

1 **Characteristics of community-based occupational therapy: Results of a Norwegian**
2 **survey**

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1 **Characteristics of community-based occupational therapy: Results of a Norwegian**
2 **survey**

3 **Abstract**

4 *Background:* Ongoing changes in healthcare delivery systems in Norway increasingly require
5 community-based services, and the changes will likely affect the working conditions and
6 opportunities for occupational therapists.

7 *Aim:* To characterize occupational therapy in community-based practice in Norway.

8 *Material and methods:* A cross-sectional, descriptive survey design was applied using a
9 questionnaire related to personal and organizational characteristics. Participants ($n=561$) were
10 recruited among community-working occupational therapists in Norway registered as
11 members of Ergoterapeutene. Data were analyzed with descriptive statistics.

12 *Results:* The majority of the participants was female and had an average of 16.5 years of
13 professional experience. They reported to spend about half of their working hours on direct
14 work with clients. For many, work with assistive technology was a main task, accounting for
15 approximately half their working hours. Only a small proportion worked in municipalities that
16 had merged with others, but for a larger proportion (27%) a merger had been decided and was
17 in preparation.

18 *Conclusion:* This study established some basic information regarding Norwegian community-
19 based occupational therapy and the municipalities where occupational therapists work.

20 *Significance:* With this study serving as a baseline, we may be able to track how changes will
21 affect community-based occupational therapy practice in the near future.

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23 *Keywords:* assistive technology, local healthcare, municipalities, primary care

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1 [2]. These are mainly small municipalities in rural districts. The change in legislation from
2 2020, by which time occupational therapy will become a mandatory service required by law,
3 will thus pave the way for occupational therapy in community-based health services.

4 In Norway, occupational therapy is described as a solution-oriented practice
5 promoting increased participation in daily life through person-centered and community-
6 oriented approaches [9]. Occupational therapists in community-based services have been
7 described as linked to four ideal types; ‘the all-rounder’, ‘the provider of assistive device’, the
8 fire extinguisher’, and ‘the innovator’ [3], indicating a variety of work-tasks. In 2012, a
9 reablement project started in Norway [10], and in 2016 it was implemented in about 146
10 Norwegian municipalities [11]. Reablement is an intervention targeting home-dwelling older
11 adults who experience a decline in health and function. The intervention is multi-professional,
12 home-based and time-limited, focusing on maintaining functional independence for ‘aging in
13 place’ [12]. In maintaining clients’ independent living, a systematic review showed the
14 efficacy of occupational therapists’ advising on assistive technology [13]. Assistive
15 technology was also identified as one of the top research priorities among Norwegian
16 occupational therapists [14]. This research topic was emphasized related to clients with
17 cognitive problems or related to reablement interventions, accordingly indicating a need for
18 more knowledge and competence development.

19 How occupational therapists adapt to a forthcoming change of occupational therapy
20 being a mandatory service in Norwegian municipalities however, would depend on their
21 personal resources for managing within a changing healthcare context and on how they
22 perceive their current employment. To evaluate possible implications of this change
23 descriptive knowledge of today’s status is needed. Therefore, the aim of this study was to
24 characterize Norwegian occupational therapy in community-based practice; including aspects
25 of the occupational therapists’ practice and the municipalities where they work.

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Methods

Design

This study has a cross-sectional, descriptive design based on survey methodology.

Survey and procedure

Based on the ongoing changes in Norwegian healthcare, with more emphasis on community-based services, a questionnaire was developed to explore a range of aspects related to the practice and context of community-working occupational therapists. The survey tool is available from the authors upon reasonable request. The themes covered sociodemographic information, educational level, work experience, municipalities and organization of occupational therapy, practice and interprofessional collaboration. A draft questionnaire was set in “Easyfact”, an electronic survey program. Seven randomly chosen occupational therapists working in rural or urban community practices agreed to pilot test the electronic draft version of the questionnaire. Based on their experiences of text, questions, options and relevance, the questionnaire was revised and the final electronic “Easyfact” version was set. On behalf of the project group, an e-mail with the survey and an invitation to participate was sent through Ergoterapeutene (the Norwegian Occupational Therapy Association). Two reminders were given, after one and two weeks, respectively. The survey was closed after three weeks, and all data were transferred to the project group.

Participants

Eligible participants were occupational therapists who were members of Ergoterapeutene (The Norwegian Occupational Therapy Association) and worked in community-based practice in Norway. The membership list of Ergoterapeutene was used to identify relevant informants. The survey took place in 2017. Out of 1833 occupational therapists identified from the member list to be eligible for participation, the survey was sent to 1767 occupational

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1 therapist who had a valid e-mail address. Of the 1767, 561 (31.8 %) chose to participate in the
2 study. The age and gender distribution in the sample ($M = 42.2$ years, $SD = 11.5$ years, age
3 range 22-66 years, 92.9 % women) was similar to that of the identified population ($M = 41.2$
4 years, $SD = 11.7$ years, age range 22-68 years, 92.0 % women). Thus, in these respects we
5 considered the population to be well represented by the sample that took part in the survey.

6 **Data analysis**

7 The data were analyzed descriptively, using frequencies and percentages for categorical
8 variables and means and standard deviations for continuous variables. Differences between
9 men and women in the sample were analyzed with χ^2 -tests (or Fisher's Exact test, if
10 appropriate) for categorical variables and with independent t -tests for continuous variables.
11 Effect sizes were calculated as Cohen's d , where $d > 0.50$ was considered a medium size and
12 therefore noteworthy [15]. Statistical significance was set at $p < 0.05$.

13 **Ethics**

14 Approval for the study was obtained from the Norwegian Data Protection Official for
15 Research, Norwegian Centre for Research Data (project number 52827). Participants were
16 informed that participation was voluntary and that their responses would be treated
17 confidentially.

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Results

20 **The occupational therapists**

21 The characteristics of the study sample are shown in Table 1. The mean age of the sample
22 participants was 42.2 years ($SD = 11.5$ years), and 521 (92.9 %) of the participants were
23 female. The mean duration of experience working as an occupational therapist was 16.5 years
24 ($SD = 9.9$ years), with women having significantly more years of experience than men ($M =$
25 16.8 years [$SD = 10.0$ years] vs. $M = 11.9$ years [$SD = 7.1$ years], $p < 0.001$, $d = 0.57$). No

1 other gender differences were statistically significant. Of the participants, 94.5% reported that
2 their highest educational level completed was a bachelor's degree, and 5.5% had a master's
3 degree. Slightly more than half, 53.3%, reported having additional education, whereas 3.6%
4 reported having received certification as clinical specialists.

5

6 [TABLE 1 ABOUT HERE]

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8 **The occupational therapists' practice**

9 Details of the participants' practice and working conditions are shown in Table 2. In the
10 sample, 20.9% had changed their positions during the preceding year. Three of four
11 participants worked full-time. More than 80% reported having clients referred to them by
12 colleagues in the same municipality and by a client's family members, and more than 70%
13 had clients referred by other healthcare facilities – and by the clients themselves. The
14 participants reported to spend about half (48%) of their time on client-directed work. Of the
15 sample, 88% reported being in positions where they worked with assistive technology to some
16 degree, and among these 88%, about half (51%) of their time was spent on work related to
17 assistive technology. We note, however, that the response categories were not mutually
18 exclusive. For example, parts of the time spent working with assistive technology could also
19 be time that was dedicated to client-directed work.

20 More than 70% had participated in a course or other professional development activity
21 paid for by the employer during the preceding year. More than 40% took part in projects or
22 development work as part of their positions, whereas one of four served as a union
23 representative. A minority of approximately 6% had administrative responsibilities for
24 employees and economy. The participants' line managers were predominantly from the
25 physiotherapy (35.7%), nursing (26.2%) and occupational therapy (22.8%) professions.

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[TABLE 2 ABOUT HERE]

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4 The municipalities

5 The characteristics of the municipalities where the participants worked are displayed in Table
6 3. Most of the occupational therapists ($n=442$, 78.8%) worked in municipalities with up to
7 99.999 inhabitants. A small proportion ($n = 19$, 3.4%) worked in a municipality that had
8 already merged with another, whereas a larger proportion ($n = 148$, 26.4%) worked in a
9 municipality where such a merger had been politically decided. Of the participants, 96
10 (17.1%) reported that occupational therapist positions had been created in the municipality
11 after 2012, which was the year of the implementation of the Coordination Act [6] and the time
12 when reablement was initiated in Norway. The larger proportion of the sample ($n = 409$,
13 72.9%) had positions that were not based at an institution, whereas the proportions working as
14 part of an occupational therapy service, a multiprofessional service, or a service that
15 combined the previous were more evenly distributed. The larger proportion of the sample ($n =$
16 376, 67.0%) reported that their jobs were located together with those of other occupational
17 therapists.

18

19

[TABLE 3 ABOUT HERE]

20

21

Discussion

22 This study was instigated by the ongoing changes in the Norwegian public sector and in the
23 healthcare services within which a majority of Norwegian occupational therapists work. In
24 view of this development, including the changes in legislation implying that occupational
25 therapy will become a required part of community-based services beginning in 2020, we

1 inquired about what presently characterize Norwegian occupational therapy in community-
2 based practice; including the occupational therapists, their practice, and the municipalities
3 where they work.

4 First, our preparations for the study showed that community-based services are a
5 cornerstone of occupational therapy in Norway. The number of occupational therapists
6 working in municipalities is large and represents more than half of the total number of
7 occupational therapists in the country – and their number is expected to grow in coming years
8 [4, 5]. This is in contrast to studies from several other countries, where the accessibility and
9 distribution of occupational therapy in community-based services have been questioned [16].
10 In Norway, the expected growth is partly due to the upcoming legislative changes [1], but is
11 assumed to also be related to the public recognition of occupational therapy as a part of
12 reablement, which is increasingly employed in community healthcare services for elderly
13 persons [17].

14 With a view to the personal characteristics of the community-working sample, their
15 mean age (42 years), gender proportion (93%), mean duration of professional experience (17
16 years), and proportion having further education (53%) largely mirror the results of a previous
17 study targeting the membership population of Ergoterapeutene [18, 19]. The gender
18 proportion was similar to the proportion found in another, more recent study of Norwegian
19 community-working occupational therapists [5]. In an Australian survey, the majority of the
20 participating community-based occupational therapists were similarly described as mature in
21 age and widely experienced [20]. The sample in the previous Norwegian study represented
22 34% of the total members of Ergoterapeutene [18, 19] compared to 32% of the community-
23 working population responding in the current study. This may indicate that these
24 characteristics are similar for the community-working segment of the occupational therapist
25 population in Norway and the general Norwegian population of occupational therapists.

1 Judging from a recent study of occupational therapy students enrolled in a Norwegian
2 university [21] that found a female proportion of 79%, the dominance of females in the
3 profession is expected to continue in the years to come, although to a lesser extent than
4 suggested by this study.

5 The current study found that 95% of the participants reported a bachelor's degree as
6 their highest level of education, and less than 4% had received accreditation as clinical
7 specialists in their field of practice. In light of the large proportion (53%) having additional
8 education, it appears that community-working occupational therapists in Norway do seek
9 further education after having completed the three years of required basic training. However,
10 only a minority have aimed for advanced degree courses or established themselves as clinical
11 specialists in a given field of practice.

12 The proportion of clinical specialists in the current sample was lower than the
13 proportion reported (8.7%) in a previous study of the general population of Norwegian
14 occupational therapists [18]. A recent study [22], found that Norwegian community-based
15 occupational therapy served clients of all age-group and with a variety of impairments and
16 activity limitations, and in small, rural municipalities a generalist competence was thus
17 required. Moreover, in cities and larger municipalities with more occupational therapists they
18 became more specialized.

19 The sample of this study reported to spend about half of their working time on direct
20 client work, and 88% of the sample reported to work with assistive technology as part of their
21 work. Donnelly and co-workers' findings from a Canadian survey [23], in which the
22 participants' most frequent activity was found to involve equipment prescription (75%),
23 support the high proportion engaged in these tasks. Among those who worked with assistive
24 technology devices, about half of their time at work was dedicated to it (Table 2). The time
25 proportions dedicated to tasks related to assistive technology are in line with the study of

1 Gramstad and Nilsen [14] showing that community-working occupational therapists also
2 prioritize research in this area. Their study identified assistive technology as one of the top
3 research priorities in this group of occupational therapists. More specifically, they emphasized
4 research on assistive technology related to clients with cognitive problems or related to
5 reablement interventions. In light of the focus on the reablement of community-living elderly
6 [17], the expected increase in dementia [24], and current suggestions and priorities for the
7 public healthcare sector in Norway [2, 25], the focus on assistive technology as a prioritized
8 area for both practice and research seems warranted. Indeed, Gramstad, Storli and Hamran
9 [26] interpreted the service users' description of the assistive technology delivery process as
10 an 'enigmatic journey', clearly emphasizing the need to spend time during the delivery and/or
11 installment process helping users try out and incorporate devices into their daily lives. This
12 may also suggest that there is at least a partial overlap between working directly with clients
13 and working with assistive technology. However, the sample results (Table 2) may provide
14 reasons for individual therapists to consider whether they spend their time in the most
15 effective way. With regard to other work tasks, taking part in courses or other professional
16 development activity were reported, and more than 40% were involved in projects or
17 development work. A recent qualitative study however, revealed that project-oriented work
18 often was considered an extra burden, adding to the occupational therapists' workload [3].
19 Community-based occupational therapists have described that a large amount of time spent on
20 administration tasks can be perceived as a barrier to direct work with clients [27].

21 The changes in the organization of the public sector in Norway are currently affecting
22 community-based occupational therapy. At the time of the data collection, only a small
23 proportion worked in municipalities that had merged with others, but for a larger proportion
24 (27%), such a merger had been decided and was in preparation (Table 3). This suggests that

1 community-working occupational therapists should prepare for organizational changes that
2 will likely affect their tasks and their working conditions in the years ahead.

3 The larger part of the sample reported working in combined occupational
4 therapy/interprofessional settings, and most had positions where they were physically located
5 together with other occupational therapists (Table 3). At the same time, only 23% had a line
6 manager with an occupational therapy background, and more than 60% had a line manager
7 who was either a nurse or a physiotherapist (Table 2). Negotiating the influence by a line
8 manager from a different and at times more powerful profession may potentially detract from
9 one's ability to define the occupational therapist role according to the profession's own
10 standards and values [28]. Previous research [29, 30] have suggested that, feelings of being
11 under-utilized or experiencing conflicting views of what the occupational therapist role
12 should entail, may be challenging. For example, studies have been concerned with
13 occupational therapists' desires to engage in health-promotion activities and programs [27,
14 31]. However, this desire has apparently been transformed into actual practice to a limited
15 degree, owing to personal constraints (a perceived lack of knowledge) as well as to system-
16 level constraints. Such system-level constraints may well be related to influence and
17 leadership from within and outside the profession. The ability to establish a unique discourse,
18 using a shared terminology with fellow occupational therapists, can foster the development of
19 communities of practice to the benefit of occupational therapists' professional identity [32].

20 **Study limitations**

21 The study is limited by the cross-sectional descriptive research design. As a result of the
22 design, we cannot infer causal associations but merely describe the sample of occupational
23 therapists and their reports of aspects of their work and the workplace as well as
24 organizational factors affecting them. The questionnaire was developed for this study, and
25 several of the questions utilized have not been used in research previously. A pilot study was

1 conducted, and the participants' suggestions were assessed and largely incorporated into the
2 survey before the main study was conducted.

3 However, we acknowledge some important limitations. Some of the questions were
4 not optimal, allowing for individual interpretation among the participants. Some of the
5 responses to the survey questions were also difficult to interpret in the analysis stage. The use
6 of response categories that were not always mutually exclusive makes it difficult to interpret
7 the extent to which responses were meant directly as stated, or as overlapping with other
8 responses. For example, we do not know the time proportion spent on 'client-directed work'
9 that was also spent 'working with assistive technology'. The same response categories also
10 illustrate differences with regards to item specificity. While working with assistive technology
11 is quite specific, it is difficult to speculate about the content of 'client-directed work'. Thus,
12 perhaps excepting the specific information about work with assistive technology, there is
13 much yet to be discovered about the content of the occupational therapists' practice. More
14 research is needed to gain knowledge about what and how they assess their clients' needs,
15 how they intervene, and against which standards or measures they evaluate their practice.

16 The sample size is considered appropriate for a quantitative study, but the response
17 rate of 32% is a limitation. It is, however, comparable to the response rate obtained in a
18 previous member survey [18, 19] and is generally considered the approximate response rate
19 that can be hoped for in large population surveys [33]. Research has also shown that response
20 rates at this level do not necessarily reduce the validity of the data [34]. A limitation of the
21 study is that data relating to occupational therapy tasks in community-based practice was
22 limited to the provision of assistive technology. The roles and tasks of community-working
23 occupational therapists, however, are planned to be explored further in qualitative studies.

24 **Conclusion**

1 In 2017, Norwegian occupational therapists were predominantly female and had, on average,
2 many years of experience in occupational therapy practice. Their proportion of time spent on
3 direct client work was about 50%. Almost 90% worked with assistive technology to some
4 degree. The organization of community-based occupational therapy may see changes in the
5 years to come owing to the restructuring of the entire public health sector in Norway, a
6 merging of municipalities into larger units, and occupational therapy to become a mandatory
7 community service from 2020. In 2017, only a small proportion of occupational therapists
8 worked in municipalities that had merged with others. With this study serving as a baseline,
9 we may be able to track how such changes will affect community-based occupational therapy
10 practice in the not too distant future.

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16

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1 Table 1

2 *Characteristics of the study participants (n = 561)*

	All	Men (n = 40)	Women (n = 521)	
Variables	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>p</i>
Age	42.2 (11.5)	39.7 (11.1)	42.4 (11.6)	0.14
Years of experience as occupational therapist	16.5 (9.9)	11.9 (7.1)	16.8 (10.0)	< 0.001
<i>Employment unit</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	
Municipality	436 (77.7)	30 (75.0)	406 (77.9)	0.76
District	77 (13.7)	3 (7.5)	70 (13.4)	
Service	48 (8.6)	7 (17.5)	45 (8.6)	
<i>Education level</i>				
Bachelor level	530 (94.5)	36 (90.0)	494 (94.8)	0.27
Master level	31 (5.5)	4 (10.0)	27 (5.2)	
Doctoral level	0 (0.0)	0 (0.0)	0 (0.0)	
<i>Further education</i>				
With further education	299 (53.3)	23 (57.5)	276 (53.0)	0.58
Without further education	262 (46.7)	17 (42.5)	245 (47.0)	
<i>Clinical specialist</i>				
Specialist	20 (3.6)	3 (7.5)	17 (3.3)	0.16
Not specialist	541 (96.4)	37 (92.5)	504 (96.7)	
<i>Work change</i>				
Changed work during the last year	117 (20.9)	8 (20.0)	109 (20.9)	0.89
Did not change work during last year	444 (79.1)	32 (80.0)	412 (79.1)	

3 *Note.* Of the 117 who changed work during the last year, 63 (53.8 %) remained working
4 within the same municipality. Employed statistical tests are χ^2 -tests or Fisher's exact test for
5 categorical variables and independent *t*-tests for continuous variables.

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1 Table 2

2 *Characteristics of the participants' practice and their working conditions (n = 561)*

Variables	<i>n</i> (%)
Full-time employment	425 (75.8)
	<i>M</i> (<i>SD</i>)
Proportion client-directed work (self-estimated)	48.1 % (19.8 %)
<i>Assistive technology</i>	<i>n</i> (%)
Work includes assistive technology	493 (87.9)
	<i>M</i> (<i>SD</i>)
Time proportion spent on assistive technology tasks	50.9 % (25.9 %)
<i>Other work tasks</i>	<i>n</i> (%)
Participated last year in course/professional event paid by employer	401 (71.5)
Participates in project/development work	245 (43.7)
Union representative	150 (26.7)
<i>Own managerial responsibilities</i>	<i>n</i> (%)
Human resources responsibility	36 (6.4)
Economic responsibility	35 (6.2)
<i>Referral agencies</i>	<i>n</i> (%)
Primary healthcare	430 (76.6)
Secondary or tertiary healthcare	421 (75.0)
School	186 (33.2)
Kindergarten	162 (28.9)
After-school recreational program	29 (5.2)
Refugee/asylum seeker reception center	104 (18.5)
Clients	420 (74.9)
Family members	454 (80.9)
Colleagues in same municipality	465 (82.9)
Service application office	318 (56.7)
Other	131 (23.4)
<i>Professional background of line manager</i>	<i>n</i> (%)
Nurse	147 (26.2)
Physician	6 (1.1)
Physiotherapist	200 (35.7)

Occupational therapist	128 (22.8)
Social educator	25 (4.5)
Psychologist	1 (0.2)
Social worker	16 (2.9)
Child welfare officer	6 (1.1)
Preschool teacher	2 (0.4)
Teacher	5 (0.9)
Other	25 (4.5)

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1 Table 3

2 *Characteristics of the municipalities where the participants worked (n = 561)*

Variables	n (%)
<i>Municipality population size</i>	
< 2000	207 (36.9)
2000-19999	235 (41.9)
20000-99999	119 (21.2)
> 100000	0 (0.0)
<i>Municipality merge after Coordination Act 2012</i>	
Merged	19 (3.4)
Not merged	528 (94.1)
Not sure	14 (2.5)
<i>Municipality merge politically decided</i>	
Decided	148 (26.4)
Not decided	374 (66.7)
Not sure	39 (7.0)
<i>Occupational therapy positions created after Coordination Act 2012</i>	
Positions created	96 (17.1)
Positions not created	240 (42.8)
Not sure	225 (40.1)
<i>Work located at an institution</i>	
Located at an institution	73 (13.0)
In part located at an institution	79 (14.1)
Not located at an institution	409 (72.9)
<i>Work organization*</i>	
Occupational therapy service	109 (19.4)
Multiprofessional service	176 (31.4)
Combined multiprofessional/occupational therapy service	202 (36.0)
Other	74 (13.2)
<i>Work located with other occupational therapists</i>	
Located together with other occupational therapists	376 (67.0)
Not located together with other occupational therapists	185 (33.0)

1 * The participants were asked to indicate whether their current working conditions meant
2 working within a designated occupational therapy service; within a multiprofessional service
3 (several professional groups working in a unit); within a combined service (a combined team
4 with other occupational therapists and persons from other professional backgrounds); or
5 whether they worked in other settings (not any of the types of services described above).

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