MEASUREMENT OF NEED IN THE HSE-SWA: A MEASURE OF NEEDS AND CORRELATION WITH INTERVENTION IN HOME AND COMMUNITY-BASED SERVICES IN GENERAL ADULT PSYCHIATRY AND PSYCHIATRY OF LATER LIFE.

(A correlation of needs and intervention in home and community based psychiatric services in the HSE-SWA)

DR. SIOBHAN NI BHRIAIN, MRCP (Lon), MRCPsych.

Table of Contents

ACKNOWLEDGEMENTS 4
SUMMARY 5
BACKGROUND 8
METHODOLOGY 11
Subject selection: 11
Statistical Analysis 12
RESULTS 13
Characteristics of Study Cohorts 13
Service Utilization 14
Needs in Services 14
CONCLUSIONS 23
Psychiatry of Later Life: 23
General Adult Psychiatry 23
Crumlin 23
Clondalkin 24
Between Sectors 24
DISCUSSION 25
TABLES 27
REFERENCES 32
DISSEMINATION STATEGY AND OUTPUTS 35
APPENDICES 36
APPENDICES 1 and 2: CANSAS and CANE 36
APPENDIX 3: PLL COMPARISON OF NEEDS FOR ENTIRE COHORT OVER TIME 38
APPENDIX 4: CRUMLIN COMPARISON OF NEEDS OF TIME 41
APPENDIX 5: CLONDALKIN COMPARISON OF NEEDS OVER TIME. 44

ACKNOWLEDGEMENTS

This project was funded by the Mental Health Commission following the awarding of a research grant in 2006.

I want to acknowledge the ongoing support of the Mental Health Commission, not just for financing the project but for advise and support in the continuation of the project and their willing engagement with changes that were made in personnel and time lines along the way.

Further acknowledgements are due to Ms. Valerie Kilcoyne, Senior Occupational Therapist who tirelessly collected and helped to collate data officially from 2007 until 2008 but has since remained a willing contributor to the project.

Many thanks to my consultant colleagues in the Dept. of Psychiatry, AMNCH, whose patients were participants in the project. They are Dr. Patrick Devitt, Dr. Tom McMonagle, Prof. Greg Swanwick and Dr. Finian Kelly. I hope the data we have collected will be of ongoing benefit to them in managing their services. Thanks also to Prof. Veronica O'Keane, whose advice on statistics was invaluable and very timely.

Thanks to colleagues on the Psychiatry of Later Life Team in AMNCH who were enthusiastic participants in data collection and are still measuring patient needs.

Many thanks to my family, Tom, Catherine and Eleanor for listening when needed and staying quiet for too many evenings!

Finally, the biggest acknowledgement of all to the patients and their families who participated-we would have none of this data without them.

SUMMARY

This project was funded by the Mental Health Commission and the purpose of it was to measure needs longitudinally in 2 sectors providing different models of care in General Adult Psychiatry (GAP) and Psychiatry of Later Life (PLL) in a large urban-based catchment area, the Health Services Executive-South Western Area (HSE-SWA), Dublin West/South-West (Tallaght) service. Measures of met and unmet need were then correlated with the mode of service delivery. This study was a naturalistic one and aimed to address the issues of correlation of needs and mode of service delivery and therefore provide information vital in the planning of service provision.

Current international consensus is that mental health care should be delivered with an overall emphasis on services in the community but with acute hospital care where necessary. However, the change from asylum-based care to community care in Ireland has been ad-hoc over the years and the provision of services characterized by a lack of necessary service development at local, regional and national level, a lack of CMHTs throughout the country (1) and uneven allocation of resources.

The HSE-SWA Dublin West/South-West service provides care to one of the largest catchment areas in the country, serving a population of 256,566, with a population of 18,688 over the age of 65 years (2). The catchment area is broken down into four General Adult Psychiatry sectors providing care to those aged between 18 and 65 and there is a Psychiatry of Later Life service providing care to those aged 65 throughout the entire catchment area. The catchment area has the lowest bed availability in the country, 35.0 per 100,000 and the third lowest bed usage in Ireland, with an admission rate of 225.3 per 100,000 population in 2008 and no dedicated beds for the PLL service.

The two General Adult Psychiatry sectors examined for this study were the Clondalkin and Crumlin sectors. These sectors were chosen because the Home-Care Teams were in very different stages of development-the Clondalkin sector has a long-established community-based service, providing home-care and day hospital in the community but the home-care team in Crumlin was only starting. The interventions measured were Day Hospital, Home-Care and a combination of both.

This study was a prospective, longitudinal, naturalistic one and the data was collected over a 2 ½ year period and included assessments at baseline, at end of intervention and 6 months after the end of intervention. The outcome measure used was the Camberwell Assessment of Need-Short Appraisal Scale (CANSAS) for the General Adult Psychiatry (GAP) sectors and the Camberwell Assessment of Need for the Elderly-Short Version (CANE-S) for the Psychiatry of Later Life (PLL) Service.

The delivery of services in this catchment area is based on best international evidence, providing as much care in the community as possible but with acute in-patient hospital care available when needed. This study looked at the efficacy of this community-based service delivery.

The most important overall finding of the study is that the community-based interventions successfully meet a substantial portion of needs at the intervention examined and that these needs *remain met* six months after the end of the intervention. This is important because it demonstrates the efficacy of the service to meet needs on a sustained basis even when the intervention has been discontinued. All interventions significantly reduced unmet need as identified at the outset of the intervention and these remained reduced after six months, with a significant increase in met need and/or a reduction in total needs. Both GAP Sectors and Psychiatry of Later Life demonstrated a clear ability to meet needs.

Further findings demonstrated that there were variations in the efficacy of the different interventions within the different areas examined. In Psychiatry of Later Life, the Day Hospital did not appear to as effectively sustain needs at 6 months after discharge than did the Home Care Team or combination.

In Crumlin, the number of total needs identified at the outset had reduced significantly at the end, along with the number of unmet needs, suggesting that certain met needs were no longer regarded as needs after 6 months. The HCT in Crumlin had patients with high levels of need from the outset, suggesting that the team was happy to use this resource for patients with many needs from its' inception.

For Clondalkin, the patients with the highest number of needs were also referred to HCT, and these reduced significantly over time, ultimately resulting in less total needs and less unmet needs than DH, suggesting that HCT is a more effective intervention in Clondalkin.

For both sectors, there were similar levels of total, met and unmet needs at the outset but total needs were significantly lower in Crumlin than Clondalkin after 6 months. However, Clondalkin patients had higher levels of met need, suggesting that either Crumlin was more effective at meeting needs or that needs were more difficult to meet and required more ongoing intervention in the Clondalkin sector.

Nonetheless, despite the differences found between sectors and within sectors, the overall finding is that unmet needs are effectively met and reduced on an ongoing basis by community and home-based interventions in this service.

INTRODUCTION

My interest in measuring outcomes in a community setting was stimulated by going to work as a Senior Registrar in the Clondalkin Sector in AMNCH, the first and most well developed urban-based community service in Ireland. While I had previously worked in a community-based service in the UK, Clondalkin was the first in Ireland to operate like this and was very different to my other, more hospital-based experiences. The dearth of evidence for the provision of community-based care in Ireland was apparent, although it is well studied in other countries.

The purpose of this research was to measure needs longitudinally in 2 sectors providing different models of care in General Adult Psychiatry (GAP) and Psychiatry of Later Life (PLL) in a large urban-based catchment area, the Health Services Executive-South Western Area (HSE-SWA), Dublin West/South-West (Tallaght) service. Measures of met and unmet need were then correlated with the mode of service delivery. This study was a naturalistic one and aimed to address the issues of correlation of needs and mode of service delivery and therefore provide information vital in the planning of service provision.

Aims of Project:

1. Measurement of needs in two sectors providing models of care at different stages of development and two specialty areas-general adult psychiatry and Psychiatry of Later Life (PLL).
2. Correlate measures of met and unmet need at three points in time-at the start of an intervention, at it's completion and six months after the completion date.
3. To determine if interventions meet needs and if needs continue to be met six months after the completion of the intervention.
4. To determine if there is any difference in outcome between different interventions.
5. To determine if there was a significant difference in the outcomes for patients attending a newly developed team by comparison with a long-established one.

BACKGROUND

Mental health disorders are estimated to have accounted for 12-15% of total disability in the world in 2000 (3) as measured by disability adjusted life years (DALYs) and by 2020 it is estimated that they will account for 15% of total disability (4, 5). This is more than disability caused by cardiovascular disease and twice as much as that caused by cancer and represents 20% of the total burden of ill-health in Europe (6). There are very considerable economic costs associated with mental health disorders with 60-80% of costs occurring outside the health services for reasons such as lost employment, premature retirement and poor performance at work (7). Despite this, the development of mental policies and promotion of mental health is low priority in many countries, with little focus on the environmental and social consequences of mental ill-health (7).

Over the last number of years, there has been considerable debate internationally over how best to deliver mental health care-whether it should be hospital-based or community-based. Historically, the provision of mental health services has shifted from asylum-based care, where care was provided in large single specialty hospitals that isolated both the patient and mental health professionals from the community, to a community approach, whereby unnecessary admissions were avoided and previously institutionalized patients were discharged into the community (8). Strong evidence has emerged internationally that the asylum model resulted in poor standards of care and treatment (9). Well managed and planned discharge from asylum to community care (de-institutionalisation) results in more favourable outcomes for most patients (10-12) and transfer of care from institution to the community has been shown to be successful when properly funded and supported (9).

Current consensus has shifted towards an integrated approach to the provision of mental health care, with evidence supporting a combination of acute hospital care where necessary, but an overall emphasis on services in the community that include accessible out patient clinics (OPD), community mental health teams (CMHTs), both generic and specialized, ambulatory clinics, home-care teams and acute day hospitals (13-15). UK experience suggests that the generic, non-specialized CMHT results in greater engagement with services, greater carer satisfaction and higher levels of met needs (16-19). Within the paradigm of CMHTs, services offered can be specialized by providing assertive community teams, early intervention teams and home treatment teams, amongst others. Home-based teams essentially offer an alternative to acute admission and evidence would suggest that they reduce the number of days spent in hospital by those with acute mental illnesses (20, 21). There is no evidence to support the view that care can be provided without acute hospital beds (15).

There is a widespread international consensus that the provision of mental health services should be needs-led rather than service led, that care should be delivered through community and general health settings rather than through large

institutions (22-24) and that resource allocation should follow need (25), rather than historical precedent or political judgment, as would currently appear to be the case (26).

It is useful to conceptualise service provision according to Thornicroft and Tansella's matrix model (27), whereby provision of care is viewed along two dimensions - the geographical and the temporal. Within these dimensions, there are three geographical levels (country/regional, local and patient) and three temporal levels (inputs, processes and outcomes). At patient level, increasing emphasis is being placed on user involvement in service provision (22, 24) and the delivery of a needs-based service which is evidence-based (28).

While the movement from asylum to community started in the UK in the 1950s, it is really since the Planning for the Future document in 1984 that the focus of mental health care moved from the hospital to the community in Ireland (29). This has now been replaced with Vision for Change, which details a comprehensive model of community-based mental health services for Ireland(30). It would appear that in Ireland the closure of long-stay wards without alternative care programmes was not a success (31) and the Inspector of Mental Health Services has identified a lack of true functioning community mental health teams (CMHTs) throughout the country (1). Overall, the provision of mental health services in Ireland is characterized by a lack of necessary service development at local, regional and national level, a lack of CMHTs throughout the country (1) and uneven allocation of resources (**Error! Hyperlink reference not valid.**).

Total health spending in Ireland in 2002 accounted for 7.3% of gross domestic product (GDP), which is lower than the Organisation for Economic Co-operation and Development (OECD) countries average of 8.6% and in the context of the strong economic growth over the previous 7 years in this country, represents a proportional increase of just 1% of GDP devoted to healthcare (33). As an overall proportion of health spending however, spending on mental health has decreased from 12% of the total health budget in 1998 to 7% in 2003 (26). This compares to 12% of the total health budget in the UK. Furthermore it is evident that within that limited budget, resources are allocated not according to need, but appear in fact to be better allocated to areas of greater affluence (**Error! Hyperlink reference not valid.**). This is despite the fact that it has been demonstrated that areas of greater social deprivation have higher rates of psychiatric disorders and therefore greater need of services (34), and, the economic burden of mental illness on society is, by the most conservative estimate, considerable (7).

The HSE-SWA Dublin West/South-West service provides care to one of the largest catchment areas in the country, serving a population of 256,566, with a population of 18,688 over the age of 65 years (2). The catchment area is broken down into four GAP sectors providing care to those aged between 18 and 65 and there is a PLL service providing care to those aged 65 throughout the entire catchment area. The catchment area has the lowest bed availability in the country, 35.0 per 100,000 and the third lowest bed usage in Ireland, with an admission rate of 225.3 per 100,000

population in 2008 (35) and no dedicated beds for the PLL service, although patients can be admitted to the GAP wards. Two of the GAP sectors were examined for this study-the Clondalkin and Crumlin sectors. These sectors were chosen because the Home-Care Teams were in very different stages of development-the Clondalkin sector has a long-established community-based service, providing home-care and day hospital in the community but the home-care team in Crumlin was only starting. The home-care teams in the other sectors had been started well before that of the Crumlin sector, but after that of the Clondalkin sector. In the context of a service with a strong community-based ethos, limited bed availability and teams at various stages of development, the efficacy of the community-based service was examined to determine if patient needs are being met.

METHODOLOGY

In this prospective, longitudinal, naturalistic study, data was collected over a 2 ½ year period, and included all assessments at baseline, at the end of intervention and 6 months after the end of intervention. The data was collected by two researchers (SNiB and VK) who were trained in administration of the CANSAS and the CANE. Full ethics approval for the study was obtained from the Ethics Committee of the Adelaide and Meath, incorporating the National Children's Hospital (AMiNCH) in Tallaght, Dublin. The data was collected from the PLL Service and from two GAP sectors within the entire catchment area, out of a total of four sectors. These sectors were chosen because Clondalkin has the longest established home care team in the catchment area and the home care team in Crumlin was in it's infancy at the time of the start of the study. The other sectors in the catchment area had home care teams for a longer period of time than Crumlin but less than that of Clondalkin.

Subject selection:

Psychiatry of Later Life: One researcher attended the community mental health team meetings of the team once weekly and all subjects aged 65 and over referred to home-care and/or day hospital on that week were included in the study. Thus, there was no selection bias. All diagnoses were made by the community mental health team led by the responsible Consultant Psychiatrists and were based on ICD-10 diagnostic criteria (36). The exclusion criterion was age under 65 years old.

General Adult Sectors: Subjects were recruited at the weekly team meetings, attended by the multi-disciplinary team and led by the sector Consultant. Patients were excluded if they were aged under 18 years old or 65 or over. All patients referred to any of the interventions under study were included in the study i.e. DH, HCT, DH and HCT (combination). Thus, there was no selection bias. All diagnoses were made by the responsible Consultant Psychiatrists in conjunction with the community mental health teams and ICD-10 diagnostic criteria were used (36).

Assessment

Psychiatry of Later Life: All subjects had an ICD-10 (36) diagnosis made by the Consultant Psychiatrists in conjunction with the Community Mental Health Team at the weekly team meeting. All diagnoses were reviewed and updated where necessary. All subjects were then assessed using the CANE-S (37) prior to or just when starting the intervention. The CANE-S was completed by team members who were trained in the CANE or by one of the two researchers. Needs were assessed at three time intervals-at the start of the intervention, at the end of the intervention (discharge from intervention) and 6 months after completion of the intervention. The ratings were completed by the patient (CANE-P) and family member (CANE-F) at each time point.

General Adult Sectors: All subjects were diagnosed using ICD-10 diagnostic criteria (36) and were reviewed and updated as necessary. All subjects had the CANSAS done at three points in the study-at the start of the intervention, at the end of the intervention and 6 months after the end of the intervention. The ratings were completed for all patients by the patient and the rater, and by the family for those patients who allowed us to include family members in the study.

Outcome measures

Psychiatry of Later Life: The outcome measure/needs assessment tool used was the CANE-S, which measures needs in 24 areas plus two further items for carers-need for information and psychological distress. For each CANE item, the needs are rated as follows: 0 (no need), 1 (met need), 2 (unmet need/current problem) and 9 (not known). All questions relate to needs in the previous month (see Appendix 1).

General Adult Sectors: The CANSAS is a 22-item questionnaire and each item was rated as follows: 0 (no need), 1 (met need), 2 (unmet need/current problem) and 9 (not known). All questions relate to needs in the previous month (see Appendix 1).

Interventions

Psychiatry of Later Life: Patients attended the Day Hospital (DH) at least once weekly, were visited at home by the Home-Care Team (HCT) at least twice weekly or had a combination of both interventions. The decision about which intervention was most appropriate for an individual one was entirely clinical and was based on the Multi-Disciplinary Team's decision.

General Adult Sectors: The interventions measured were Day Hospital (DH)-at least one attendance per week, Home Care Team (HCT)-at least two visits at home per week, or a combination of both which involved at least two contacts with the service per week. The decision about which intervention was most appropriate for each patient was made by the Multi-Disciplinary Team on clinical grounds alone and it was only after the clinical decision was made that the needs assessment was done.

Statistical Analysis

The needs data was analysed using SPSS (PASW Statistics 18), using one-way ANOVA to compare needs within groups over the three time points and between groups at each of the three time points. The comparisons were made between total, met and unmet needs at the start, discharge from intervention and 6 months following the end of the intervention for each separate service and further comparisons were made between the different interventions and both GAP services. Comparisons between families and patients estimates of need in PLL were made using paired T-tests. The total, met and unmet need between the two GAP services were compared using Independent Samples T-tests. The PLL needs were not compared with those of the GAP services as the CANE differs to the CANSAS, and, as

will be seen in the results, the needs of older people were considerably greater than those of younger people.

RESULTS

This was a longitudinal study aimed at establishing the following:

1. Did interventions meet needs at the end of the intervention?
2. Did those needs remain met 6 months after the end of the intervention?
3. Were needs met by all the interventions?
4. Was there any difference in outcomes for the different interventions?
5. Were there any differences in families versus patients' estimates of needs in PLL?
6. Was there any difference in the meeting of needs between the two GAP services?

Characteristics of Study Cohorts

In total, 319 patients were recruited for this project, 140 from the PLL service and 179 from GAP.

Psychiatry of Later Life: (See Table 1) A total of 140 patients were recruited at the outset, with a male: female ratio of 47:93, mean age 76.36, range 65-88. As all patients referred to the services were recruited for the study, there was a wide spread of diagnoses, which were divided into three broad groups as follows:

1. Dementia with Behavioural and Psychological Symptoms (BPSD), this included all types of dementia, including Alzheimer's Disease, Vascular Dementia, Fronto-Temporal Dementia and Dementia on the Lewy Body/Parkinson's Disease Spectrum. The BPSD symptoms included anxiety, depression, agitation, aggression and psychosis.
2. Affective Disorders: including Depression, Anxiety and Depression and BiPolar Affective Disorder. These patients were not cognitively impaired.
3. Psychotic Disorders: Late Onset Psychosis and Schizophrenia.

General Adult Sectors: (See Table 2) A total of 110 patients were recruited from the Clondalkin Sector and a total of 69 from the Crumlin Sector. There was a wide range of diagnostic groups, as all patients referred for intervention were included in the study. The categories were divided into four broad groups as follows:

1. Affective Disorders: including depression, bipolar affective disorder (BPAD)
2. Neurotic, Stress-Related and Somatoform Disorders: including phobic anxiety disorders, other anxiety disorders (include GAD), OCD, Reaction to severe stress, adjustment disorders, dissociative (conversion) disorders, somatoform disorders, other neurotic disorders.
3. Psychotic Disorders:_ Schizophrenia, Schizoaffective disorder
4. Personality Disorders: no co-morbid diagnosis
5. Dementia-there were no patients in this diagnostic category

Service Utilization

The patients in all sectors attended the DH, HCT or a combination of both. This decision was an entirely clinical one.

Psychiatry of Later Life: (See Table 3) A total of 62 subjects attended the DH, 16 males and 46 females, with a mean age of 77.34. Of these, 25 had a diagnosis of dementia, 29 a diagnosis of Affective Disorder and 8 were in the psychosis group. 43 patients attended HCT, 17 males and 26 females and this group had a mean age of 75.5. The diagnostic breakdown in this group was 19 in the dementia group, 18 with a diagnosis of Affective Disorder and 6 were in the Psychosis group. 35 patients attended a combination of each service, 14 males and 21 females and the mean age of attendees was 75.7. For this group, the diagnostic breakdown was as follows: 21 with dementia, 12 with an Affective Disorder and 2 with Psychosis.

General Adult Psychiatry: (See Table 4) In the Crumlin Sector, a total of 32 patients attended the DH, with a mean age of 34.6 and the ratio of male to female was 13:19. 25 patients attended the HCT, 11 males and 14 females, with a mean age of 32.3. The combination of DH and HCT was attended by 12 patients; 9 males and 3 females, and this group had a mean age of 30.3. The Clondalkin sector had 60 patients attending its DH, with a mean age of 36.55, and a M: F ratio of 24:36. A total of 35 patients attended the HCT, M: F ratio 18:17 and a mean age of 34.11, while 15 patients attended a combination of both. This group had a M: F ratio of 7:8 and a mean age of 31.66.

Needs in Services

Psychiatry of Later Life: (See Table 5) In PLL, we looked at the changes in needs as measured by patient and family over the three time points and for the three interventions. We also looked at how families' and patients' estimates of need compared with each other. As can be seen from Table 7, the overall level of need was much higher for older patients than those attending the GAP services, with total needs at each time point exceeding 20 for all rated needs.

<u>Patients' measures of need:</u> (see Tables 5 and 6)

Over time: For the entire cohort of 140, there was a significant change in total, met and unmet needs, over the start, end and 6 months after intervention. The significant changes lay in the slight reduction of total need from discharge to 6 months, in the significant increase in met need from start to discharge, and the reduction in unmet need was also significant between the three time points, with the significant difference between start and discharge, and no significant change from end to 6 months.

DH: There was a small but significant reduction in total needs for this group over the three time points, with the significant change occurring from discharge to 6

months. The increase in met needs from start to discharge was significant, with another significant change, but this time a reduction, in met needs from discharge to 6 months. Unmet needs reduced significantly from start to discharge and this reduction was sustained at 6 months. The slight reduction in total needs at 6 months was not sufficient to account for the larger reduction in met needs at 6 months.

HCT: Total needs remained similar at each time point in the study, but met needs increased significantly from start to discharge and remained high at 6 months. Unmet needs reduced significantly from start to discharge and while there was a slight increase from discharge to 6 months; this was not significant.

Combination: Total needs remained very similar for this cohort as well, with a significant increase from start to discharge in met need and a further slight but insignificant increase from discharge to 6 months. Unmet need was reduced substantially from start to discharge, with a further small and insignificant reduction from discharge to 6 months.

Between Interventions at start: There was no significant difference in the level of total needs as identified by the patients at the start of the three different interventions. The combination group had a significantly higher level of met need at the start than the DH group but the difference between it and HCT was not significant. The DH grouped identified significantly higher levels of unmet need by comparison with either HCT or combination, with no significance in the difference between HCT and combination.

Between Interventions at Discharge: There was no significant difference between total needs for any of the three interventions at discharge. Patients identified significantly higher levels of met need in the HCT group than the DH group at the time of discharge. The difference between HCT and combination and between DH and combination was not significant. For unmet need, there were significantly higher levels of unmet need in DH than HCT, with no difference between DH and combination or HCT and combination.

Between Interventions at 6 months: The DH patients identified a small but significant less number of total needs than the HCT or combination groups at 6 months, with no difference between HCT and combination. A significant difference between the groups was again noted after 6 months, for met and unmet needs. There were a significantly higher number of met needs in both HCT and combination than DH with no significance between HCT and combination. For unmet need, the DH had significantly higher numbers of unmet need than combination but there was no significance between either DH and HCT or HCT and combination.

Families' measures of need: (see Table 7)

Over time: A family member was interviewed (with patient consent) for each patient in the entire cohort and this also showed a significant change in both met and unmet need over the three time points. The significant difference for both met and unmet need lay between the start and end of intervention time points. The change from discharge to 6 months post discharge was not significant for either met or unmet need.

DH: There was a small but significant reduction in DH total needs from start to discharge, as identified by families, and a small but insignificant increase from discharge to 6 months. Families identified significant increases in met needs from start to discharge and again from discharge to 6 months.

HCT: Total needs remained very similar throughout the study, as identified by families, with significant and sustained increases in met need and reductions in unmet need.

Combination: Families actually identified a slight but significant increase in total needs from start to discharge, with no change from discharge to 6 months, but met needs increased significantly from start to discharge, and remained so, and unmet needs also decreased significantly and remained reduced.

Between Interventions at start: Families identified similar levels of total, met and unmet need for each of the three groups.

Between Interventions at Discharge: There was a small but significant difference in total needs between DH and both HCT and combination, with families identifying a smaller number of total needs in DH attendees. Family members did identify significant differences between the groups at the time of discharge however, with higher numbers of met need for both HCT and combination than DH. DH also had a slightly and significantly higher level of unmet need than HCT but there was no significant difference between HCT and combination or DH and combination.

Between Interventions at 6 months: The DH group had slightly but significantly less total needs by comparison with HCT and combination 6 months after discharge, with no difference between HCT and combination. Families identified high levels of met need and low levels of unmet need for each of the three groups, with no significant differences between any of the interventions.

Patients versus Families Measures of Need:

At Outset: While there was no difference in patients and families estimation of total need at the outset, families significantly estimated higher levels of unmet need and lower levels of met need overall. When broken down according to intervention, however, significant differences in different measures emerged. DH families slightly but significantly estimated lower levels of unmet needs than patients but the

families of those attending both HCT and combination identified significantly higher levels of unmet need and lower levels of met need than did the patients.

At discharge: Overall, families found slightly less total needs than patients at discharge but they identified a small but significantly lower level of met need and there were a minimal difference in patients and families views of unmet need. The DH and HCT families found significantly lower total needs, with significantly lower met need and no significant difference in unmet need. There was no difference in total needs in the combination group, with families finding significantly higher levels of met need and significantly lower levels of unmet need than patients.

At 6 Months: Families overall found slight but significantly higher levels of total needs and met needs, with less unmet needs than did patients at 6 months. When looked according to intervention, DH families found significantly higher levels of total and met need, with lower levels of unmet need. There were no significant differences in any of the needs for families and patients of the HCT group, and families found small but significantly lower levels of met need and higher levels of unmet need for the combination group.

General Adult Psychiatry: (See Tables 8 and 9) Needs were measured by patient, rater and some families for both sectors. Table 8 shows the mean level of total, met and unmet needs as identified by the patients in both sectors and Table 9 shows needs as identified by the rater in each sector.

Patients' measures of need:

Patients in both sectors identified significant increases in met need and significant reductions in unmet need over the duration of the study, with bigger and more significant reductions in total needs occurring from start to 6 months in Crumlin, and this sector showed significantly less total needs at 6 months than Clondalkin. Met needs for both sectors were considerably higher at discharge, but at 6 months Clondalkin patients had significantly higher met needs than Crumlin. Unmet needs were significantly higher in Clondalkin at discharge, but there was no significant difference between the two sectors at 6 months.

Crumlin Sector

Over time: This sector showed a significant reduction in total needs from each time point to the next, with a significant increase in met needs from start to discharge and much smaller but still significant decrease from discharge to 6 months, but the increase from the start to 6 months remained significant. Unmet needs decreased significantly from start to discharge and remained low at 6 months.

DH: There was a very large overall reduction in total needs for this group, with the biggest change occurring from discharge to 6 months. Met needs increased significantly from start to discharge and reduced significantly from discharge to 6

months, but this change was commensurate with the overall reduction in total needs. Unmet needs were decreased considerably from start to discharge, with little further change.

HCT: Total needs reduced significantly from start to discharge and remained lower at 6 months. Met needs increased significantly from start to discharge with a small and insignificant increase from discharge to 6 months. Unmet needs reduced significantly from start to discharge with little further change.

Combination: Total needs remained similar throughout the time of the study, with a significant increase from start to discharge and a significant decrease from discharge to 6 months, although the increase from start to 6 months remained significant. Unmet needs reduced significantly from start to discharge, with a small but significant increase from discharge to 6 months.

Between Interventions at start: The HCT had the highest number of total needs at the start, significantly higher than DH but not combination, which were also significantly higher than DH. Met and unmet needs were very similar for all three interventions.

Between Interventions at Discharge: Combination had significantly higher numbers of total needs at discharge than either DH or HCT but it also had higher numbers of met needs than either of the others. Unmet needs for DH was significantly lower than HCT, although the numerical difference was small.

Between Interventions at 6 months: The DH patients identified considerably less total needs than either of the other two groups, between which there was no significant difference in total needs. However, DH patients had the least number of met needs and unmet needs than the other two groups. There was no significant difference in met and unmet needs for HCT and combination.

<u>Clondalkin Sector:</u>

Over time: Clondalkin patients identified a small but significant reduction in total needs, with the significant change occurring from discharge to 6 months. Met needs increased significantly from start to discharge and remained high at 6 months. Unmet needs reduced significantly from discharge to 6 months, and had a further small but significant reduction from discharge to 6 months.

DH: Total needs for this group increased significantly overall from start to 6 months, with the significant change occurring from discharge to 6 months. Met needs also increased significantly from one time to the next, with the biggest change occurring from start to discharge. Unmet needs reduced significantly from start to discharge and there was no difference between discharge and 6 months.

HCT: Total needs remained the same at discharge as at the start but reduced significantly from discharge to 6 months. Met needs increased significantly from start to discharge and were very slightly but significantly lower at 6 months, with

the overall increase from start to 6 months remaining significant. Unmet needs reduced significantly from each time point to the next, with the reduction from discharge to 6 months commensurate with the overall reduction in total needs.

Combination: Total needs remained the same from start to discharge but decreased significantly from discharge to 6 months and met needs increased significantly from start to 6 months and reduced significantly from discharge to 6 months. Unmet needs reduced significantly from one time point to the next.

Between Interventions at start: Total needs were significantly highest amongst those attending HCT than either DH or combination and were also significantly higher for combination than DH. Met needs were significantly higher in the HCT and combination groups than DH, with HCT also having the highest number of unmet needs. There was no significant difference between the number of unmet needs for DH and combination or HCT and combination.

Between Interventions at Discharge: Again, Clondalkin patients attending HCT identified the highest number of total needs, significantly higher than either DH or combination. Combination had significantly higher levels of total need than DH. Met needs were significantly higher for HCT than either DH or combination, with no significant difference between the latter two. HCT also had the highest number of unmet needs, significantly more than DH, which had significantly less than combination. There was no significance in the small difference between HCT and combination.

Between Interventions at 6 months: At 6 months, Clondalkin patients identified significantly higher levels of total need in DH than either HCT or combination. Met need was similar for both DH and HCT, but was significantly higher for HCT and DH than combination. The level of unmet need was slightly but significantly higher for DH than HCT, with no significant differences between DH and combination or HCT and combination.

Between Sectors:

Total Needs: There was no difference in the number of total needs estimated by all patients at the start, but at discharge and 6 months, Crumlin patients identified significantly less total needs than did Clondalkin patients.

Met Needs: Met needs were also similar for patients in both sectors at the start and discharge but Clondalkin patients estimating significantly higher levels of met need at 6 months.

Unmet Needs: Patients in both sectors identified similar levels of unmet need at the start, with significantly more unmet needs at discharge in Clondalkin and no difference at 6 months.

Raters' measures of need:

Crumlin Sector

Over time: There was a significant reduction in total needs identified by raters in the Crumlin sector over the time of the study, with the biggest and significant changes occurring from discharge to 6 months. Met needs increased significantly from start to discharge and reduced again significantly from discharge to 6 months, the overall change being commensurate with the reduction in total needs. Unmet needs reduced significantly from start to discharge with no change from discharge to 6 months.

DH: Raters found no change in total need from start to discharge and a significant reduction from discharge to 6 months. Met needs increased significantly from start to discharge and reduced from discharge to 6 months, with the overall increase from start to 6 months remaining significant. Unmet need reduced significantly from start to discharge with no change thereafter.

HCT: Total needs remained the same from start to discharge and were significantly reduced at 6 months, while met needs were increased significantly from start to discharge but returned to baseline at 6 months. Unmet needs reduced significantly from start to discharge and remained low at 6 months.

Combination: Total needs did not change from start to discharge and reduced significantly from discharge to 6 months. Met needs increased very significantly from start to discharge, with a significant reduction from discharge to 6 months but the overall increase from start to 6 months remained significant. Unmet need was high at the start and reduced significantly to the time of discharge and remained reduced at 6 months.

Between Interventions at start: Raters identified significant differences in total needs across the three interventions, with the biggest difference between DH, which had the lowest level and combination, which had the highest. Met needs were significantly lower for DH than either HCT or combination with little difference between HCT and combination. Unmet needs were similar for each group.

Between Interventions at Discharge: The combination and HCT groups had significantly higher total needs than DH, with no significance in the difference between HCT and combination. Combination had significantly higher levels of met need than either DH or HCT, with no significant difference between the latter two groups. Unmet needs were similar for all three groups.

Between Interventions at 6 months: Raters identified the highest level of total needs at 6 months in the combination group in Crumlin, by comparison with DH and HCT and HCT was also significantly higher than DH. Combination had the highest number of met needs, significantly more than both DH and HCT, with no difference

between DH and HCT. DH had significantly less unmet need than either HCT or combination, and there was no significant difference between HCT and combination.

Clondalkin Sector

Over Time: There was a significant reduction in total needs as identified by raters, with the biggest change occurring from discharge to 6 months. Met needs increased substantially from start to discharge, with little change from discharge to 6 months. Unmet needs reduced significantly at each time point, with the biggest reduction occurring from start to discharge.

DH: There was no significant change in total needs at any of the three time points. There was a significant increase in met needs from start to discharge and this remained the same at 6 months. Unmet needs reduced significantly from start to discharge and remained low at 6 months.

HCT: Total needs remained very similar over the entire time, with a significant increase in met needs from start to discharge and a small but significant increase from discharge to 6 months. Unmet needs reduced significantly from each time point to the next, with the biggest reduction occurring from start to discharge.

Combination: For this group, raters found an insignificant reduction in total needs from start to discharge but a significant reduction from discharge to 6 months. Met needs increased considerably from start to discharge and reduced significantly from discharge to 6 months, but the overall increase from start to 6 months was significant. Unmet needs reduced very considerably from start to discharge and there was a further small significant reduction from discharge to 6 months.

Between Interventions at start: Raters identified slight and insignificant differences in total needs in the three groups, with similar numbers of both met and unmet needs.

Between Interventions at discharge: At this time, total needs remained similar between the three groups and the number of met needs was slightly but significantly higher for DH than HCT with no differences between HCT and combination or DH and combination. The DH had to the lowest number of unmet needs, but this was only significant between it and HCT and there was no other significant difference.

Between Interventions at 6 months: DH had the highest number of total needs, although the difference was not significant between it and HCT, but combination was significantly lower than the other two interventions. Combination had significantly lower numbers of met needs than the other two, between which there was no difference and unmet need was very similar for all three interventions.

Between Sectors

Total needs: There was no significant difference between overall total needs at the start of the interventions but Crumlin had significantly lower total needs at discharge and at 6 months than Clondalkin.

Met Needs: There was little difference between the two sectors at the start of the interventions, but Clondalkin had a small but insignificantly higher number of met needs at discharge and a significantly higher number at 6 months.

Unmet Needs: Unmet needs were very similar at the start, but were significantly lower for Crumlin at discharge, but a further small but significant reduction in unmet needs in Clondalkin meant that there was no significant difference between the two sectors at 6 months.

CONCLUSIONS

Psychiatry of Later Life:

This group had a very high level of total need overall for each of the three interventions.

1. All interventions resulted in a significant and overall increase in met needs and decrease in unmet needs from start to discharge from intervention.
2. The changes at 6 months remained significantly improved from the outset.
3. The DH group, while showing an initial increase in met needs from start to discharge, showed a reduction in met needs from discharge to 6 months, as identified by patients. However, the overall increase from start to 6 months was large and significant. This suggests that the DH, while effectively meeting needs, did not as effectively sustain them at 6 months as either HCT or combination.
4. Families identified higher levels of unmet need and lower levels of met need for the entire cohort at the start. This varied for the three interventions, with DH families identifying less unmet needs than patients, but HCT and combination families identifying higher levels of unmet need and lower levels of met need at the outset. At 6 months, families were overall inclined to identify higher levels of met need and less unmet needs than patients. This was true for the DH but not for HCT where there was no difference in needs identified. For combination families found a small but significant number of less met needs and higher levels of unmet need.

General Adult Psychiatry

There was an increase in met needs and reduction in unmet needs for both sectors at discharge and these changes remained significant at 6 months. However, there where both intra- and inter-sector differences.

Crumlin

1. Met needs increased significantly and unmet needs decreased significantly from start to discharge in this sector, with little change in total needs from start to discharge.
2. Overall, this sector showed a significant reduction in total needs from discharge to 6 months, with a commensurate reduction in the number of met needs during this time period suggesting that needs that were regarded as met at discharge were no longer considered to be needs at 6 months.
3. All interventions showed significant improvement in needs over time. HCT had the highest level of unmet needs at the outset as identified by both patient and rater, showing that the Crumlin team had confidence in referring to their HCT from it’s inception and that it’s HCT operated effectively from the outset, whether alone or in combination with the DH.

4. Patients identified significantly more total needs than raters at the start and at 6 months but both estimated similar total needs at discharge. Patients and raters agreed on met needs at start and discharge and patients identified slightly more met needs at discharge.

Clondalkin

1. Total needs for Clondalkin remained the same from start to discharge, with a significant increase in met needs and significant reduction in unmet needs.
2. Total needs decreased significantly from discharge to 6 months, with met needs remaining high and a further reduction in unmet needs at 6 months. The overall reduction in total needs and unmet needs suggests that needs continued to be met, or were no longer regarded as needs at 6 months.
3. HCT for Clondalkin, like Crumlin had the highest number of total needs at the start but this reduced significantly over time, and had a significantly lower number of total needs at 6 months than DH. The level of unmet need for DH at 6 months was also slightly but significantly higher for DH than HCT, with no significant difference between combination and HCT. While met need was similar for DH and HCT at 6 months, the overall changes (reduction in total need, and higher level of met need) suggest that HCT is more lastingly effective at changing needs than DH.

Between Sectors

1. There was no difference in total needs between the two sectors at the outset, with similar levels of met and unmet need.
2. At discharge, Crumlin identified significantly less total needs than Clondalkin with met needs similar for both groups and more unmet needs in the Clondalkin group at discharge, suggesting that either Crumlin was more effective at reducing needs or that the needs were more difficult to meet in Clondalkin.
3. At 6 months, Crumlin had significantly less total needs than Clondalkin but met needs were higher for Clondalkin than Crumlin and there were similar levels of unmet need for both. The difference in met needs suggests that these were ongoing needs for the Clondalkin sector, but that they were met effectively. The lower level of total need in Crumlin may reflect the higher follow-up rate at 6 months-77% of those initially surveyed in Crumlin agreed to completing the CAN at 6 months, versus 56% in Clondalkin. It is possible that those who refused to participate felt their needs had been adequately met.

DISCUSSION

The most important overall finding of this study is that the community-based interventions successfully meet a substantial portion of needs at the intervention examined and that these needs *remain met* six months after the end of the intervention. This is important because it demonstrates the efficacy of the service to meet needs on a sustained basis even when the intervention has been discontinued. Furthermore, a young service (Crumlin sector) demonstrated its' ability to meet the needs of it's patients from early on in it's existence and a confidence to refer patients to a newly started service. Part of the reason for this may be that the ethos of the Dublin West South-West Psychiatry Service has long been oriented towards the delivery of community services and skills are disseminated within the service by the active moving of experienced staff from one sector to another.

Equally, all interventions proved effective for those who attended them, with little difference in the level of met need at the end of the intervention between the patient groups. The decision about which intervention to attend was an entirely clinical one.

The overall level of need was much higher for older patients than those attending the GAP services, with total needs at each time point exceeding 20 for all rated needs. This contrasts to the total needs identified in the GAP cohorts, but again it is well recognized that medical co-morbidity contributes substantially to the needs of the older population. A number of the CANE questions relate to this-particularly those concerning continence, mobility, eyesight, hearing and communication and medications. Given the fact that there is a difference between the types of needs measured in the CANE and CANSAS, it was decided that a statistical analysis of the difference in needs between both of these populations would be invalid.

When the individual services are looked at, the PLL service showed that the main changes in met and unmet need, according to both patient and family, occurred between start and discharge. The changes from discharge to 6 months were not significant except for a decrease in met need identified by patients in the DH group. Although there was a small reduction in total needs at the same time interval, it was not large enough to account for the reduction in met needs, suggesting, that for patients, at least, the DH was a less successful intervention than an intervention involving HCT, either alone or in combination. Families were more likely to identify met and unmet needs in both the HCT and combination groups than were patients, and it is noteworthy that a higher proportion of patients with dementia attended these interventions, particularly combination (60%) versus 44% for HCT and 40% for DH. However, at 6 months, this disparity between family and patient did not exist for the HCT or combination groups, but DH family members found higher levels of met need and lower levels of unmet need than did patients.

The two GAP sectors showed varying levels of need, with Crumlin having a significantly lower level of total needs at 6 months than Clondalkin, but there was a commensurate higher level of met need in Clondalkin than Crumlin at 6 months, suggesting that the Clondalkin patients had ongoing needs that required

intervention, rather than the intervention ameliorating needs such that they were no longer viewed by the patient as having been a need in the previous month. It is also possible that the difference at 6 months between the two sectors was skewed by the fact that a higher percentage of Crumlin patients agreed to complete the CAN at 6 months than Clondalkin, and that those Clondalkin patients who did complete the CAN at 6 months were those who felt they still had ongoing needs.

Within the Crumlin sector, all the interventions had significant and sustained reductions in unmet need over the time of the study, but the met needs in the DH, while increasing from start to discharge, decreased significantly again from discharge to 6 months. This, however, was associated with a very significant reduction in total needs for the Crumlin DH, suggesting that needs had resolved at 6 months. By comparison, total needs in both the other interventions remained relatively higher, but met needs were sustained at 6 months for HCT and combination. Both HCT and combination had significantly higher levels of total needs at the outset than DH, with insignificant but higher levels of unmet need for these interventions. Unmet needs were substantially reduced for the three interventions at 6 months, but the DH (with the lowest number of total needs) had a significantly lower number of unmet needs. Overall, the Crumlin results show effective service delivery for each intervention, and suggest that patients with the highest needs were referred to either HCT and/or combination but not DH. This augurs well for the confidence of the team in a newly developed part of their service.

Patients attending HCT and/or combination in the Clondalkin sector also tended to have higher levels total need than those attending DH alone, with HCT also having the highest number of both met and unmet needs at the outset. The DH patients identified the lowest number of total, met and unmet needs by comparison with the other two groups. Both HCT and combination had significant reductions in total needs from discharge to 6 months, with significant reductions in unmet need occurring from start to discharge and from discharge to 6 months for both groups.

In summary, community services deliver good outcomes on an on-going basis for patients attending the HSE-West South West Area. Furthermore, new services result in equally good outcomes for patients, perhaps due to the culture of innovation and skill dissemination that characterizes this service.

In an era of substantial cutbacks to all health services, it is important to demonstrate the efficacy associated with an evidence-based service delivery.

TABLES

TABLE 1: Characteristics of PLL Cohort at Baseline

Characteristics of PLL Cohort at Baseline			
	Baseline Assessment N=140	End Assessment N=140	6 Month after End Assessment N=124
AGE, years: Mean Range SD	76.36 (65-88) 5.5	76.36 (65-88) 5.5	76.2 (65-88) 5.7
GENDER N (%) MALE FEMALE	47 (33.6) 93 (66.4)	47 (33.6) 93 (66.4)	43 (35) 81 (65)
DIAGNOSTIC CATEGORY, N; (%) DEMENTIA with BPSD AFFECTIVE DISORDERS PSYCHOTIC DISORDERS	65 (46.4) 59 (42.1) 16 (11.4)	65 (46.4) 59 (42.1) 16 (11.4)	59 (47.5) 54 (43.5) 12 (9)

TABLE 2: CHARACTERISTICS OF GAP COHORT

CHARACTERISTICS OF GAP COHORT						
	Baseline Assessment		End Assessment		6 Month after End Assessment	
	CRUMLIN N=69	CLONDALKIN N=110	CRUMLIN N=69	CLONDALKIN N=110	CRUMLIN N=53	CLONDALKIN N=62
AGE, MEAN RANGE SD	35.4 21-63 11	37.9 23-64 12.2	35.4 21-63 11	37.9 23-64 12.2	31.5 21-58 8.4	32.9 23-57 7.8
GENDER N; (%) MALE FEMALE	33 (47.8) 36 (52.2)	49 (44.5) 61(55.5)	33 (47.8) 36 (52.2)	49 (44.5) 61(55.5)	26 (49) 27 (51)	35 (66) 28 (34)
DIAGNOSTIC CATEGORY N (%) AFFECTIVE DISORDERS NEUROTIC AND OTHERS PSYCHOTIC DISORDERS PERSONALITY DISORDERS	24 (37.5) 26 (37.8) 16 (23.2) 3 (4.2)	40 (36.4) 43 (39.1) 25 (22.7) 2 (3.3)	24 (37.5) 26 (37.8) 16 (23.2) 3 (4.2)	40 (36.4) 43 (39.1) 25 (22.7) 2 (3.3)	15 (28) 23 (43) 14 (26) 2 (3)	10 (16) 41 (66) 10 (16) 1 (2)

TABLE 3: SERVICE UTILISATION AND DIAGNOSIS: PLL

SERVICE UTILISATION AND DIAGNOSIS: PLL			
	DH N=62	HCT N=43	COMBINATION N=35
AGE Mean Range SD	 77.34 66-88 5.42	 75.5 65-86 5.62	 75.7 66-88 5.37
GENDER N, %; M: F	 62 (44.3) 16: 46	 43 (30.7) 17:26	 35 (25) 14:21
DIAGNOSTIC CATEGORY, N, % • DEMENTIA • AFFECTIVE D/O • PSYCHOSIS	25 (40.3) 29 (46.8) 8 (12.9)	19(44.2) 18(41.9) 6(13.9)	21(60) 12(34.3) 2 (5.7)

TABLE 4: SERVICE UTILIZATION AND DIAGNOSIS IN GAP

SERVICE UTILIZATION AND DIAGNOSIS IN GAP						
	CRUMLIN N=69			CLONDALKIN N=110		
	DH N=32	HCT N=25	DH&HCT N=12	DH N=60	HCT N=35	DH&HCT N=15
AGE Mean Range SD	 34.8 21-58 10.12	 35.3 25-63 10.9	 37.6 21-54 10.12	 38.8 23-55 12.5	 36.8 24-64 11.5	 34.9 21-57 10.12
GENDER, N, %; Male Female	13 (41) 19 (59)	11 (44) 14 (46)	9 (75) 3 (25)	24 (40) 36 (60)	18 (51) 17 (49)	7 (47) 8 (53)
AFFECTIVE DISORDERS, N; %	12 (37.5)	8 (32)	4 (33)	20 (33.3)	14 (40)	6 (40)
NEUROTIC, STRESS ETC, N; %	12 (37.5)	9 (36)	5 (42)	23 (38.3)	14 (40)	6 (40)
PSYCHOTIC DISORDERS, N; %	5 (15.6)	8 (32)	3 (25)	15 (25)	7 (20)	3 (20)
PERSONALITY DISORDERS, N; %	3 (9.4)	0 (0)	0 (0)	2 (3.3)	0 (0)	0 (0)

TABLE 5: PLL IDENTIFIED NEEDS-PATIENT AND FAMILY

PLL IDENTIFIED NEEDS-PATIENT AND FAMILY						
	Patient identified needs			Family identified needs		
	Start N=140	Discharge N=140	6 M N=124	Start N=140	Discharge N=140	6 M N=124
Total needs, mean, Range, SD	22.6 17-24 1.42	22.8 11-29 2.04	22.03 16-24 1.98	22.3 16-24 1.5	21.5 10-24 2.43	22.4 16-24 1.85
Met Needs Mean, Range, SD	8.3 1-17 4.6	17.3 5-23 4.5	16.3 5-21 4.25	6.7 0-17 4.04	16.4 7-22 4.2	17.4 8-22 3.9
Unmet needs Mean, Range, SD	14.25 5-22 4.6	5.5 0-17 3.98	5.9 1-15 3.4	15.6 6-22 4.2	5.1 0-15 2.9	5.05 1-12 2.9

TABLE 6: PLL: PATIENT-IDENTIFIED NEEDS AND INTERVENTION

Patient-Identified Needs According to Intervention									
	DH			HOME CARE			COMBINATION		
	START N=62	DISCHARGE N=62	6M N=56	START N=43	DISCHARGE N=43	6M N=38	START N=35	DISCHARGE N=35	6M N=30
Total needs, mean, Range, SD	22.37 17-24 1.6	22.71 14-24 2.16	20.69 16-24 2.1	22.67 19-24 1.39	22.88 20-24 1.4	23.24 21-24 0.94	22.89 20-24 1.05	22.77 19-24 1.33	23 21-24 0.91
Met Needs Mean, Range, SD	6.82 1-16 4.38	16.34 5-23 5.49	13.89 5-21 4.9	8.79 2-17 4.95	18.86 12-23 4.03	18.03 14-21 2.6	10.37 6-16 3.41	17.2 13-21 2.07	18.57 16-21 1.45
Unmet needs Mean, Range, SD	15.51 6-21 4.7	6.67 1-17 4.98	6.7 1-15 4.01	13.84 5-22 4.56	4 0-11 3.16	5.21 1-10 2.83	12.51 7-18 3.7	5.54 3-9 1.88	4.3 1-7 1.79

TABLE 7:PLL: FAMILY-IDENTIFIED NEEDS AND INTERVENTION

Family-Identified Needs and Intervention									
	DAY HOSPITAL			HOME CARE			COMBINATION		
	START N=62	DISCHARGE N=62	6M N=56	START N=43	DISCHARGE N=43	6M N=38	START N=35	DISCHARGE N=35	6M N=30
Total needs, mean, Range, SD	21.95 16-24 1.52	20.32 10-24 2.46	21.52 18-24 1.96	23.12 21-24 0.90	22.02 19-24 1.77	23.24 16-24 1.65	21.97 18-24 1.62	23.03 13-24 2.04	23 21-23 0.98
Met Needs Mean, Range, SD	7.01 1-17 4.89	14.60 7-21 4.82	16.55 8-22 4.70	6.44 2-12 2.88	17.53 12-22 3.43	18.03 9-22 3.74	6.37 0-12 3.65	18.34 10-22 2.21	18.1 16-21 1.4
Unmet needs Mean, Range, SD	14.98 6-22 5.01	5.87 1-15 3.50	4.93 1-12 3.7	16.58 12-20 2.46	4.39 0-9 2.39	5.2 1-11 3.15	15.6 9-21 4.12	4.69 2-8 1.66	5.10 3-7 1.34

TABLE 8: GAP: PATIENT IDENTIFIED NEEDS

PATIENT IDENTIFIED NEEDS						
	CRUMLIN			CLONDALKIN		
	Start N=69	Discharge N=69	6 M N=53	Start N=110	Discharge N=110	6 M N=63
Total needs, mean, Range, SD	14.9 9-19 2.6	12.7 6-19 2.6	10 5-16 3.7	15.1 9-20 2.7	15.2 6-23 4	13.9 10-17 1.8
Met Needs Mean, Range, SD	4.7 1-9 2.1	9.8 5-16 2.4	6.5 2-13 2.7	5 1-9 2	10.3 1-14 3.3	10.8 6-14 2.1
Unmet needs Mean, Range, SD	10.2 3-17 3.2	3 0-7 1.65	3.5 1-8 2	10.2 6-13 1.9	5 1-12 2.7	3.1 1-7 1.6

TABLE 9: GAP: RATER IDENTIFIED NEEDS

RATER IDENTIFIED NEEDS						
	CRUMLIN			CLONDALKIN		
	Start N=69	Discharge N=69	6 M N=53	Start N=110	Discharge N=110	6 M N=63
Total needs, mean, Range, SD	13.01 8-17 2.3	12.9 8-19 2.6	8.3 4-16 2.4	15.2 9-19 2.1	14.6 8-20 3.1	14 10-17 1.6
Met Needs Mean, Range, SD	4.3 1-8 1.7	9.6 5-16 2.3	5.4 2-11 1.97	4.7 1-8 1.8	11.2 2-16 3.1	11.5 8-15 1.8
Unmet needs Mean, Range, SD	8.98 4-12 2.33	3.3 0-7 1.7	3.1 1-8 1.5	10.5 6-13 1.8	3.3 1-9 2.3	2.6 1-6 1.3

REFERENCES

1. Carey T. Mental Health Commission Annual Report: Annual report of the inspector of mental hospitals p120. Dublin: Mental Health Commission, 2004b 2004. Report No.
2. CSO. Census 2006. Cork: Central Statistics Office Ireland, 2006.
3. WHO. World Health Report 2001: Global burden of disease: burden of mental and behavioural disorders. Geneva: WHO, http://who.int/whr/2001/chapter2/en/index3.html; 2001; Available from: http://who.int/whr/2001/chapter2/en/index3.html.
4. Murray C, Lopez A. The global burden of disease. A comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990, and projected to 2020. Cambridge, MA: Harvard University Press; 1996.
5. Lopez AD, Murray CC. The global burden of disease, 1990-2020. Nat Med. 1998;4(11):1241-3.
6. WHO. World Health Report 2004: Changing History. Geneva: World Health Organisation, http://www.who.int/whr/2004/en; 2004; Available from: http://www.who.int/whr/2004/en.
7. McDaid D. Policy brief: Mental Health 1: Key issues in the development of policy and practice across Europe. European Observatory on Health Systems and Policies. Copenhagen: World Health Organisation; 2005. p. 1-20.
8. Thornicroft G, Tansella M. The mental health matrix:

a manual to improve services. Cambridge: Cambridge University Press.; 1999.
9. Leff J. Care in the Community: Illusion or Reality? Leff J, editor. Chichester: John Wiley and sons; 1997.
10. Thornicroft G, Bebbington P. Deinstitutionalisation--from hospital closure to service development. Br J Psychiatry. 1989;155:739-53.
11. Sheperd G, Murray A. Residential Care. In: Thornicroft G, Szmukler G, editors. Textbook of community psychiatry. Oxford: Oxford University Press; 2001. p. pp309-20.
12. Tansella M. Community psychiatry without mental hospitals--the Italian experience: a review. J R Soc Med. 1986;79(11):664-9.
13. Thornicroft G, Tansella M. Balancing community-based

and hospital-based mental health care. World Psychiatry. 2002;1(2):84-90.
14. Thornicroft G, Tansella M. What Are the Arguments for Community-Based Mental Health Care? Network. WHOERHE, editor. Copenhagen: World Health Organisation; 2003.
15. Thornicroft G, Tansella M. Components of a modern mental health service: a pragmatic balance of community and hospital care: overview of systematic evidence. Br J Psychiatry. 2004;185:283-90.
16. Simmonds S, Coid J, Joseph P, Marriott S, Tyrer P. Community mental health team management in severe mental illness: a systematic review. Br J Psychiatry. 2001;178:497-502; discussion 3-5.

17. Tyrer P, Coid J, Simmonds S, Joseph P, Marriott S. Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality. Cochrane Database Syst Rev. 2000(2):CD000270.
18. Tyrer P, Evans K, Gandhi N, Lamont A, Harrison-Read P, Johnson T. Randomised controlled trial of two models of care for discharged psychiatric patients. Bmj. 1998;316(7125):106-9.
19. Thornicroft G, Wykes T, Holloway F, Johnson S, Szmukler G. From efficacy to effectiveness in community mental health services. PRiSM Psychosis Study. 10. Br J Psychiatry. 1998;173:423-7.
20. Catty J, Burns T, Knapp M, Watt H, Wright C, Henderson J, et al. Home treatment for mental health problems: a systematic review. Psychol Med. 2002;32(3):383-401.
21. Joy CB, Adams CE, Rice K. Crisis intervention for people with severe mental illnesses. Cochrane Database Syst Rev. 2004(4):CD001087.
22. WHO. World Health Report 2001. Mental Health: New Understanding, New Hope. Geneva: WHO, http://www.who.int/whr/2001/en; 2001.
23. WHO. Organization of Services for Mental Health. Funk M, editor. Geneva: World Health Organization; 2003.
24. Mental Health Commission. Dublin: Mental Health Commission, 2004 2004. Report No.
25. McDaid D, Knapp, M, Curran C. Policy brief: Mental Health 3: Funding Mental Health in Europe. European Observatory on Health Systems and Policies. Copenhagen: World Health Organisation; 2005. p. 1-20.
26. McDaid Dea. Financing arrangements of mental health in western Europe. Report to the European Commission. London: London School of Economics; 2004.
27. Tansella M, Thornicroft G. A conceptual framework for mental health services: the matrix model. Psychol Med. 1998;28(3):503-8.
28. Quality in Mental Health-Your Views. Dublin: Mental Health Commission, 2005 2005. Report No.
29. Planning for the Future. Dublin: Dublin: Stationery Office. Govt Publications; 1984.
30. Vision for Change. Dublin: Government Publications; 2006.
31. Carey T. Mental Health Commission Annual Report: Annual report of the inspector of mental hospitals p115. Dublin: Mental Health Commission, 2004a 2004. Report No.
32. O'Keane V, Jeffers A, Moloney E, Barry S. Irish Psychiatric Association survey of psychiatric services in Ireland. Psychiatric Bulletin. 2004;28:364-7.
33. OECD. OECD Health Data 2005: How does Ireland Compare. OECD, www.oecd.org/dataoecd/15/32/35001342.pdf; 2005; Available from: www.oecd.org/dataoecd/15/32/35001342.pdf.
34. Thornicroft G. Social deprivation and rates of treated mental disorder. Developing statistical models to predict psychiatric service utilisation. Br J Psychiatry. 1991;158:475-84.
35. Daly A, Walsh D. Activities of Irish Psychiatric Units and Hospitals 2008. HRB Statistics Series. Dublin Health Research Board; 2009. p. 144.

36. WHO. The ICD-10 Classification of Mental and Behavioural Disorders: Diagnostic Criteria for Research: WORLD HEALTH ORGANISATION; 1993.
37. Reynolds T, Thornicroft G, Abas M, Woods B, Hoe J, Leese M, et al. Camberwell Assessment of Need for the Elderly (CANE). Development, validity and reliability. Br J Psychiatry. 2000;176:444-52.

DISSEMINATION STATEGY AND OUTPUTS

The project has been presented in a number of fora:

1. The Irish Psychiatric Association Autumn meeting 2006.
2. A number of academic meetings in AMNCH.
3. The Mental Health Commission.

The information gathered is currently being used in a document for presentation to senior HSE management on the effectiveness of service delivery in this catchment area and the fact that the service is based on best international practice.

The following papers are in preparation:

1. Patients' Needs Assessment In A Large Urban Catchment Area: Inter And Intra- Sector Comparison**.**
2. Raters' Measures of Need in a Large Urban Catchment Area.
3. Needs Assessment In An Elderly Population Attending A Community-Based Service: A Longitudinal Study

APPENDICES

Appendix 1 and 2: CANSAS and CANE

Camberwell Assessment of Need, Short Appraisal Scale			
User name and contact no:	0=No need 1=Met need 2=Unmet need 9=No need		
DOB:			
Interventions:			
Date of Assessment:			
Diagnosis			
Initials of Assessor:			
1. Accommodation *What kind of place do you live in?*	User	Carer	Rater
2. Food *Do you get enough to eat?*			
3. Looking after the home *Are you able to look after your home?*			
4. Self-care *Do you have problems keeping neat and tidy?*			
5. Daytime activities *How do you spend your days?*			
6. Physical Health *How well do you feel physically?*			
7. Psychotic symptoms *Do you ever hear voices or have problems with your thoughts?*			
8. Information on condition and treatment *Have you been given clear information about your condition and medication?*			
9. Psychological distress *Have you recently felt very sad or low?*			
10. Safety to self *Do you ever have thoughts of harming yourself?*			
11. Safety to others *Do you think you could be a danger to other people's safety?*			
12. Alcohol *Does drinking cause you problems?*			
13. Drugs *Do you take any drugs that aren't prescribed?*			
14. Company *Are you happy with your social life?*			
15. Intimate relationships *Do you have a partner?*			
16. Sexual expression *How is your sex life?*			
17. Child care *Do you have any children under 18?*			
18. Basic education *Any difficulty in reading, writing or understanding English?*			
19. Telephone *Do you know how to use a telephone?*			
20. Transport *How do you find using the bus, Luas or taxi?*			
21. Money *How do you find budgeting your money?*			
22. Benefits *Are you getting all the money you are entitled to?*			
A Met needs-count the number of 1s in the column			
B Unmet needs-count the number of 2s in the column			
C Total number of needs – add together A + B			

Camberwell Assessment of Need for the Elderly Short Version (CANE-S)			
User name and contact no:	0=No need 1=Met need 2=Unmet need 9=No need		
DOB:			
Interventions:			
Date of Assessment:			
Diagnosis			
Initials of Assessor:			
1. Accommodation *What kind of place do you live in?*	User	Carer	Rater
2. Food *Do you get enough to eat?*			
3. Looking after the home *Are you able to look after your home?*			
4. Self-care *Do you have problems keeping neat and tidy?*			
5. Caring for someone else *Do you care for another? Can you manage this caring?*			
6. Daytime activities *How do you spend your days?*			
7. Memory *Do you have difficulties with your memory?*			
8. Eyesight/hearing/communication *Do you have problems with eyesight or hearing?*			
9. Mobility/Falls *How do you get around inside and outside the house?*			
10. Continence *Do you incontinence?*			
11. Physical Health *How well do you feel physically?*			
12. Drugs *Do you have problems with drugs or medications?*			
13. Psychotic symptoms *Do you ever hear voices or have problems with your thoughts?*			
14. Information on condition and treatment *Have you been given clear information about your condition and medication?*			
15. Psychological distress *Have you recently felt very sad or low?*			
16. Deliberate self-harm *Is the person a danger to themselves?*			
17. Inadvertent self-harm *Does the person have accidents?*			
18. Abuse/Neglect *Is the person at risk from others?*			
19. Behaviour *Is the person's behaviour problematic for others?*			
20. Alcohol *Does drinking cause you problems?*			
21. Company *Are you happy with your social life?*			
22. Intimate relationships *Do you have a partner?*			
23. Money/ budgeting *How do you find budgeting your money?*			
24. Benefits *Are you getting all the money you are entitled to?*			
A Met needs-count the number of 1s in the column (1-24 only)			
B Unmet needs-count the number of 2s in the column (1-24 only)			
C Total number of needs – add together A + B (1-24 only)			

APPENDIX 3: PLL COMPARISON OF NEEDS FOR ENTIRE COHORT OVER TIME

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TNeedsP	Between Groups	39.111	2	19.556	6.580	.002
	Within Groups	1191.800	401	2.972		
	Total	1230.911	403			
MetP	Between Groups	6722.157	2	3361.078	169.478	.000
	Within Groups	7952.606	401	19.832		
	Total	14674.762	403			
UnmetP	Between Groups	6914.881	2	3457.441	214.148	.000
	Within Groups	6474.178	401	16.145		
	Total	13389.059	403			
TNeedsF	Between Groups	65.258	2	32.629	8.443	.000
	Within Groups	1549.660	401	3.864		
	Total	1614.918	403			
MetF	Between Groups	9577.033	2	4788.517	291.109	.000
	Within Groups	6596.143	401	16.449		
	Total	16173.176	403			
UNmetF	Between Groups	10166.379	2	5083.190	434.125	.000
	Within Groups	4695.331	401	11.709		
	Total	14861.710	403			

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
TNeedsP	1.00	2.00	-.18571	.20605	1.000	-.6811	.3097
		3.00	.56060*	.21260	.026	.0495	1.0717
	2.00	1.00	.18571	.20605	1.000	-.3097	.6811
		3.00	.74631*	.21260	.001	.2352	1.2574
	3.00	1.00	-.56060*	.21260	.026	-1.0717	-.0495
		2.00	-.74631*	.21260	.001	-1.2574	-.2352
MetP	1.00	2.00	-9.01429*	.53227	.000	-10.2939	-7.7347
		3.00	-7.97604*	.54917	.000	-9.2963	-6.6558
	2.00	1.00	9.01429*	.53227	.000	7.7347	10.2939
		3.00	1.03825	.54917	.178	-.2820	2.3585
	3.00	1.00	7.97604*	.54917	.000	6.6558	9.2963
		2.00	-1.03825	.54917	.178	-2.3585	.2820
UnmetP	1.00	2.00	8.75714*	.48025	.000	7.6026	9.9117
		3.00	8.62097*	.49550	.000	7.4297	9.8122
	2.00	1.00	-8.75714*	.48025	.000	-9.9117	-7.6026
		3.00	-.13618	.49550	1.000	-1.3274	1.0550
	3.00	1.00	-8.62097*	.49550	.000	-9.8122	-7.4297
		2.00	.13618	.49550	1.000	-1.0550	1.3274

	TNeedsF	1.00	2.00	.80714*	.23496	.002	.2423	1.3720
			3.00	-.07465	.24242	1.000	-.6575	.5081
		2.00	1.00	-.80714*	.23496	.002	-1.3720	-.2423
			3.00	-.88180*	.24242	.001	-1.4646	-.2990
		3.00	1.00	.07465	.24242	1.000	-.5081	.6575
			2.00	.88180*	.24242	.001	.2990	1.4646
	MetF	1.00	2.00	-9.75714*	.48476	.000	-10.9225	-8.5918
			3.00	-10.70046*	.50015	.000	-11.9029	-9.4981
		2.00	1.00	9.75714*	.48476	.000	8.5918	10.9225
			3.00	-.94332	.50015	.180	-2.1457	.2591
		3.00	1.00	10.70046*	.50015	.000	9.4981	11.9029
			2.00	.94332	.50015	.180	-.2591	2.1457
	UNmetF	1.00	2.00	10.50714*	.40899	.000	9.5239	11.4904
			3.00	10.58018*	.42198	.000	9.5657	11.5946
		2.00	1.00	-10.50714*	.40899	.000	-11.4904	-9.5239
			3.00	.07304	.42198	1.000	-.9414	1.0875
		3.00	1.00	-10.58018*	.42198	.000	-11.5946	-9.5657
			2.00	-.07304	.42198	1.000	-1.0875	.9414

*. The mean difference is significant at the 0.05 level.

APPENDIX 4: CRUMLIN COMPARISON OF NEEDS OF TIME

ANOVA[a]

		Sum of Squares	df	Mean Square	F	Sig.
TNeedsP	Between Groups	699.823	2	349.912	43.334	.000
	Within Groups	1518.040	188	8.075		
	Total	2217.864	190			
MetP	Between Groups	912.348	2	456.174	79.665	.000
	Within Groups	1076.521	188	5.726		
	Total	1988.869	190			
UnMetP	Between Groups	2125.005	2	1062.503	202.806	.000
	Within Groups	984.932	188	5.239		
	Total	3109.937	190			
TNeedsR	Between Groups	759.524	2	379.762	62.296	.000
	Within Groups	1146.057	188	6.096		
	Total	1905.581	190			
MetR	Between Groups	1020.106	2	510.053	127.638	.000
	Within Groups	751.266	188	3.996		
	Total	1771.372	190			
UnMetR	Between Groups	1444.790	2	722.395	194.730	.000
	Within Groups	697.430	188	3.710		
	Total	2142.220	190			

a. service = 3.00

Multiple Comparisons[a]

Bonferroni

Dependent Variable	(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
TNeedsP	1.00	2.00	2.10145*	.48379	.000	.9328	3.2701
		3.00	4.83183*	.51902	.000	3.5781	6.0856
	2.00	1.00	-2.10145*	.48379	.000	-3.2701	-.9328
		3.00	2.73038*	.51902	.000	1.4767	3.9841
	3.00	1.00	-4.83183*	.51902	.000	-6.0856	-3.5781
		2.00	-2.73038*	.51902	.000	-3.9841	-1.4767
MetP	1.00	2.00	-5.08696*	.40740	.000	-6.0711	-4.1028
		3.00	-1.82827*	.43707	.000	-2.8841	-.7725
	2.00	1.00	5.08696*	.40740	.000	4.1028	6.0711
		3.00	3.25868*	.43707	.000	2.2029	4.3145
	3.00	1.00	1.82827*	.43707	.000	.7725	2.8841
		2.00	-3.25868*	.43707	.000	-4.3145	-2.2029
UnMetP	1.00	2.00	7.17391*	.38969	.000	6.2326	8.1152
		3.00	6.60788*	.41806	.000	5.5980	7.6177
	2.00	1.00	-7.17391*	.38969	.000	-8.1152	-6.2326
		3.00	-.56604	.41806	.532	-1.5759	.4438
	3.00	1.00	-6.60788*	.41806	.000	-7.6177	-5.5980
		2.00	.56604	.41806	.532	-.4438	1.5759
TNeedsR	1.00	2.00	.14493	.42035	1.000	-.8705	1.1603
		3.00	4.52393*	.45096	.000	3.4346	5.6133

		2.00	1.00	-.14493	.42035	1.000	-1.1603	.8705
			3.00	4.37900*	.45096	.000	3.2897	5.4683
		3.00	1.00	-4.52393*	.45096	.000	-5.6133	-3.4346
			2.00	-4.37900*	.45096	.000	-5.4683	-3.2897
	MetR	1.00	2.00	-5.23188*	.34034	.000	-6.0540	-4.4098
			3.00	-1.20946*	.36512	.003	-2.0914	-.3275
		2.00	1.00	5.23188*	.34034	.000	4.4098	6.0540
			3.00	4.02242*	.36512	.000	3.1404	4.9044
		3.00	1.00	1.20946*	.36512	.003	.3275	2.0914
			2.00	-4.02242*	.36512	.000	-4.9044	-3.1404
	UnMetR	1.00	2.00	5.63768*	.32792	.000	4.8456	6.4298
			3.00	5.83456*	.35179	.000	4.9848	6.6844
		2.00	1.00	-5.63768*	.32792	.000	-6.4298	-4.8456
			3.00	.19688	.35179	1.000	-.6529	1.0467
		3.00	1.00	-5.83456*	.35179	.000	-6.6844	-4.9848
			2.00	-.19688	.35179	1.000	-1.0467	.6529

*. The mean difference is significant at the 0.05 level.

APPENDIX 5: CLONDALKIN COMPARISON OF NEEDS OVER TIME.

ANOVA[a]

		Sum of Squares	df	Mean Square	F	Sig.
TNeedsP	Between Groups	75.667	2	37.833	3.895	.021
	Within Groups	2719.485	280	9.712		
	Total	2795.152	282			
MetP	Between Groups	2120.341	2	1060.171	160.247	.000
	Within Groups	1852.443	280	6.616		
	Total	3972.784	282			
UnMetP	Between Groups	2515.219	2	1257.609	261.753	.000
	Within Groups	1345.276	280	4.805		
	Total	3860.495	282			
TNeedsR	Between Groups	49.973	2	24.986	4.275	.015
	Within Groups	1636.684	280	5.845		
	Total	1686.657	282			
MetR	Between Groups	2974.035	2	1487.018	265.426	.000
	Within Groups	1568.664	280	5.602		
	Total	4542.700	282			
UnMetR	Between Groups	3714.395	2	1857.198	459.765	.000
	Within Groups	1131.046	280	4.039		
	Total	4845.442	282			

Multiple Comparisons[a]

Bonferroni

Dependent Variable	(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
TNeedsP	1.00	2.00	-.10000	.42023	1.000	-1.1121	.9121
		3.00	1.18846*	.49240	.049	.0025	2.3744
	2.00	1.00	.10000	.42023	1.000	-.9121	1.1121
		3.00	1.28846*	.49240	.028	.1025	2.4744
	3.00	1.00	-1.18846*	.49240	.049	-2.3744	-.0025
		2.00	-1.28846*	.49240	.028	-2.4744	-.1025
MetP	1.00	2.00	-5.45455*	.34683	.000	-6.2899	-4.6192
		3.00	-5.87085*	.40640	.000	-6.8496	-4.8921
	2.00	1.00	5.45455*	.34683	.000	4.6192	6.2899
		3.00	-.41631	.40640	.920	-1.3951	.5625
	3.00	1.00	5.87085*	.40640	.000	4.8921	6.8496
		2.00	.41631	.40640	.920	-.5625	1.3951
UnMetP	1.00	2.00	5.30909*	.29556	.000	4.5972	6.0209
		3.00	7.09336*	.34632	.000	6.2593	7.9275
	2.00	1.00	-5.30909*	.29556	.000	-6.0209	-4.5972
		3.00	1.78427*	.34632	.000	.9502	2.6184
	3.00	1.00	-7.09336*	.34632	.000	-7.9275	-6.2593
		2.00	-1.78427*	.34632	.000	-2.6184	-.9502
TNeedsR	1.00	2.00	.51818	.32600	.339	-.2670	1.3033
		3.00	1.10693*	.38200	.012	.1869	2.0269

	2.00	1.00	-.51818	.32600	.339	-1.3033	.2670
		3.00	.58874	.38200	.373	-.3313	1.5088
	3.00	1.00	-1.10693*	.38200	.012	-2.0269	-.1869
		2.00	-.58874	.38200	.373	-1.5088	.3313
MetR	1.00	2.00	-6.57273*	.31916	.000	-7.3414	-5.8041
		3.00	-6.78066*	.37397	.000	-7.6814	-5.8800
	2.00	1.00	6.57273*	.31916	.000	5.8041	7.3414
		3.00	-.20794	.37397	1.000	-1.1086	.6928
	3.00	1.00	6.78066*	.37397	.000	5.8800	7.6814
		2.00	.20794	.37397	1.000	-.6928	1.1086
UnMetR	1.00	2.00	7.12727*	.27101	.000	6.4746	7.7800
		3.00	7.89899*	.31755	.000	7.1342	8.6638
	2.00	1.00	-7.12727*	.27101	.000	-7.7800	-6.4746
		3.00	.77172*	.31755	.047	.0069	1.5365
	3.00	1.00	-7.89899*	.31755	.000	-8.6638	-7.1342
		2.00	-.77172*	.31755	.047	-1.5365	-.0069

*. The mean difference is significant at the 0.05 level.