

Physiotherapy in Mount Hagen General Hospital: an audit of activity over a six-month period

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SUMMARY

There is a lack of a sustainable physiotherapy service in most hospitals in Papua New Guinea. Many clinicians, managers and senior administrators appear unaware of the benefits that such a service can provide. This survey uses an audit tool, a modified Körner form, to evaluate the impact of a physiotherapy service within a provincial hospital during a six-month period. The audit measures number of patients seen, types of diagnosis, time spent with individual patients and number of treatment sessions provided. 571 patients were seen in the 6 months, of whom 308 were outpatients and 263 were inpatients. Inpatients received an average of 3 hours of treatment per patient, outpatients received 1 hour. Most patients seen were those who suffer disability as a result of their condition and who would traditionally have a poor prognosis without physiotherapy intervention. The most common conditions seen were neurological disability in adults and children, conditions requiring orthopaedic rehabilitation, burns, arthritic conditions and those requiring respiratory physiotherapy techniques. The physiotherapy department at the hospital was the only establishment in the district able to provide a rehabilitation service for these patients. Hence physiotherapy greatly improved the services available to the most sick and disabled patients within the community. The fact that outpatient follow-ups proved problematic for so many patients suggests that patients should be kept in hospital until their rehabilitation needs have been fully met.

Introduction

Physiotherapy involves the management of illness and disability through physical means. Physiotherapy is the re-education, or rehabilitation, of movement to maximize an individual's functional potential, following illness, injury or congenital abnormality. This may be achieved through exercise, massage, manipulation, administration of electrical treatment modalities, acupuncture and many other approaches. In Papua New Guinea (PNG) there is agreement amongst most physiotherapists that interventions should be directed towards disability, either in the rehabilitation of people with disability or prevention of disabling conditions (N. Powell, unpublished report).

Physiotherapy services in hospitals in Papua New Guinea can at best be described as

intermittent. There are only two Papua New Guineans trained in physiotherapy within the country and most services are staffed by overseas workers. These professionals often accept poorer terms and conditions than they would in their home country and tend to stay for short contracts only.

The resulting situation causes inconsistencies in service delivery, with many areas receiving intermittent or no physiotherapy coverage. There is a poor understanding of the role of physiotherapy within hospitals from colleagues working in the delivery of clinical services, managers and senior administrators. For example, there is no direct mention of developing specific physiotherapy services in the Papua New Guinea National Health Plan 2001-2010, although the need to "investigate the feasibility of training physiotherapists" is proposed (1).

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There is hence the need to raise awareness of the benefits that physiotherapy can contribute to the health services.

This study uses an audit to examine the impact of physiotherapy within Mount Hagen General Hospital during the period 1 March to 31 August 2000. An audit involves systematic, critical analysis of the quality of a service that is being provided (2). The audit employed does not attempt to measure the impact of the service in terms of patient outcome. Instead, the aim of the audit is to examine the caseload seen and quantity of intervention given, to allow increased awareness of physiotherapy amongst clinicians and health managers, who may have had little exposure to such a service.

Few studies have been published concerning the role of physiotherapy in PNG. Two studies have investigated the prevalence of disability: van Amstel et al. (3) concluded that the prevalence of disability was low in the Tari region, whilst Hamilton and van Zwanenberg (4) found much higher prevalence of disability in East New Britain (ENB). The definition of disability used in the Tari study was broad and many disabled groups especially infants, the elderly and those with psychiatric conditions were excluded from the study. Hamilton and van Zwanenberg estimated that 2329 people in ENB were living with disability and that this was too large a number to be incorporated into existing health facilities for rehabilitation. Instead they advocated the establishment of community-based rehabilitation (CBR)

projects to address the needs of disabled people. However, in Mount Hagen, no CBR organizations currently have the capacity to provide a regular, effective, physical rehabilitation service. At the time of conducting the survey, the physiotherapy department at Mount Hagen General Hospital was the only centre providing physical rehabilitation in the district.

Methods

In order to audit the patients seen in the physiotherapy department, a modified Körner form was used. This allows for clear documentation of every patient attending the department. The system is in widespread use throughout the United Kingdom where it has been assessed for validity and reliability (5). Some modifications were required to make the system appropriate to the situation at Mount Hagen General Hospital (Table 1).

The form had to be basic enough so that all staff could enter the data, which formed part of their daily paperwork. Each worker completed the form daily for all the patients they had seen that day. Some staff were students with minimal knowledge of medical terminology and no staff, except the one qualified physiotherapist, were expected to be able to make specific diagnosis of a patient's condition. Exact medical diagnosis is rarely relevant to physiotherapy intervention, which follows a problem-oriented approach to patient management.

TABLE 1

THE MODIFIED KÖRNER FORM USED IN THE STUDY

Name	Age	Sex	Diagnosis	Ward	Day of the month					Total
					1	2	3	4	5-31	
John Smith	Adult	Male	1	Surgical	3		5	1		9
A.N. Other	Child	Female	6	Paediatric medical	1	D/C				1
Namba Tre (NP)	Adult	Male	7	ICU			2			2

ICU = Intensive care unit
 D/C = Discharged from physiotherapy
 NP = New patient

Körner form

Table 1 shows an example of the modified Körner form and it was used in the following way:

- Each patient's name is entered when first seen in a month. If it is their first time to attend, NP is written by their name, signifying the patient is a new patient. This prevents a patient being counted as a new patient every month.
- Age, sex and ward are recorded. Each patient is allocated a diagnosis code (Table 2) following initial assessment of his or her problem. More than one code can be used if the patient has multiple problems, eg, a child with meningitis and an acute chest infection.
- Each day of the month is then listed, from 1 to 31. If the patient is seen on a particular day, a number is placed in the correct column for that day. For example, John Smith was seen on the first, third and fourth days of the month (Table 1).
- The number corresponds to the estimated time, rounded to the nearest 10 minutes, that was spent treating that patient. If the session lasted twenty minutes, a figure 2 would be written in the appropriate column. Therefore John Smith was seen for 30 minutes on the first, 50 minutes on the third and 10 minutes on the fourth session. Time was estimated using the clock in the department.
- At the end of the month all the numbers are added up, along with the number of treatment sessions given. On the first day of the next month a new form is filled out again.

Diagnosis codes

Table 2 shows the diagnosis codes used. The system has been employed by the department since November 1998 and all staff were experienced in its use by the time of the audit. Due to the various levels of training of the workers the forms were kept simple by using as few diagnosis codes as possible.

The diagnosis codes allow conditions to be sorted according to physiotherapy management rather than medical diagnosis. The physiotherapy approach to all patients with orthopaedic conditions is similar but different to that of neurological rehabilitation. The management of burns is different to that of children with learning difficulties. Hence the diagnosis groups used give good information on the types of physiotherapy treatment required for the caseload seen.

The system employed allows information to be gathered on the number and types of patients seen, the number of treatment sessions provided, time spent treating patients, wards that require most physiotherapy input and much more.

Working arrangements

One full-time overseas physiotherapist was employed to run the department at the time of the audit. He was supported by another overseas physiotherapist working one day per week on a voluntary basis. A nursing officer and a community health care worker were appointed to the department on a full-time basis by the hospital. Both had been in their positions for at least one year at the time of the audit. A further 3 students were employed, with extra funding from Voluntary Service Overseas. They too were working on a full-time basis and had been with the department for approximately nine months at the start of the audit.

The department has a proactive policy toward patient referral. Physiotherapy staff were assigned a ward and it was their responsibility to review all new patients on that ward to assess their physiotherapy needs. It was not practical to wait for doctors to refer patients for physiotherapy.

Patients seen from 1 March to 31 August 2000 were recorded. However, patients seen on outreach visits were excluded. Inpatients were seen 3 whole days per week; 2 mornings were set aside for outpatient clinics, 1 afternoon for teaching and 1 other afternoon for running an early intervention class for children with learning difficulties, alongside Callan Services for the Disabled. The approach to this group was different to the

TABLE 2

DIAGNOSIS CODES USED IN THE STUDY

Condition	Code
Acute chest infection – pneumonia	1.
Chronic chest conditions – chronic obstructive airways disease, bronchiectasis, chronic asthma	2.
Other chest conditions – management of airways in an unconscious patient, management of intubated patients	3.
Chronic neurological rehabilitation – long-standing neurological conditions, polio, old strokes, etc	4.
Acute adult neurological rehabilitation – all neurological conditions including cerebral vascular accident, head injury, Guillain-Barré syndrome, spinal cord injury, peripheral nerve injury	5.
Acute child neurological rehabilitation – as above, also acute meningitis and encephalitis leading to cerebral palsy, subacute sclerosing panencephalitis	6.
Postoperative chest care – patients at risk of chest infection following major abdominal or thoracic surgery	7.
Orthopaedic rehabilitation – management of postoperative orthopaedic procedures, traction patients, conservatively managed patients; follow-up patients seen as outpatients are given the same diagnosis	8.
Amputee patients – upper and lower limb amputees	9.
Burns – patients with burns, pre- and post-operative skin graft management	10.
Learning difficulty – children with long-standing cerebral palsy or Down’s syndrome	11.
Other conditions (please state) – any condition not fitting into any other category.	12.
Musculoskeletal pain – patients whose main complaint is pain in the absence of any clinical findings to suggest acute or chronic inflammation of joints (eg chronic back or knee pain)	13.
Arthritis – condition where acute or chronic inflammation of joints can be detected clinically, eg rheumatoid arthritis, juvenile chronic arthritis, severe osteoarthritis; also includes soft tissue abscesses and pubic symphysis dysfunction following childbirth	14.
Talipes equinovarus – children with ‘club feet’	15.
Soft tissue injury (STI) – (outpatients only) patients presenting with traumatic joint injury, eg cruciate ligament injury, shoulder dislocation	16.

TABLE 3

PATIENT DATA

Patients seen in six-month period	Inpatients	Outpatients	Total
Number of new patients seen	263	308	571
Mean new patients seen per month	44	51	95
Mean total patients seen per month*	61	72	133
Total male patients seen	162	186	348
Total female patients seen	96	121	217
Information on sex not recorded	5	1	6
Total adults seen	186	244	430
Total children seen	77	64	141
Total treatment sessions given	1501	614	2115
Mean number of sessions per month	250	102	352
Mean number of sessions per patient	5.7	2.0	-
Total number of hours spent treating patients	819	294	1113
Mean hours per month	137	49	186
Mean hours spent with each patient	3.1	1.0	-
Mean length of time of each treatment session	33 minutes	29 minutes	-

*The mean number of patients seen per month includes all new patients and patients carried over from the previous month, giving a higher total of patients actually seen in a month

treatment of other patients. Hence children attending the class were not included in the audit. This will result in an underreporting of children seen with learning difficulties in this survey. The audit can be seen to cover the work carried out for 3 full days per week among inpatients and 2 mornings per week among outpatients.

Results

Patients seen in the six-month period

Table 3 gives a summary of the activity of the physiotherapy department during the six-month period. More outpatients were seen per month than inpatients. More male patients were seen than females, for both inpatients and outpatients; the approximate ratio was 3:2 males to females treated. 29% of the inpatients and 21% of the outpatients seen were children.

Inpatients received more treatment sessions than outpatients and more time was spent with each inpatient. This means that the total number of hours and total number of treatments were greater for inpatients than outpatients. On average, each individual treatment session was 4 minutes (14%) longer for inpatients than outpatients.

Patients per diagnosis: inpatients

Figure 1 shows the number of inpatients seen according to diagnosis. The most commonly treated conditions were neurological, orthopaedic, arthritic and postoperative. There were 95 adults and children with neurological conditions (36%). Orthopaedic rehabilitation seen in 66 cases accounted for 25% of the total. 22 patients with arthritic conditions accounted for 8%, as did patients requiring chest care following

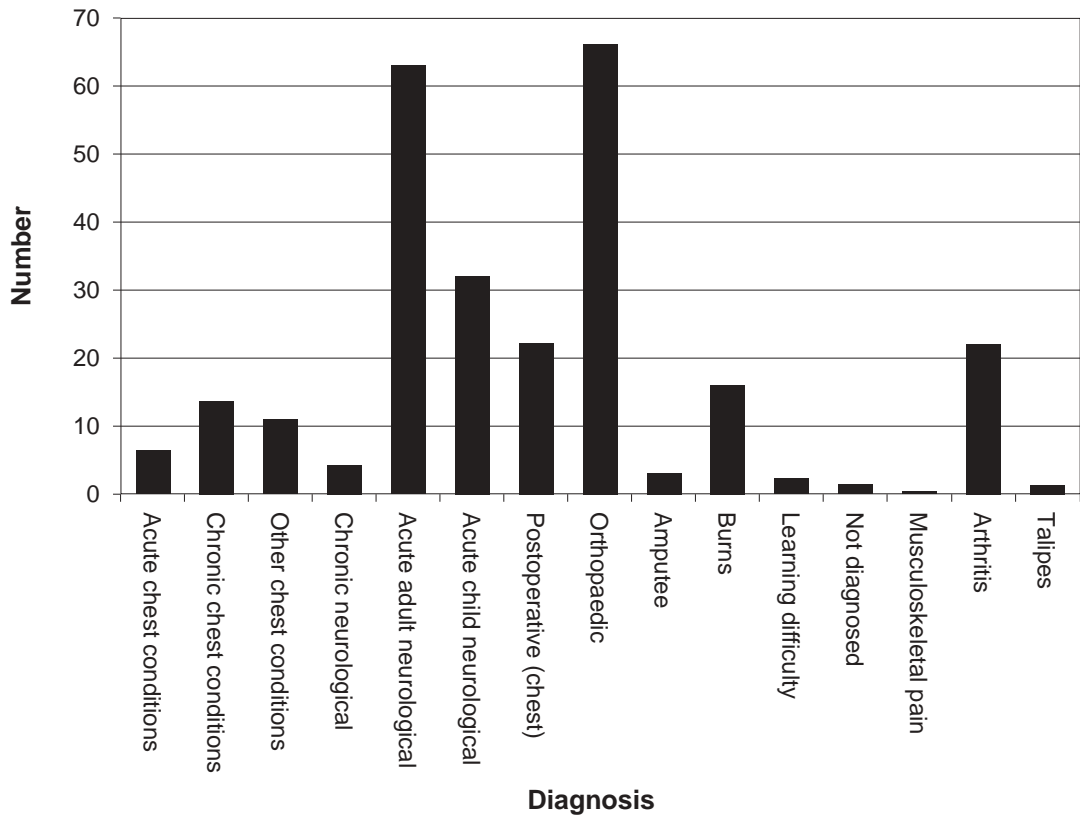


Figure 1. Distribution of indications for physiotherapy among inpatients.

surgical operation, usually following laparotomy and occasionally thoracic surgery.

Patients per diagnosis: outpatients

Figure 2 shows the number of outpatients seen according to diagnosis. Musculoskeletal pain was the most common diagnosis (n=104, 34%). Neurological conditions (n=61, 20%) and orthopaedic problems including soft tissue injuries and inpatient follow-ups (n=65, 21%) also accounted for a large number of patients seen.

Number of patients seen per ward

Figure 3 shows the total number of patients seen per ward. Surgery had the largest number of referrals (n=121, 46%). This is due to a large number of orthopaedic cases, postoperative chest care, burns and traumatic spinal injuries seen on the surgical ward. 39 patients (15%) were referred from the medical

ward. These were largely referrals for chronic chest complaints, neurological problems such as strokes or Guillain-Barré syndrome, or arthritic problems. 34 patients (13%) were referred from the intensive care unit (ICU). Since it was a four-bedded unit, this represents a large percentage of the total number of patients admitted to this ward. Patients from ICU may have been referred with the medical or surgical problems listed above. Unconscious patients were also seen at the ICU for assessment and management of airway problems.

The most common referral from the paediatric medical ward (n=35, 13%) was for management of neurological conditions, usually as a result of meningitis, either acute or where the condition had resulted in cerebral palsy. Chest infections and arthritic conditions also contributed to the referrals seen. Paediatric surgical patients (n=26, 10%) were referred largely for burns, but neurological

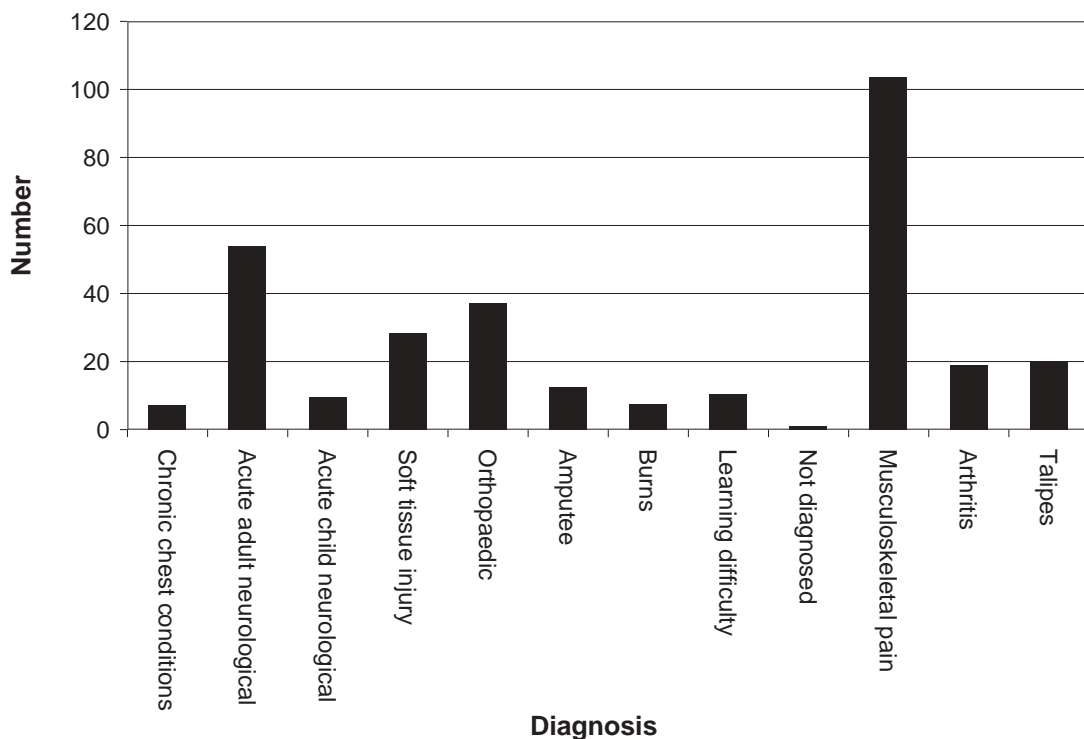


Figure 2. Distribution of indications for physiotherapy among outpatients.

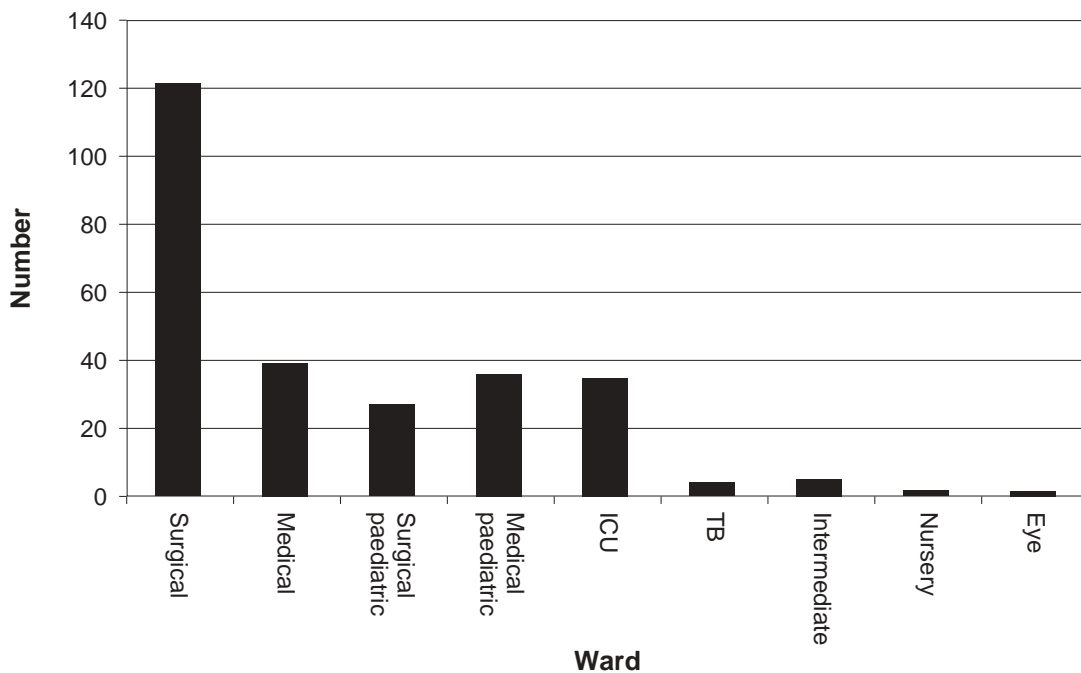


Figure 3. Patients seen according to wards. TB = Tuberculosis ward; ICU = Intensive care unit

conditions, especially head injuries, arthritic complaints and some orthopaedic conditions were also seen.

Time spent per ward

Figure 4 gives the time spent per ward. A total of 819 hours was spent treating inpatients. 386 hours (47%) of treatment time, was spent on the surgical ward, corresponding to the large caseload from that ward. The percentage of time spent per ward was similar to the percentage of patients seen from a particular ward. For example, the medical ward (123 hours) took 15% of the total treatment time, and had 15% of the caseload. The paediatric surgical ward (87 hours) took 11% of the treatment time, and had 10% of the caseload.

Intensive care received only 7% (58 hours) of treatment time, despite having 13% of patients. This reflects the fact that patients on ICU are often severely ill and treatment times have to be kept short. All remaining wards recorded 9% of total treatment time for a small number of patients. The vast majority of this time was spent on the tuberculosis (TB) ward.

Diagnosis and average length of treatment time per patient among inpatients

Table 4 illustrates the amount of treatment that an individual patient received, dependent upon their diagnosis. Patients who required most intensive physiotherapy would have required more treatment sessions. Adults with neurological conditions (10 sessions/patient), burns patients (8 sessions/patient) and acute chest infections (7 sessions/patient) received the most physiotherapy per patient. These patient groups, together with children with acute neurological conditions, also required the most treatment time per patient. Children with neurological conditions had fewer treatments per patient than adults with neurological conditions.

Certain groups of patients needed longer sessions than others. Patients requiring neurological rehabilitation received the longest individual treatment sessions, apart from postoperative chest care. Patients with arthritis also required long sessions, giving each patient a relatively large amount of treatment (167 minutes), despite relatively few treatment sessions (5 sessions). Burns patients received

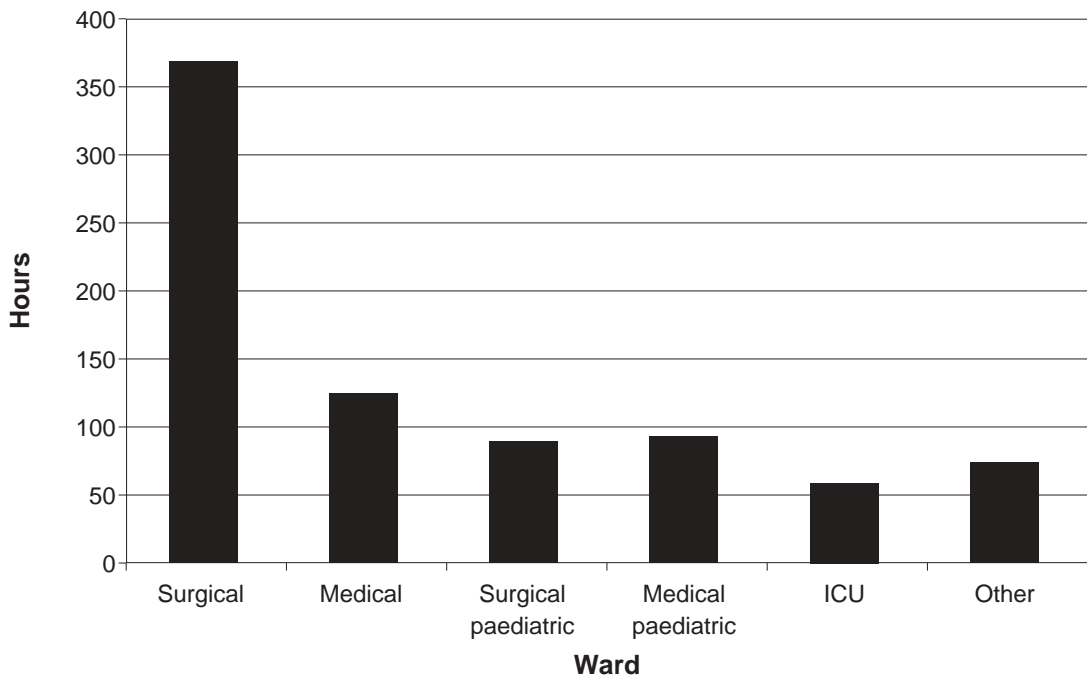


Figure 4. Total time spent in different wards. ICU = Intensive care unit

shorter treatment sessions (29 minutes) although, overall, each patient was seen for a long period of treatment (236 minutes).

Diagnosis and average length of treatment time per patient among outpatients

Table 4 illustrates the average amount of treatment that an individual outpatient

received, depending upon their diagnosis. Children with talipes were the most regular attenders, with an average of 7 sessions per patient. Most patients seen in outpatients complained of musculoskeletal pain. However, few attended more than once (1.2 sessions per patient). Musculoskeletal patients received an average of 32 minutes per patient. This is lower than in many other conditions

TABLE 4

DIAGNOSIS AND AVERAGE LENGTH OF TREATMENT TIME PER PATIENT

Diagnosis	Mean number of treatment sessions per patient by diagnosis	Mean time spent per patient by diagnosis (minutes)	Mean length of treatment session by diagnosis (minutes)
Inpatients			
Acute chest infection	6.9	187	27
Chronic chest infection	2.1	56	27
Other chest conditions	2.2	55	25
Chronic neurological problem	2.0	75	38
Acute neurological conditions in adults	10.0	387	39
Acute neurological conditions in children	5.3	211	40
Postoperative chest care	1.2	87	73
Orthopaedic case	4.3	76	18
Amputee	3.0	67	22
Burns	8.1	236	29
Learning difficulty	6.0	186	31
Arthritis	4.8	167	35
Talipes equinovarus	2.0	18	9
Outpatients			
Chronic chest conditions	1.5	76	51
Acute neurological conditions in adults	1.9	64	34
Acute neurological conditions in children	2.2	25	11
Soft tissue injury	1.5	36	24
Orthopaedic rehabilitation follow-up	2.3	61	27
Amputee	1.2	31	25
Burns	1.0	72	72
Learning difficulty	1.4	66	46
Musculoskeletal pain	1.2	32	26
Arthritis	2.4	75	31
Talipes equinovarus	6.8	203	30

seen, despite a large caseload of patients (n=104).

Overall, outpatients were seen less often and for shorter treatment sessions than inpatients. For example, adults with neurological conditions were seen for an average total of 64 minutes compared with 387 minutes for inpatients.

Discussion

Methodology used

The modified Körner form provides an accurate means of recording caseload. It may be believed that staff may overrecord the number of patients seen or exaggerate length of treatment session. However, separate treatment notes were kept for all patients. These notes would correspond to the number of patients entered into the form on that day. Initially staff had difficulty estimating length of treatment sessions. However, the tendency was to underestimate treatment time. By the time of this audit, all staff had been using the system for several months and were aware of the importance of accurate recording.

This study was unable to consider outcome of patients who received physiotherapy, and this would be dependent on input from other professionals involved in the management of the patients (6). Further studies are recommended to investigate outcome of patients suffering severe disability in hospitals in PNG.

The diagnosis codes used were broad, particularly for patients with neurological disability. This prevents conclusions being drawn about specific diagnosis groups. For example, a patient with a peripheral nerve injury would be expected to follow a different recovery path from that of a patient with a spinal cord injury. Further studies are recommended to analyze in more detail the diagnosis of patients reporting for physiotherapy.

Overall caseload seen

571 patients were seen during the course of this study. The figure may appear low when compared to other services, for example, the

number of X-rays taken, or patients seen in the outpatient department. However, a large amount of time is spent with each individual patient. Most patients require several sessions of physiotherapy. As a result, on average an inpatient requiring physiotherapy could expect to be seen 6 times with a total of 3 hours of treatment time. This represents a considerable input into that individual's care whilst in hospital. If allowance is made for patients who died, were discharged early or transferred, the figures would be even higher.

It is not possible to measure the quality of a physiotherapy service on the number of patients seen alone as this does not reflect the input required for each patient. Time spent per patient and number of treatment sessions received give a much clearer picture of the quality of the service provided.

When the caseload is broken down into diagnosis groups, it is seen that the most commonly treated conditions are neurological problems in adults, particularly spinal injuries, strokes and head injuries; patients requiring orthopaedic rehabilitation; children with neurological conditions, especially cerebral palsy; burns; and arthritic problems. All these conditions can result in permanent disability or death. However, many of the conditions mentioned do not respond effectively to medical or surgical intervention in isolation and patients suffering from these conditions are often told, "Nothing can be done".

Amongst these patients, a major component of their disability is related to physical problems such as loss of muscle strength or joint stiffness. Physiotherapy is able to address these needs, thus greatly improving the prognosis of patients left disabled by their condition. Patients seen by physiotherapy represent the tip of the iceberg in terms of the level of disability in patients within the community.

Caseload per diagnosis

Adults with neurological conditions were seen most commonly, received the most treatment sessions per patient and required the longest treatment time. This reflects the severity of disability associated with such conditions. Observation would suggest that

patients with neurological conditions, particularly spinal injuries and Guillain-Barré syndrome, suffer particularly high rates of mortality, largely through avoidable secondary complications, especially pressure sores and chest infections. Physiotherapy is able to combat these secondary problems and has been shown to be effective in restoring function in patients with neurological conditions (7).

Patients with burns or arthritic conditions commonly develop joint contractures as a result of their condition. This results in gross deformity and loss of mobility, particularly if the knee joint is affected. Physiotherapy can prevent contractures through active exercises, stretching and splinting. Hence these patients were routinely seen during the course of the audit. Individual treatment sessions for burns patients were kept short (29 minutes) in order to prevent pain, especially as most patients were children. Patients with arthritic conditions required longer sessions (35 minutes) as it often took a while for them to overcome joint stiffness.

A further example of where physiotherapy intervention can prevent complications is in the management of respiratory conditions. After abdominal surgery patients are at risk of chest infection. However, once they are mobile and out of bed, this risk is greatly reduced (8). The simple act of encouraging mobility and teaching forced expiratory technique (removal of chest secretions without coughing) on the first day following operation will minimize the risk of chest infection. Likewise, positioning of unconscious patients and interventions such as nasopharyngeal suction help to keep the airways clear and free from infection.

Some children with respiratory infections were seen during the audit. However, successful intervention appeared problematic, mainly because it did not prove possible to ensure that treatment protocols were maintained in the absence of a physiotherapist. These referrals were therefore discouraged unless the patient was already known to physiotherapy due to another problem, for example, a child with cerebral palsy and a superimposed chest infection.

The TB ward required a disproportionate amount of total available treatment time for the

number of patients seen on the ward (3 patients). This is due to the complicated nature of disability associated with such a chronic condition. All patients seen on the TB ward had neurological signs associated with spinal TB and required long-term regular rehabilitation. Most TB patients were seen three times a week for several months; subsequent recovery often resulted in return of full lower limb function.

Inequalities in service provision

Inpatients were seen more often than outpatients and received longer treatment sessions. One explanation for this is the fact that outpatients were generally less sick than inpatients and hence needed less treatment. However, once inpatients were discharged they rarely attended regularly for treatment. Common reasons cited include cost of journey to hospital, shame arising from the condition and lack of time to attend or a guardian to escort them. This is despite the need for ongoing rehabilitation, particularly for burns, spinal injured and hemiplegic patients.

Ideally patients should be followed up in the community by CBR organizations (5). However, the capacity of such organizations is limited. As a result, patients regularly leave hospital and go on to develop complications resulting in severe disability or even death within a few months.

To overcome this problem, it is recommended that patients who are seen to be benefiting from physiotherapy should remain in hospital until their physical rehabilitation needs have been fully addressed. The decision to discharge a patient should be planned and made in discussion with that patient, relatives and members of the multidisciplinary team involved in their management.

The one group of patients who do attend outpatients regularly are children with talipes equinovarus. This is because of the obvious nature of the disability and the fact that it may be cured. Mothers of children with talipes are advised at the first treatment session of the need for prolonged physiotherapy, usually 6 months of stretching and casting. All patients with talipes are encouraged to attend together, to provide peer support to parents; they are

seen as a high priority and made to feel welcome at every session. No patients were specifically admitted due to talipes. Only those born in the hospital with the condition were seen as inpatients. Hence the small number of referrals for inpatients.

Children often receive less treatment than adults with similar conditions. This can be seen clearly with inpatients diagnosed with neurological conditions. The reasons for this include a high mortality rate amongst infants with meningitis or encephalitis. However, there are many instances where parents discharge children against medical advice. Parents with neurologically affected children require lengthy advice and counselling from hospital staff to ensure compliance with treatment.

More men were seen than women, both for outpatients and inpatients. Explanations may include the fact that female children are believed to be less likely to suffer disability than males (9,10). A further possibility may be that men are more likely to be involved in trauma than women, although this cannot be verified. More research is suggested to ensure that females have the same access to medical services as males in the highlands.

Many patients are referred with musculoskeletal pain. These patients are not seen as a high priority by the physiotherapy department due to the fact that pain alone rarely results in severe disability. Psychosocial factors involved in the reporting of chronic pain are poorly understood in PNG and it is often difficult to provide satisfactory intervention through physiotherapy. Hence patients are rarely seen more than once. These patients place a high demand on the resources of the physiotherapy department, for relatively minor benefit. Their referral is discouraged in favour of patients with more disabling conditions.

Conclusion

The audit illustrates the value of a physiotherapy service to a provincial hospital in PNG. Often the patients seen by the physiotherapist and assistants represented the most sick and disabled within the hospital and community at large. Whilst no attempt to

measure outcome has been made, it is clear that the level of intervention provided, including time spent and number of treatment sessions per individual patient, represents a huge improvement in the quality and range of care offered to these patients. No other facilities exist for rehabilitation within the district and often the prognosis for the patients seen would be poor without such service.

The main improvement likely with the introduction of physiotherapy is in the reduction of secondary complications following illness or trauma. Prevention of these complications will allow for recovery, prevent morbidity and occasionally reduce mortality. Improving a patient's physical condition will also speed up the process of recovery, or allow people to deal more easily with their disability within the community. However, patients need the opportunity to undergo a full rehabilitation program. Currently, due to poor facilities for rehabilitation within the community and problems of accessing hospitals for outpatient treatment, this is best achieved by a prolonged hospital stay.

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