic].*  
221 *The referral pathways are very close... the patient's journey is... very efficient... and*  
222 *in terms of learning, we can get you in observing orthopedic surgery and having time*  
223 *with other specialists... is one of the advantages” (Male, age 30-55, P01).*

224

### 225 **Theme 3 - Social factors**

226 Social factors included the influence of rural background, family needs, and community  
227 affiliations. The majority of participants came from a rural background or had family  
228 connections in the rural area they chose to work in:

229 *“That was where my family was... this became my new home” (Male, age 30-55,*  
230 *P01).*

231 *“I’m not a city person... I’m a rural person and I’m close to my family” (Female, age*  
232 *55+, P14).*

233 However, difficulties were identified for those transitioning into a rural location by  
234 themselves, having moved away from family:

235 *“I’m not near family, and that’s hard” (Female, age 30-55, P07).*

236 *“There are lots of things that are attractive about rural areas, the people, the lifestyle*  
237 *etc., but it is extremely hard because you are on your own” (Female, age <30, P11).*

238 Some moved into rural locations, and consequently rural practice, due to their partner’s  
239 work:

240 *“Me and my partner can both get jobs, that pay the same anywhere, but it is way*  
241 *cheaper to buy a house here” (Female, age <30, P11).*

242 Conversely, participants identified that low recruitment rates of podiatrists to rural areas was  
243 attributable to a lack of employment opportunities for partners:

244 *“To move (rurally) if you are single is easy, if you are married, there are no jobs for*  
245 *your partner” (Female, age <30, P11).*

246 Whilst some participants viewed rural educational opportunities for children to be superior to  
247 urban areas, others discussed this as a difficult transition, with one family relocating to an  
248 urban centre for a specific school:

249 *“I work rurally, but we live [more urban] because of [our children’s schooling]”*  
250 *(Female, age 30-55, P08).*

251

#### 252 **Theme 4 - External factors**

253 External factors related to the influence of population age, location, travel, and occupational  
254 safety. The composition of the community may be difficult for some practitioners who are

255 new to a rural area. One participant cited lack of younger people as a barrier to recruiting  
256 new graduates into rural podiatry:

257 *“We do have a void, a vacuum of people of 18-22 in this community and I don’t think*  
258 *that is unusual as they are off on OEs or at uni” (Male, age 30-55, P01).*

259 One participant identified the lack of people of similar age as a barrier to integration into the  
260 community:

261 *“It was hard to make friends, I was very young compared to much of the population”*  
262 *(Female, age < 30, P10).*

263 Difficulties associated with travel and driving was identified by most participants:

264 *“The main thing was the travel... and there were some safety aspects about the rural*  
265 *travel... especially in the wintertime because the weather can change so quickly... I*  
266 *had to be prepared to have my family in order and have things in my car (incase the*  
267 *road closed)... the roads are quite risky... I spent sometimes an hour to get to one*  
268 *house just to turn around and come back 20 minutes later” (Female, age 30-55,*  
269 *P08).*

270 However, many took a great sense of personal fulfilment from the rural lifestyle their work  
271 afforded them:

272 *“I love the outdoors, cost of living, cost of housing. There are so many positives”*  
273 *(Male, age 30-55, P01).*

274

## 275 **Discussion**

276 This qualitative study has achieved its aims of exploring the factors that contribute to  
277 recruitment and retention of rural primary healthcare podiatrists in NZ. The findings parallel  
278 Allen et al who found professional factors were integral in the recruitment and retainment of

279 rural based Australian medical specialists (7). In addition, the study found a complex  
280 interaction between economic, professional, social, and external factors which combine to  
281 affect recruitment and retention within the NZ rural podiatry workforce.

282

283 The current study has revealed that the ability to retain new podiatry practitioners may stem  
284 from a cycle of events set in place when they first enter the rural workforce. **Figure 1**  
285 summarises these events as a proposed model of rural workforce attrition. The study  
286 identified that most who entered the rural workforce did so straight from university and  
287 moved into self-employed positions. For new graduates entering the workforce the  
288 establishment of mentoring and supportive peer networks is imperative to aid both  
289 professional support and continued development (23). However, in the current study, a  
290 feeling of professional isolation born from limited support networks was common amongst  
291 rural practitioners. Being away from immediate family, difficulty fitting in with the community,  
292 having no established network of friends, no people of similar age to socialize with, and  
293 difficulties making friends compounding the feeling of isolation. The potential effects on both  
294 professional and personal development of an inexperienced practitioner working as a sole  
295 practitioner in relative isolation could lead to negative health consequences and ultimately  
296 attrition. Professional isolation has been reported in Australian based healthcare workers as  
297 a factor that negatively influences rural workforce retention (15, 17).

298

299 For those established in the rural workforce workload stresses continued to dominate. Most  
300 notably there were inherent difficulties in sourcing locums leading to an inability to take time  
301 off. This was best surmised by the quote “there’s no time to be sick”. Interestingly, while the  
302 practitioners reported high workloads, they also reported often not trying to recruit, as they  
303 did not feel they had enough work to justify employing a second podiatrist on a full-time  
304 basis. There was also a sense that recruitment was futile as many had experienced issues

305 with retention, often imparting a great deal of personal resources into new staff, only to have  
306 them stay for a relatively short period of time. This sentiment is echoed by the findings of  
307 Struber and Chisolm et al. who reported that the average length of stay in a rural Australian  
308 health practice was 13 -18 months (3, 15).

309

310 Consistent with previous research some positives related to rural work were identified with  
311 many thriving in the rural workforce (7, 13, 17, 24, 25). The key enablers for this positive  
312 experience being a sense of belonging to a community, variety of clinical work, and working  
313 with an enjoyable patient base. Whilst working with other podiatrists was often not possible,  
314 professional isolation was negated by the close-knit nature of a rural healthcare team. In  
315 alignment with the above factors social/family ties were identified as a significant driver in  
316 attracting practitioners to rural positions. The availability of work for partners and the  
317 suitability of local schooling was also important in drawing practitioners to consider rural  
318 relocation.

319

320 Although the above sections largely acknowledge the difficulties encountered by  
321 practitioners surrounding the rural workforce there remains a large 'elephant in the room' for  
322 the NZ podiatry workforce. That is the need to create a larger rural podiatry workforce to  
323 address health inequalities in rural communities to bridge potential unmet service needs.  
324 The ability to address the shortfall of podiatrists is limited by there being only one training  
325 facility, located in Auckland. In the medium to long term, the creation of a sustainable rural  
326 podiatry workforce can only be addressed by the production of more NZ trained graduates,  
327 ideally drawn from a rural background. However, strategies to grow the workforce cannot  
328 solely focus on a simple increase in numbers. To address rural health inequities podiatrists  
329 entering the rural workforce must understand the contexts underpinning Māori health  
330 inequities and wellbeing within rural communities. With these factors identified it may be time

331 for the podiatry undergraduate training facility to adopt a rural admissions scheme as has  
332 been implemented by two NZ medical schools (26, 27).

333

334 A key limitation is that we do not know how representative of the NZ rural workforce the  
335 participant responses were. This limitation largely stems from a lack of how 'rurality' should  
336 be defined. To address this limitation, rural workforce monitoring is required to provide data  
337 to accurately describe the NZ rural podiatry workforce. Research also needs to determine  
338 whether there is indeed an unmet service need within NZ rural podiatry. Research must gain  
339 insight into practitioners new to the rural environment and investigate strategies that facilitate  
340 peer support. The development of a programme that facilitates peer support/mentoring  
341 networks amongst rural podiatrists should be a priority for the NZ podiatry profession.

342

## 343 **Conclusion**

344 A sustainable rural podiatry workforce is required to reduce health disparities that exist in NZ  
345 rural communities. The study identified that most practitioners entered the rural workforce  
346 into self-employed positions, often shortly following graduation from university. They soon  
347 reported feelings of professional isolation due to limited support networks. Practitioners  
348 established in the rural workforce noted significant workload stresses. Stresses stemming  
349 from an inability to source locums, take time away from work, or recruit new staff to fill  
350 vacant positions. Research examining support mechanisms for inexperienced practitioners  
351 and targeted strategies to grow the rural workforce and reduce attrition is required.

352

353

354

355 **Abbreviations**

356 NZ: Aotearoa New Zealand

357

358

359 **Declarations**

360 ***Ethical approval and consent to participate***

361 Ethical approval granted from the Auckland University of Technology ethics committee  
362 (AUTEC) REFERENCE: 20/166. All participant provided verbal consent to participate prior to  
363 interview commencement.

364

365 ***Consent for publication***

366 Not applicable.

367

368 ***Availability of data and material***

369 The datasets used and/or analysed during the current study are available from the  
370 corresponding author upon reasonable request.

371

372 ***Competing interests***

373 Erin Beeler is the Professional Advisor to the Podiatrists Board of NZ. Matthew Carroll is  
374 Chair of the Podiatrists Board of NZ and Editorial Board member of the Journal of Foot and  
375 Ankle Research.

376

377 ***Funding***

378 This research received no specific grant from any funding agency.

379

### 380 ***Authors' contributions***

381 EB and ABR conceived this study. EB and ABR undertook the statistical analysis. EB and  
382 ABR interpreted the data. MC, EB and ABR developed the manuscript. EB, MC and ABR  
383 critically revised the manuscript and approved the final manuscript to be published.

384

### 385 ***Acknowledgements***

386 Thank you to all practitioners who volunteered to participate in the study.

387

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452

## 453 **Figure caption list**

454 Figure 1: Model of attrition for NZ rural podiatry practitioners

# Figures

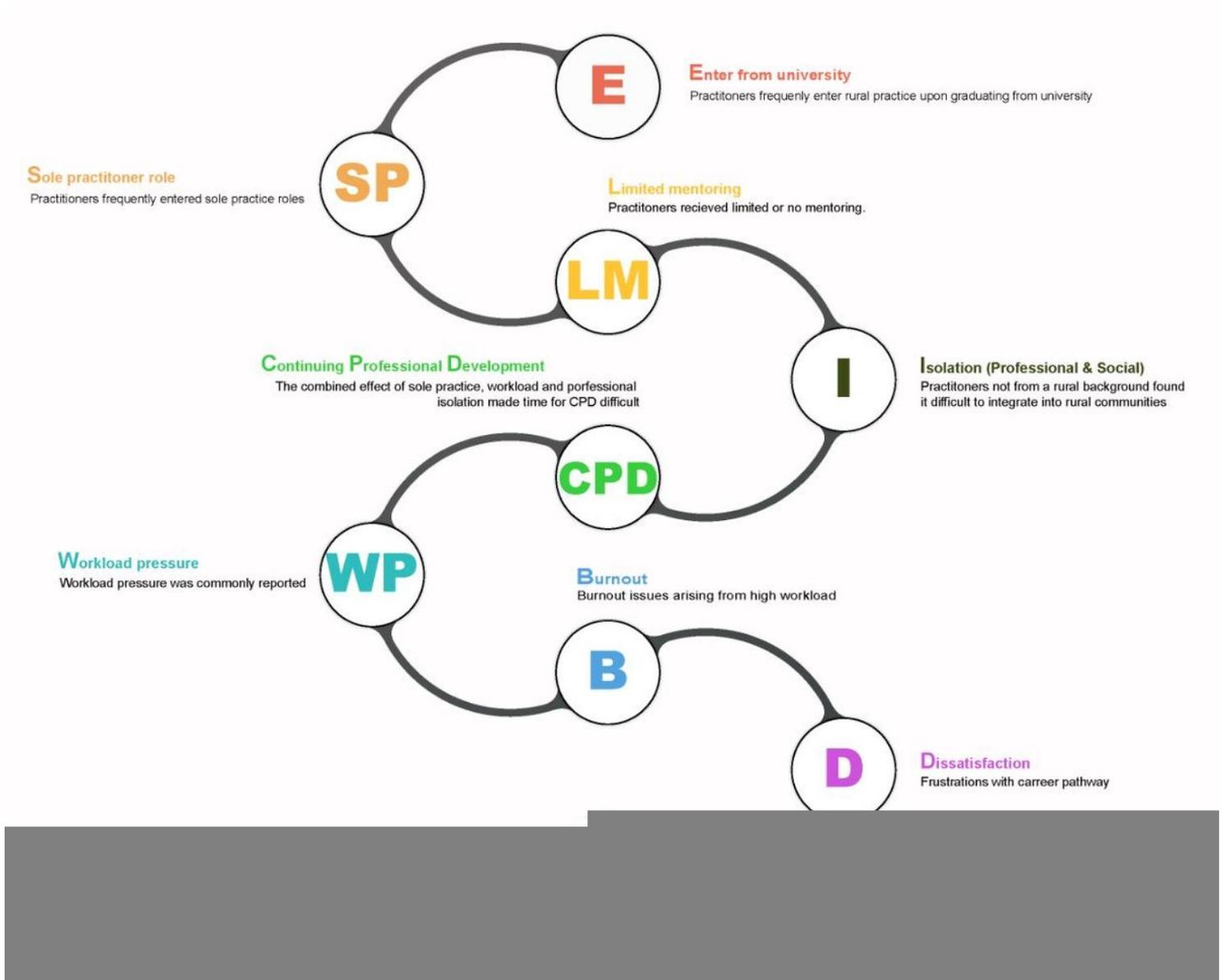


Figure 1

Model of attrition for NZ rural podiatry practitioners