Health & Research Journal

Vol. 5, 2019

Health and Research Journal (peer review) ISSN:2459-3192

International Journal of Research and Review in Health Sciences

Volume 5 issue 4 October – December 2019

EDITORIAL

The problem of lower extremity burns in diabetics

REVIEW

Comparison of enteral and parenteral nutrition in critically ill patient of Intensive Care Unit: a systematic review

The emergence of depression in teenagers and the role of health professionals

Biomarkers of acute kidney injury in a mixed ICU population. a narrative review

RESEARCH ARTICLES

Contemporary stroke care delivered in a specialised stroke bay, a neurology ward and a medical ward in Greece

Published in cooperation with the Postgraduate Program "Intensive Care Units", the Hellenic Society of Nursing Research and Education and the Helerga

Contemporary stroke care delivered in a specialised stroke bay, a neurology ward and a medical ward in Greece

Theofanidis Dimitrios	Nursing Department, International Hellenic University
Fountouki Antigoni	Nursing Department, International Hellenic University
Savopoulos Christos	MD, First Propedeutic Department of Internal Medicine, Medical School, Aristotle University of Thessaloniki, "AHEPA" University Hospital, Thessaloniki
Hatzitolios Apostolos	MD, First Propedeutic Department of Internal Medicine, Medical School, Aristotle University of Thessaloniki, "AHEPA" University Hospital, Thessaloniki
Fitsioris Xenofon	MD, Neurology ward, "PAPAGEORGIOU" General Hospital, Thessaloniki
Rudolf Jiobst	MD, Neurology ward, "PAPAGEORGIOU" General Hospital, Thessaloniki

https://doi.org/10.12681/healthresj.22070

HEALTH AND RESEARCH JOURNAL
E-ISSN 2459-3192

(2019), Volume 5, Issue 4

RESEARCH ARTICLE

CONTEMPORARY STROKE CARE DELIVERED IN A SPECIALISED STROKE BAY, A NEUROLOGY WARD AND A MEDICAL WARD IN GREECE

Dimitrios Theofanidis[1], Antigoni Fountouki [1], Christos Savopoulos[2], Apostolos Hatzitolios[2], Xenofon Fitsioris[3], Rudolf Jiobst[3]

1. Nursing Department, International Hellenic University, Greece
2. MD, First Propedeutic Department of Internal Medicine, Medical School, Aristotle University of Thessaloniki, "AHEPA" University Hospital, Thessaloniki, Greece
3. MD, Neurology ward, "PAPAGEORGIOU" General Hospital, Thessaloniki, Greece

DOI:

Abstract

Introduction: Currently in Greece there are only two 'stroke bays' (SBs) and their efficacy compared to standard ward treatment has not been evaluated.

Aim: To provide baseline data on stroke case-mix and compare death rates in two Greek hospitals (A+B, i.e. with & without a SB).

Material and Methods: One hundrend sixty four acute stroke patients from two hospitals were consecutively selected in order to explore approaches to stroke care in three different types of care delivery settings. A descriptive design with group comparisons was employedand data gathering included patient case mix, age and length of stay (LOS), neurological status and death rates. Kaplan-Meier curves we reused for survival analysis and independent samples t test and Z test for group comparisons at p<0.05.

Results: Of the 164 patients, 88 (44.4%, female) werein hospital A and 76 (42.1%, female) in hospital B. The mean age was 65.7 and 69.1 years respectively, LOS was 7.6 (3-18) and 7.3 days (1-26), while death rate was 6.8% and 10.5% respectively.

Discussion: Survival analysis for the two hospitalsshowed that there are no statistically significant differences regarding death and survival rates between the two hospitals, even when one had a SB. Yet, the SB shows a statistically significant reduction in overall LOS.

Conclusions: In societies where stroke units are not yet established, a SB might be an economical way of making use of (limited) available resources and raising nursing and medical standards of care by motivating the full potential of staff involved.

Keywords: : Stroke unit, efficacy, efficiency, outcomes.

CorrespondingAuthor: DimitriosTheofanidis, 21 Ierosolimon Street, 55134 Thessaloniki, Greece. Cell: +30 6945227796, e-mail: dimitrisnoni@yahoo.gr

Cite as: Theofanidis, D., Fountouki, A., Savopoulos, C., Hatzitolios, A., Fitsioris, X., Rudolf, J. (2019). Contemporary stroke care delivered in a specialised stroke bay, a neurology ward and a medical ward in Greece. Health and Research Journal,5(4),134-142 https://ejournals.epublishing.ekt.gr/index.php/HealthResJ

INTRODUCTION

As the increase in elderly populations spreads worldwide, stroke prevalence and incidence have become a greater burden on health care resources.[1] It is well established that where stroke units and other sophisticated specialized stroke settings are in use, patient outcomes are improved and mortality is reduced.[2] However, concern has been expressed by Langhorne et al.,[3] who argue that although stroke units are proven to provide important health gains in the context of advanced health care systems it is still arguable if these principles would apply to countries with low or middle incomes, especially under the current global recession.

Currently in Greece there are three different types of settings where a stroke patient can be admitted within the state hospital system: a conventional medical ward (MW) a neurology ward (NW) and a specialised stroke bay (SB). The latter is a designated area for stroke care usually attached to a neurology ward. This particular arrangement attempts to resemble the basic features of a stroke unit. The two SBs in Greece are the only settings where thrombolytic drugs are licensed for use in stroke patients. A specialist stroke neurologist is in charge of the SB and he is assisted by a trainee neurologist plus 1-2 nurse/nurse assistants who are given a special in-house introductory training about the incident managements and the operation of the bay. Nurse training in Greece covers many aspects of stroke care but this additional training is to ensure that protocols are regurarly applied.

In the northern Greek city of Thessaloniki, the SB has six separate beds at the entrance of a 28 bed neurology ward. It was established as an outcome of the efforts of a stroke specialist in 2005 since there was no formal provision for a designated stroke ward at the time. The SB is equipped with six electrically controlled invalid beds providing head and foot leverage. All patients have monitors next to their beds, but usually they are monitored from the nursing station where there is a central control. Thus, thereis a central monitor at the nursing station whereby telemetry recordings and observations are done, that is, vital signs O_2 saturation, and continuous electrocardiography. However, other acute neurological disorders such as Status Epilepticus or Gullain-Barre syndrome may be also allocated to the SB.

With only two SBs in Greece, the vast majority of stroke patients are admitted to a NWs or MWs. In a typical state city hospital, a NW has about 30 beds, ordinary ward equipment and no infrastructure for thrombolytic treatment. It admits a variety of patients with a full range of neurological disorders, both for investigation and/or treatment.

The typical MW in state hospitals may also admit stroke patients. It ranges from a 40-60 beds capacity and a consultant pathologist heads the ward. There is access to neurologists for consultation from the NW when complicated stroke has to be treated there. It usually has 2-8 bed rooms plus some single rooms. It is equipped with standard ward equipment, much like the NW and has also no access to thrombolytic treatment. The ward admits patients over the age of 16 with all medical conditions. Moreover, stroke patiuents are admitted, if they are over the age of 65. Thus, commonly stroke patients are nursed in crowded bays with a variety of patients, many of them being very frail and disorientated. Some rooms of the medical ward are 'dedicated' to patients with severe conditions, often requiring intensive nursing.[4]

Unique to Greece is a centrally administered rota system for state hospital on-call in the main cities. Thus, all Greek city hospitals are demanded to conform to a rota basis for emergency and scheduled admissions.

For example, the co-capital Thessaloniki, Northern Greece with a population of approximately 1,000,000 has 8 state hospitals with a total of approximately 4,000 beds. Four of these are major general hospitals (500-750 beds), only one of which is a university hospital; the three smaller general hospitals with approximately 200-300 beds each; all of them, are on a 24 hour on-call rota system, always in pairs about 1-2 a week.[5]

Therefore, on arrival to A&E, patients are first checked and given priority attention, accordingly. Subsequentlyallocated to either the SB, if the hospital has one, NW or to a MW. Occasionally, when a neurosurgical consultation is sought, the patient may be admitted directly to a neurosurgery ward.

AIM

The aim of this study is to examine if a SB has any impact on stroke care outcomes in Greece. A secondary objective of this study is to report on patient case mix in the settings in both hospitals and compare death and survival rates in a hospital with a SB to one without.

Research questions and hypotheses

This study uses a quantitative methodology whereby the corresponding research questions are given below.

The null hypothesis (H_o) is that there is no significant difference in stroke patient case mix and death rate when admitted to two different hospitals (when one has a SB) through the rota on-call system in Greece.

The alternative hypothesis (H_1) is that there are significant differences in stroke patient case mix and death rate between hospital A and B.

MATERIAL AND METHODS

This study investigates differences and approaches to stroke care delivered in three different types of care delivery settings (i.e. two ordinary wards and a stroke bay) in two public hospitals in Thessaloniki, Greece. This descriptive study is based on a quantitative paradigm whereby outcome comparisons are made. It should be noted that this study intends to follow the natural flow of patients through the hospital allocation system with no attempt to alter this through randomisation or other means of patient allocation to each setting/group.

Thus, for the study's needs, a patient case-mix of N=164 was chosen in order to record patient demographics and broadly compare hospital effectiveness (with and without an SB). Therefore, patients nursed in the only hospital in Northern Greece (hospital A) with all three settings for stroke care, namely, a specialised SB, a NW and a general MW, were compared to another tertiary care hospital in the same city which has a NW and a MW, but no SB. Thus, data from hospital A are placed in context with another major Thessaloniki hospital (B) which is part of the same rota system, but whereby these two hospitals are not assigned on the same day.

For between hospital comparisons, death and in-hospital survival rates were used as endpoints for the survival analysis. In order to determine the minimum needed sample size for the two samples (hospital A & B) the method of a-priori power analysis was applied using the GPower v3.1 software.[6,7] Thus, the a-priori analysis revealed that for an anticipated death rate (for the previous year before the present study as reported from hospital A's records) of 5% and similarly an anticipated death rate of 15% at hospital B, the minimum sample size needed to estimate differences at significant level a=0.05 with power γ=0.80, was estimated to be 160 patients for the total sample.Therefore, a minimum of 80 patients per hospital was needed and the final sample during the three month data collection period consisted of 164 patients, 88 from hospital A and 76 from hospital B.

The inclusion criteria for between hospital comparisons (N=164) were: medical diagnosis of acute stroke; patient presenting with neurological signs and symptoms of acute stroke which were subsequently confirmed by CT or MRI scan; diagnostic criteria according to International Criteria for Disease 160-164. As this information was obtained from the hospital ward record books, exclusion criteria were not applicable. In the case of missing data from the record books the individual case-notes were to be sought.

Ethical considerations, approval

Patient anonymity was secured as no names were recorded from the hospital record books. Although patient demographical data were recorded on the data form, this would be of no value if misplaced, as actual names were not available to anyone. A list of full names and corresponding numbers was kept separately, solely by the main investigator. All parties involved were assured that data collected and conclusions drawn from this study would be used only for academic and not commercial or other purposes.

ANALYSIS

Data is summarised using descriptive statistics and measures of central tendency (mean, median, minimum values maximum value, standard deviation, and percentages). Kaplan-Meier curves were used for survival analysis. Both parametric and non-parametric statistical procedures (Independent samples t test, Z test, Fisher's exact test and Breslow test) are applied for group comparisons.[8] Median scale values were used for all three scales as recommended by Sulteret al.[9]

In all statistical tests the observed significance level is computed with the Monte-Carlo simulation method using 10,000 resampling runs.[10] Using this approach the inductive statistical conclusions are valid even in cases where the methodological and statistical assumptions and presuppositions (random sampling, independent observations, and absence of outliers, symmetrical distributions, and large samples) of the statistical tests used are not satisfied. The significance level in all hypotheses testing procedures is predetermined at $p<0.05$. All the statistical analyses are accomplished with the Statistical Package for Social Sciences (SPSS) v.15.0 statistical software enhanced with the module Exact Tests.[11,12]

RESULTS

The total sample consists of 164 stroke patients in two hospitals,in all five settings, as shown in table 1. These have been collected to provide much needed baseline data for stroke patients in Greece, and include age, gender and length of stay. It should be noted that there is no SB in hospital B.

The gender distribution for each setting is presented in table table 2.

Differences in gender percentages in the samples of the two hospitals are not statistically significant as Z test showed z=0.285 and p=0.776.

Patients' age as recorded for each setting is presented in table 3.

For the age distribution between the two samples an independent samples t test was employed which showed t=2.06, df=162 and *p*=0.040. Therefore there is nostatistically significant difference in relation to the mean age of patients in the two hospitals.

The length of stay as mean and range of the total sample is presented in table 4.

LOS differences between the samples of the two hospitals were not statistically significant as the t test showed t=1.1, df=162 and p=0.274.

Death rates for stroke patients over a three month period in both hospitals are presented in table 5.

In order to compare death rates between the two hospitals, the Fisher's exact test was employed, which had a value of *p*=0.417, and thus showed that there is no statistically significant differences regarding death rate between the two hospitals.

Survival analysis

A Kaplan-Meier analysis was employed for deaths and survival rates (SR) in each hospital and in-hospital survival (diagram 1) in order to compare all stroke patients admitted to a hospital with a SB (hospital A) to all stroke patients admitted to one that does not have an SB (hospital B). As shown in diagram 2 below, over a three month period in Hospital A (blue) there were 88 stroke patients with 6 deaths while hospital B (green) had 76 patients with 8 deaths. Yet, results are not statistically significant (Fisher's exact test *p*=0.417) and therefore no further conclusions can be drawn from these results as observed death rate differences may well be random and not systematic.Thus, the quantitative objective was met and the null hypothesis can be adopted as although observed results show differences in terms of death rates, these have not met statistical significance and stroke survival between hospital A and B are random.

The mean survival rate for hospital A was 7.76±0.37SE days, 95% CI (7.13-8.60) and for hospital B, mean SR was 8.04 ±0.63SE days, 95% CI (6.80-9.28). The mean SR for both hospitals was 7.95±0.35SE days, 95% CI (7.25-8.64). The Breslow test was employed and was x^2=0,530, df=1, *p*=0.466 which again showed no statistically significant difference between the two hospitals in terms of survival rate.

The main findings suggest that the two hospitalsunder investigation were similar in size, mission and operation under the rota system and although one has an SB, there was no statistical difference between them in terms of death and survival rates.

DISCUSSION

Age, gender, LOS, death and survival rates (both hospitals) are discussed in the light of clinical realities prevalent in the Greek system. In this study, discharge from both hospitals was observed to vary from 1-26 days but on average was about one week from admission. This was significantly influenced by the rota system and the view that stabilisation had occurred by this point. The routine nature of discharging patients at, or before, one week was not known at the outset of this study design hence this represents a notable limitation in comparing the results of this study with other published works. The situation of discharging people following stroke at one week is different to other global health care settings and prevents more meaningful comparison.

Case mix in both hospitals and survival analysis baseline data collected for this study showed that from both hospitals (N=164) stroke patients had a mean age of 67.5 years (52-100), while baseline characteristics from the US and the UK were 70 and 74 respectively.[13,14] The potential differences in mean ages for stroke hospitalization between Greek and other populations need to be proven and explored further.

This Greek study also shows that male stroke patients clearly outnumbered females as gender distribution of this study's sample was 56.7% (males) and 43.3% (females). Corresponding figures from the US are 48% and 52% respectively. Again, potential differences in patient case-mix need further exploration. Thus, this study confirms that gender differences in stroke are complicated and there is still much that is not understood.[15]

According to epidemiological studies, stroke is more common in men than in women. These findings come mostly from Western European surveys. Appelroset al.[16] in their worldwide review of 98 articles on sex differences in stroke epidemiology confirm this. They found that men had a stroke incidence 33% higher than women and a stroke prevalence which was 41.0% higher. There was, however, a wide variation between age bands and populations. Stroke tended to be more severe in women, with a 1-month case fatality of 24.7% compared with 19.7% for men. They concluded that worldwide, stroke is more common among men but women are more severely ill with gender mismatches greater than previously described. Yet, other authors argue that overall, stroke incidence is higher in women with approximately 2/3rds of 700,000 strokes occurring annually in the United States in women.[17]

Survival analysis shows that there are no statistically significant differences regarding death and survival rates between the two hospitals, even when one had a SB. Despite the random assignment of patients to each hospital via the rota system and the different settings in each hospital, which meant that patients were admitted on different days each week, differences were not detected,thus no firm conclusions can be drawn on the effectiveness of the SB. Still, it should be noted that the SB is the only setting were possibly life-saving therapeutic interventions such as rt-PA could be administered.

This study showed an overall in-hospital death rate of 8.5% which is low compared to international figures, yet it should be noted that for this sample the average LOS was accordingly low, i.e. 7.5 days while in the UK this is reported to be 28 days.[18] Therefore, low in-hospital death rate figures may be due to short hospitalisation. Furthermore, stroke mortality in Greece, as mentioned in the literature review, is as high as 26% and 37% by one month and one year respectively which means that thedeath rate increases notably after discharge.[19]

The findings of this study show that hospitalisation for stroke patients in the two Greek hospitals under investigation, is short. Patients are transferred to other wards or discharged to their homes or private nursing homes, often due to rota system demands, bed availability and age policy rather than readiness to leave. Discharge planning could be improved with the use of valid, quick and easy-to-use functionality tools for stroke, which could empower HCPs to make enhanced discharge decisions and to monitor this practice.

Thus, overall, Greece with a population of approximately 11 million has only two designated small bays for stroke and no stroke units while by comparison, Germany, with an eight fold greater population, has more than 140 stroke units, although these are estimated to cover only about 40% of the needs for stroke care in the country. Stroke deaths in Germany reached 10.65% of total deaths in 2011 whereas in Greece this figure is double, reaching, 21.96%.[20]

CONCLUSIONS

This study shows no strong evidence of an improvement of overall survival or an impact on hospital stay from the limited use of a SB in the Greek health care system. However, this may be due to relatively low numbers in the study. Another possible confounding factor is that even when patients are assigned to a SB they do not always conclude their hospitalisation there, often being transferred to other wards before discharge. Furthermore, the rota system in place dictates care delivery even in the finer details such as the duration of stay in a specific ward due to pressure of making beds available for the next 'rota intake'.

There is strong evidence that younger and fitter patients are given SB placesand there is good qualitative evidence to suggest that SBs are potentially beneficial for this selected patient group. Still, the age factor as a primary admission criterion for the SB was beyond the researchers' control, so comparisons within the hospital, all three settings should be interpreted with caution.

It is also evident that stroke patients in Greece do not have consistency of treatment as they are often interchanged between wards and thus only have partial duration in the originally designated ward (SB, NW. MW or other). Therefore, this study was unable to verify any impact of hospitalisation within a SB might have had on survival rates but only on reducing hospital stay.

Due to this, it can be argued that stroke care in Greece is essentially servicerather than patient oriented and hospitals with a SB in Greece need a stronger policy on SB hospitalisationthat is full stay by adhering to conclusive stay beyond the rota system restrictions. A need for policy review and possible change implementations for stroke care delivery within contemporary Greek NHS are verified by both medical and nursing staff accounts and suggestions.

Recent findings in stroke research include the use of state of the art approaches conducted in specialised stroke units. Moreover, obstacles to communication within a conventional multi-disciplinary team, for example, inadequate and at times duplicated record-keeping or a lack of cost-conscious among the team, as a whole, are reasons of techonologyimplentations. Meanwhile Greece lags so seriously behind in all aspects of stroke care and especially continuing care that it seems that a short cut to progressive nursing in this field is well overdue and could act as 'catch up growth' in projecting Greece ahead in this challenging nursing field.

This study shows that indeed a low-technology unit with relatively limited resources due to current austerity measures and low staffing levels,holds the potential to benefit stroke patients via close monitoring, dedicated medical and nursing staff and continuing education regarding advances in stroke care.

The SB concept is less expensive than an acute stroke care unit as it replicates the idea of intensive care for stroke within an environment which is not solely dedicated to stroke. This Greek 'innovational' strategy of attempting to initiate the beginning of state-of the-art stroke service delivery might be appropriate in countries with limited financial resources until barriers to the establishment of stroke units could be overcome. This paradigm could also be incorporated in neighboring Balkan countries which have similar stroke death tolls and infrastructures of services.

Limitations of this study include the short duration and small sample size. Also, direct comparisons between wards in terms of trajectory of recovery were not possible due to the age and other ward selection criteria (not known at the beginning of the study). There was also an inability to compare this study with other researchon stroke as only in-hospital death rates were granted permission for data collection.

In addition, the study design did not randomise patients to settings so the patient sub-groups in the sample did not have similar baseline data and this needed to be taken into consideration when comparing settings. Yet, the study was following the 'natural' allocation of consecutive patients to the designated wards as routinely done by A&E medical staff.

A further drawback of the study is that long-term follow-up was omitted due to time and permission restraints.

REFERENCES

1. Di Carlo, A. Human and economic burden of stroke. Age Ageing. 2009; 38(1):4-5.
2. Hanger, C., Fletcher, V., Fink, J., Sidwell, A., Roche A. Improving care to stroke patients: adding an acute stroke init helps. N Z Med J. 2007; 120(1250):2450-2456.
3. Langhorne, P., Pollock, A. What are the components of effective stroke unit care? Age Ageing. 2012; 31(5):365-371.
4. Spengos, K., Vemmos, K., Tsivgoulis, G., Synetos, A., Zakopoulos, N., Zis, V. Seasonal variation of hospital admissions caused by acute stroke in Athens, Greece. Journal of Stroke & Cerebrovascular Diseases 2003; 12(2):93-96.

5. Karamanoli, E. Greece's financial crisis dries up drug supply. Lancet. 2012; 379(9813):302.
6. Cunningham, J., McCrum-Gardner, E. Power, effect and sample size using GPower: practical issues for researchers and members of research ethics committees. Evidence Based Midwifery. 2007; 5:132-136.
7. Erdfelder, E., Faul, F., Buchner, A. GPOWER: A general power analysis program. Behavior Research Methods, Instruments & Computers. 1996; 28, 1-11.
8. Bath P., (on behalf of the Optimising Analysis of Stroke Trials (OAST) Collaboration. Can We Improve the Statistical Analysis of Stroke Trials?: Statistical Reanalysis of Functional Outcomes in Stroke Trials. Stroke.2007;38:1911-1915.
9. Sulter, G., Steen, C., De Keyser, J. Use of Barthel Index and Modified Rankin Scale in Acute Stroke Scales. Stroke.1997;30:1538-1541
10. Mehta, C., Patel, N. Exact Logistic Regression: Theory and Examples. Statistics in Medicine.1995; 14:2143–2160.
11. Coakes, S., Steed, L. SPSS Analysis without Anguish. Singapore: John Willey & Sons.1999.
12. Mehta, C., Patel, R. SPSS Exact test 7.0 for Windows, SPSS Inc. Chicago.1996.
13. Hall, M., Levant, S., DeFrances, C. Hospitalisation for stroke in U.S. hospitals, 1989–2009. NCHS data brief, no 95. Hyattsville, 2012; MD: National Centre for Health Statistics.
14. Lee, S., Shafe, A., Cowie, M. UK stroke incidence, mortality and cardiovascular risk management 1999–2008: time-trend analysis from the General Practice Research Database. Cardiovascular medicine.2011; 1(2): e000269 doi:10.1136/bmjopen-2011-000269
15. Falcone, G., Chong, J. Gender Differences in Stroke Among Older Adults. Geriatrics and Aging. 2007; 10(08):497-500.
16. Appelros, P., Stegmayr, B., Terént, A. Sex Differences in Stroke Epidemiology: A Systematic Review. Stroke, 2009; 40:1082-1090.
17. Mitka, M. Studies Explore Stroke's Gender Gap. JAMA, 2006; 295(15):1755-1756.
18. Cox, B., Barlow, J., Petsoulas, C., Bayer, S. Modelling service innovation in stroke care. Department of Health, Information and Communication Research Initiative 2 (ICRI II), London, October 2008
19. Vemmos, K., Bots, M., Tsibouris, P., Zis, V., Grobbee, D., Stranjalis, G. et al. Prognosis of stroke in the south of Greece: 1 year mortality, functional outcome and its determinants: the Arcadia Stroke Registry. Journal of Neurology, Neurosurgery and Psychiatry.2000; 69:595-600.
20. Truelsen, T., Ekmanb,M., Boysena, G. Cost of stroke in Europe. European Journal of Neurology. 2005; 12 (Suppl. 1): 78–84.

ANNEX

Table 1: Patients per setting in both hospitals

Setting	hospital A	hospital B
SB	36	NA
NW	27	35
MW	25	41
Total	***88***	***76***

Table2: Gender distribution per setting in both hospitals (N=164)

	Hospital A		Hospital B	
	male	female	male	female
SB	21	15	NA	NA
NW	14	13	18	17
MW	14	11	22	19
Sub-total	49 (55.6%)	39 (44.4%)	44 (57.9%)	32 (42.1%)
Total	***88***		***76***	

Table 3: Age distribution per setting in both hospitals (N=164)

	Hospital A, (N=88)		Hospital B, (N=76)	
	mean	range	mean	Range
SB	59.9	52-72	NA	NA
NW	63.1	54-72	60.0	55-69
MW	75.2	62-91	78.1	66-100
Total	***65.7***	***52-91***	69.1	***55-100***

Table 4: Length of stay (days) in both hospitals (N=164)

	Hospital A, (N=88)		Hospital B, (N=76)	
	mean	range	mean	range
SB	5.0	3-9	---	---
NW	8.5	5-17	3.5	1-10
MW	10.5	7-18	10.5	1-26
Total	***7.6***	***3-18***	***7.3***	***1-26***

Table 5: Death rate in both hospitals (N=164)

	response		total
	0=death	1=alive	
Count % withinHospital A	6 6.8%	82 93.2%	88 100.0%
Count % withinHospital B	8 10.5%	68 89.5%	76 100.0%
Count % within both Hospitals	14 8.5%	150 91.5%	164 100.0%

Diagram 1: in-hospital survival: Hospital A (blue): N=88, deaths=6, Hospital B (green): N=76, deaths=8.