Standards for nutrition and fluid management

Food and water are essential for life. When someone is unwell they need to eat the right food, in the right amounts, at the right time in order to get better. Despite this there are still serious concerns about nutrition in health and social care sectors:

Malnutrition affects more than 10 per cent of older people (British Association for Parenteral and Enteral Nutrition (BAPEN), 2006)

Between 30-40 per cent of people admitted to hospitals, care homes or mental health units are at risk of malnutrition (BAPEN, 2009)

The UK Home Care Association estimates that up to 90,000 people who receive home care services could be at risk of malnutrition (Grove, 2008)

Malnutrition is estimated to cost the UK more than £13 billion a year (BAPEN, 2009)

Malnourished patients stay in hospital longer, are three times as likely to develop complications during surgery, and have a higher mortality rate (Age Concern, 2006; BBC, 2006). Malnutrition, in terms of undernourishment, is both a cause and consequence of disease in adults and children. It is common and affects over 3 million people in the UK with associated health costs exceeding £13 billion annually.

It is often unrecognised and untreated, yet it has a substantial impact on health and disease in all community care settings and hospitals.

The benefits of improving nutritional care and providing adequate hydration are immense, especially for those with long term conditions and problems such as stroke, pressure ulcers or falls. The evidence shows clearly that if nutritional needs are ignored health outcomes are worse and meta-analyses of trials suggest that provision of nutritional supplements to malnourished patients reduces complications such as infections and wound breakdown by 70% and mortality by 40%.

Better nutritional care for individuals at risk can result in substantial cost savings to the NHS4 and even a saving of 1% of the annual health care cost of malnutrition, would amount to £130 million annually.

Recent guidance from the NICE identifies better nutritional care as the fourth largest potential source of cost savings to the NHS5 and nutrition and hydration are identified in the SHA Chief Nurses eight ‘high impact’ clinical areas that could make huge cost savings for the NHS if Trusts and Care Homes improved performance.

It is crucial when redesigning nutritional care, to consider the overall health costs associated with malnourishment.

For example, although it is tempting to create a simple target to reduce the prescribing costs of oral nutritional supplements (ONS), which have risen steeply in recent years, ill thought out measures to do so will be detrimental to some individuals and may result in increased overall costs. Properly planned nutritional care will reduce costs from inappropriate use or wastage of ONS but will also identify more individuals who will benefit from them. However, since the health care costs associated with malnutrition are primarily due to more frequent and expensive hospital in-patient spells, more primary care consultations and the greater long-term care needs of malnourished individuals, even a net increase in use of ONS, enteral tube feeding and parenteral nutrition, will be more than offset by cost savings since the current costs of these nutrition support modalities only amounts to about 2% of overall malnutrition related costs.

Providing good nutritional care is therefore a matter of quality, clearly delivering against all elements of fair, personalised, safe and effective care7 as well as ensuring equality, improved outcomes and best patient experience.

Improved nutritional care is dependent on effective management structures to ensure joined up multidisciplinary care pathways across acute and community settings. Clinical leadership, innovation and continual improvement are fundamental to the delivery of high quality nutritional care.

NICE guidance on Nutrition Support in Adults8 sets out clear recommendations for nutritional screening in hospital and community and the development of personalised nutritional care pathways for patients at risk. There are also national minimum standards for food provision in care homes, patient experience surveys10 and annual assessments of nutritional care in hospitals by the Patient Environment Action Team (PEAT), and the Royal College of Nursing (RCN) has published a position statement on malnutrition in children and young people.

Many other organisations including the Council of Europe, the Department of Health, NICE, the National Patient Safety Agency (NPSA), the National Association of Care Catering (NACC), the Royal College of Physicians (RCP), and the RCN also recognise the importance of screening for malnutrition and treating all those at risk. Recently, the Care Quality Commission (CQC) produced guidance for healthcare and adult social care services on ‘Essential standards of quality and safety’ which include ‘meeting nutritional needs’. These are much more detailed than the previous core standards.

BAPEN has produced a number of reports on the causes, consequences and health economics of malnutrition as well as national surveys on the prevalence of malnutrition and the use of nutritional screening in hospitals, mental health units, care homes and sheltered housing. The charity has also contributed to national government and NHS strategies, such as the Nutrition Action Plan14 and the NHS core learning15 units on nutrition. We are therefore in a good position to provide commissioners and providers with information on nutritional care and standards.

The BAPEN Nutritional Care Tools in this document were developed in consultation with many organisations including all the Core groups that make up BAPEN. The generic issues that surround commissioning for adults and children are similar but some specifics of childhood nutritional needs and monitoring are different with issues such as poor parenting needing to be addressed. Child specific contributions were therefore made by the Nutrition Working Group of the British Society of Paediatric Gastroenterology, Hepatology and Nutrition (BSPGHAN) and the document contains a specific appendix focused on paediatric issues and transitional care to adult services.

The principles underlying the tools are that potentially vulnerable individuals should be screened for malnutrition and that those identified as at risk should be offered individualised nutritional care plans appropriate to their needs. To achieve this all care staff must understand the importance of nutritional care and be trained to identify those at risk, a training need that can be met by e-learning modules available from BAPEN. All health or social care organisations must also have management structures in place to ensure best nutritional practice.

This BAPEN Toolkit is based on world-class commissioning competencies16 and enables commissioners and providers in local authorities, primary care organisations, hospital trusts and foundation hospitals to include best nutritional care when commissioning / redesigning all care services in all health and care settings. It will help service providers to include nutritional care in the development of new business cases and support them in collecting the data needed to prove they meet nutritional quality standards and recommendations. It will also assist commissioners to set appropriate and achievable key performance indicators (KPIs) and to effectively contract and monitor services against an appropriate quality specification.

The BAPEN Toolkit contains guidance for commissioners and providers on defining the relevant, measurable outcomes related to nutritional care within services in order to gain value for money, a summary of national nutritional care standards and recommendations and the following tools:

• Tool 1: Assessment of population at risk of malnutrition – Guidance on quantifying the numbers in the local population likely to be malnourished or at risk of malnutrition and hence the scale of need for nutritional care.

• Tool 2: Assessment of current screening and provision of nutritional care – Guidance on the assessment of current levels of local nutritional care provision.

• Tool 3: Development of nutritional screening, assessment and care pathways – Guidance on how to ensure that nutritional care pathways meet agreed standards and recommendations, based on available evidence for effective and efficient identification of malnutrition in patients and subsequent management.

• Tool 4: Education and training: Knowledge, skills and competencies of staff involved in nutritional screening, assessment and care planning – Guidance to ensure that staff are appropriately trained to deliver high standards of nutritional care that are appropriate to the needs of individuals in health and social care settings.

• Tool 5: Service specifications and management structures for nutritional care – A checklist to assist teams in developing specifications for nutritional care within services for adults and children across all local settings.

• Tool 6: Quality frameworks for nutritional care – A framework to check that organisations involved in providing care to the local population put nutrition at the heart of that care.

• Tool 7: Quality indicators, monitoring and review – Guidance on measurable markers of quality in nutritional care and information to assist in the development of data collection systems embedded in routine care wherever possible (rather than systems requiring specific ad hoc audits). The markers will also permit confirmation of quality and will enable commissioners to set appropriate KPIs, ensuring value for money.

Malnutrition is a state in which a deficiency, excess or imbalance of energy, protein and other nutrients causes measurable adverse effects on tissue/body form (body shape, size and composition), function or clinical outcome.

Although the term 'malnutrition' can encompass both over nutrition/obesity and under nutrition, for the remainder of this document the term is only used to mean under nutrition.

Malnutrition is often under-recognised and under-treated to the detriment and cost of individuals, the health and social care services and society as a whole. It is a common problem with more than 3 million people at any one time in the UK malnourished.

1 Around 30% of admissions to acute hospitals and care homes are at risk when evaluated using criteria based on the 'Malnutrition Universal Screening Tool' ('MUST') as well as 10 - 14% of the 700,000 people living in sheltered accommodation; and 14% of the elderly at home or in care, whilst evaluation based on body mass index shows that even in individuals living at home, 5% of the elderly are underweight (BMI <20kg/m2), a figure that rises to 9% for those with chronic diseases.

The prevalence of malnutrition is therefore set to rise as the population ages.

In children the prevalence of acute malnutrition varies between 6-14% in hospitalised children surveyed in Germany, France and the United Kingdom and the overall prevalence of malnutrition including chronically growth restricted children was 19% of admissions in the Netherlands.

Additionally an important feature of much of malnutrition in children relates to micronutrient deficiency, especially iron and vitamin D.

Management of weight faltering often requires a multi-agency approach in which health visitors and social workers intervene to support parents with poor parenting skills and nutritional problems of their own such as obesity

All malnutrition is inevitably accompanied by increased vulnerability to illness, increased clinical complications and even death (Table 1). However, these risks can be significantly reduced if it is recognised early and specifically treated with relatively simple measures. For example, meta-analyses on the effectiveness of using oral nutritional supplements in malnourished patients, suggest that clinical complications associated with malnutrition can be decreased by as much as 70% and mortality reduced by around 40%.

Effective nutritional screening, nutritional care planning, high standards of food service delivery and appropriate nutritional support are therefore essential in all settings, and there is no doubt that a health service seeking to increase safety and clinical effectiveness must take nutritional care seriously.

The prevalence of malnutrition

Screening for malnutrition is not routinely carried out in every care setting and so opportunities for intervention are missed. BAPEN and other organisations have carried out a number of large surveys to identify the prevalence of nutritional problems in adults in different care settings and these are illustrated in Figure 1. This figure also conveys the adverse consequences and costs that can ensue if malnutrition is not prevented, recognised or treated appropriately.

Table 2 analyses the current situation, summarising the current standards and initiatives and some of the barriers to their implementation. It supports the analysis stage of the commissioning cycle.

Strengths

- Good evidence for nutritional interventions in both hospital and community settings
- Multiple recommendations and initiatives from Department of Health and professional bodies.

Weaknesses

- Too many national initiatives and recommendations from Department of Health and professional bodies causing confusion Lack of overall structure
- Focus on systems and processes rather than outcomes and the experience of service users
- Lack of communication across different community and healthcare boundaries
- Services not sufficiently patient-focussed
- Opportunities for intervention missed
- Nutrition screening patchy
- Education and training in nutrition patchy

Opportunities

- Promoting nutritional care as an integral part of all care pathways could reduce admissions and readmissions and shorten hospital stay
- Promoting nutritional care could promote independent living and quality of life
- Promoting nutritional care could reduce health inequalities
- Promoting nutritional care could lead to substantial financial savings
- Promoting nutritional care could reduce requirements for Domiciliary Care
- Promoting nutritional care could reduce Care Home admissions

Threats

- Nutritional care seen as a low priority by many organisations
- Lack of awareness re: causes and impact of malnutrition
- Nutrition not 'disease specific'
- Lack of mechanism for coding nutritional care – no specific HRG
- Lack of adequately trained staff
- Collaborative working not promoted by purchaser/provider split
- Difficult to define and realise benefits Inappropriate use of oral nutritional supplements sometimes leading to unnecessary cost
- The national focus on obesity which although essential, should not over-shadow the separate problem of malnutrition.

Implementing Standards and Guidelines in Nutritional Care

Key standards and guidelines: Embedding good nutritional care into the commissioning of every service is crucial in meeting current nutritional standards and guidelines. These and other recommendations are effectively summarised by the NICE Guidelines, Essence of Care benchmarking and the CQC standards.

Implementation guidance: Many of the other publications and initiatives listed [on page 5] provide guidance on how standards and recommendations can be implemented across a variety of settings to improve the quality of nutritional care delivered.

Evidence of delivery of good nutritional care: There are a number of audits and monitoring systems and processes to enable organisations to record evidence and report on achievement of key targets and KPIs, for example, PEAT annual assessments.

Work streams and frameworks: National work streams provided through the National Quality Board provide leadership to drive the quality agenda within the NHS and frameworks such as the Commissioning for Quality and Innovation53 (CQUIN) payment framework provide incentives to achieve improved quality and innovation in the delivery of nutritional care.

1.The NICE Guidance8 provides recommendations on:

• Malnutrition and the principles of nutrition support

• Organisation of nutrition support in hospital and the community

• Screening for malnutrition and the risk of malnutrition in hospital and the community

• Indications for nutrition support

• What to give in hospital and the community

• Monitoring of nutrition support in hospital and the community

• Oral nutrition support in hospital and the community

• Enteral tube feeding in hospital and the community

• Parenteral nutrition in hospital and the community

• Supporting patients in the community

2. Essence of Care Benchmarking

The Essence of Care benchmark for food and drink (previously nutrition) has recently been out for consultation and review to ensure it is has a person focused outcome. The revised version will be designed to ensure individuals are enabled to consume food and drink (orally) which meets their needs and preferences.

Benchmarks of best practice will be identified for ten factors which are summarised below:

• Screening: individuals identified as at risk on screening have a full nutritional assessment

• Care: care is planned, implemented, continuously evaluated and revised to meet individual needs and preferences for food and drink

• Monitoring: food and drink intake is monitored and recorded

• Environment: the environment is conducive to eating and drinking

• Assistance: individuals are provided with the care and assistance they require with eating and drinking

• Information: sufficient information is provided to enable individuals and their carers to obtain their food and drink

• Provision: food and drink is provided to meet an individual's needs and preferences

• Availability: individuals can access food and drink at any time according to their needs and preferences

• Presentation: food and drink are presented in a way that is appealing to individuals

• Promoting Health: individuals are encouraged to eat and drink in a way that promotes health

4. BAPEN make the following recommendations, based on the NICE Nutrition Support Guidelines and best practice:

• Information on healthy living and the importance of maintaining a healthy weight should be available in all care settings and in the community.

• Prevention of malnutrition should be an integral part of preventative health care and should be located within the public health agenda.

• Nutritional screening should be undertaken in:

• All hospital inpatients - on admission and weekly or when there is clinical concern

• All hospital outpatients - at first outpatient appointment and where there is clinical concern

• All residents of care homes - on admission and repeated monthly given the high prevalence and general frailty of residents (particularly in nursing homes)

• At initial registration in GP surgeries, annually for those aged over 75 years, where there is clinical concern, and at other opportunities such as health checks or vaccinations

It is however also important to identify nutritional risk in care settings beyond those addressed by NICE including day care, sheltered housing and domiciliary settings.

• Agreed local procedures and policies should be in place which ensure that a detailed nutritional assessment is undertaken and recorded for all individuals identified as malnourished, or at risk of malnutrition, when screened.

• Care plans: All individuals identified as malnourished or at risk should have an appropriate care plan containing clearly identified goals of treatment which must be recorded. This may include social measures to ensure provision of meals, help with cooking or feeding, food and fluid intake records, modified menus, dietetic advice, oral nutritional supplements and or artificial nutritional support. They should then be monitored to ensure goals are met with further action as necessary.

• Discharge/transition planning: the flow of nutritional information from one setting to another is crucial to the delivery of good nutritional care. BAPEN's Nutrition Screening Week 2008 found that nutrition information regarding patients identified as malnourished during their hospital stay was not routinely included in discharge communications. This omission could result in nutritional care being overlooked at one of the most vulnerable points during a patient's journey.

• Training: All healthcare professionals should receive appropriate training in the importance of nutritional care, how to screen for malnutrition, basic nutritional care measures and the indications for onward referral for nutritional assessment and support. E-learning modules that all hospital staff can use to complete training on the principles and practice of 'MUST' are available from BAPEN and 'MUST' training modules suitable for community and social care staff will become available during 2010. Fluid balance is also an integral part of the nutritional management of individuals and training for staff should include a focus on fluid management, as both fluid overload and dehydration should be avoided to prevent unnecessary clinical complications.

EFFECT CONSEQUENCE

Impaired immune response	Impaired ability to fight infection
Reduced muscle strength and fatigue	Inactivity and reduced ability to work, shop, cook and self-care. Poor muscle function may result in falls, and in the case of poor respiratory muscle function result in poor cough pressure – delaying expectoration and recovery from chest infection
Inactivity	In bed-bound patients, this may result in pressure ulcers and venous blood clots, which can break loose and embolise
Loss of temperature regulation	Loss of temperature regulation Hypothermia with consequent further loss of muscle strength
Impaired wound healing	Increased wound-related complications, such as infections and un-united fractures
Impaired ability to regulate salt and fluid	Predisposes to over-hydration, or dehydration
Impaired ability to regulate periods	Impaired reproductive function
Impaired fetal and infant programming	Malnutrition during pregnancy predisposes to common chronic diseases, such as cardiovascular disease, stroke and diabetes (in adulthood)
Specific nutrient deficiencies	Anaemia and other consequences of iron, vitamin and trace element deficiency
Impaired psycho-social function	Even when uncomplicated by disease, malnutrition causes apathy, depression, introversion, self-neglect, hypochondriasis, loss of libido and deterioration in social interactions (including mother-child bonding)
Additional effects on children and adolescents	Growth failure and stunting, delayed sexual development, reduced muscle mass and strength, impaired neuro-cognitive development, rickets and increased lifetime osteoporosis risk

PLEASE NOTE THAT THE FOLLOWING CHARTS ARE SAMPLES ONLY

REGISTERED DIETITIAN NUTRITION ASSESSMENT

❑ VISIT ❑ T.C.	AGE:	DOB:	SOC:	
DIAGNOSIS:		CO-MORBIDITIES:		

Ht:	Mid-Arm Circ:	Wt:	Usual Wt:	Recent Wt. Change:	Over:
ALLERGIES			TYPE OF ALLERGY RESPONSE		
SENSITIVITIES			TYPE OF SENSITIVITY RESPONSE		
PAIN INTENSITY RNCM ❑ NOTIFIED			PAIN LOCATION NOTIFIED RNCM ❑		

TEETH	DENTURES ❑ FULL ❑ PARTIAL ❑ NONE	PROBLEM W/CHEWING	SWALLOWING

MEDICATIONS
VITAMINS/SUPPLEMENTS

APPETITE	FLUID INTAKE	ABILITY TO EAT/SELF-FEED
WHO DOES MEAL PREPARATION?		SHOPPING?
DIET ORDER (INCLUDE ENTERAL FEEDINGS)		
FEEDING TUBE ❑ YES ❑ NO		TYPE OF FEEDING TUBE
CULTURAL/RELIGIOUS FOOD PREFERENCE		
BOWEL ROUTINE: CONSTIPATION		BOWEL ROUTINE: DIARRHEA

PT/FAMILY NUTRITION GOAL (IF ANY):

NARRATIVE SUMMARY:

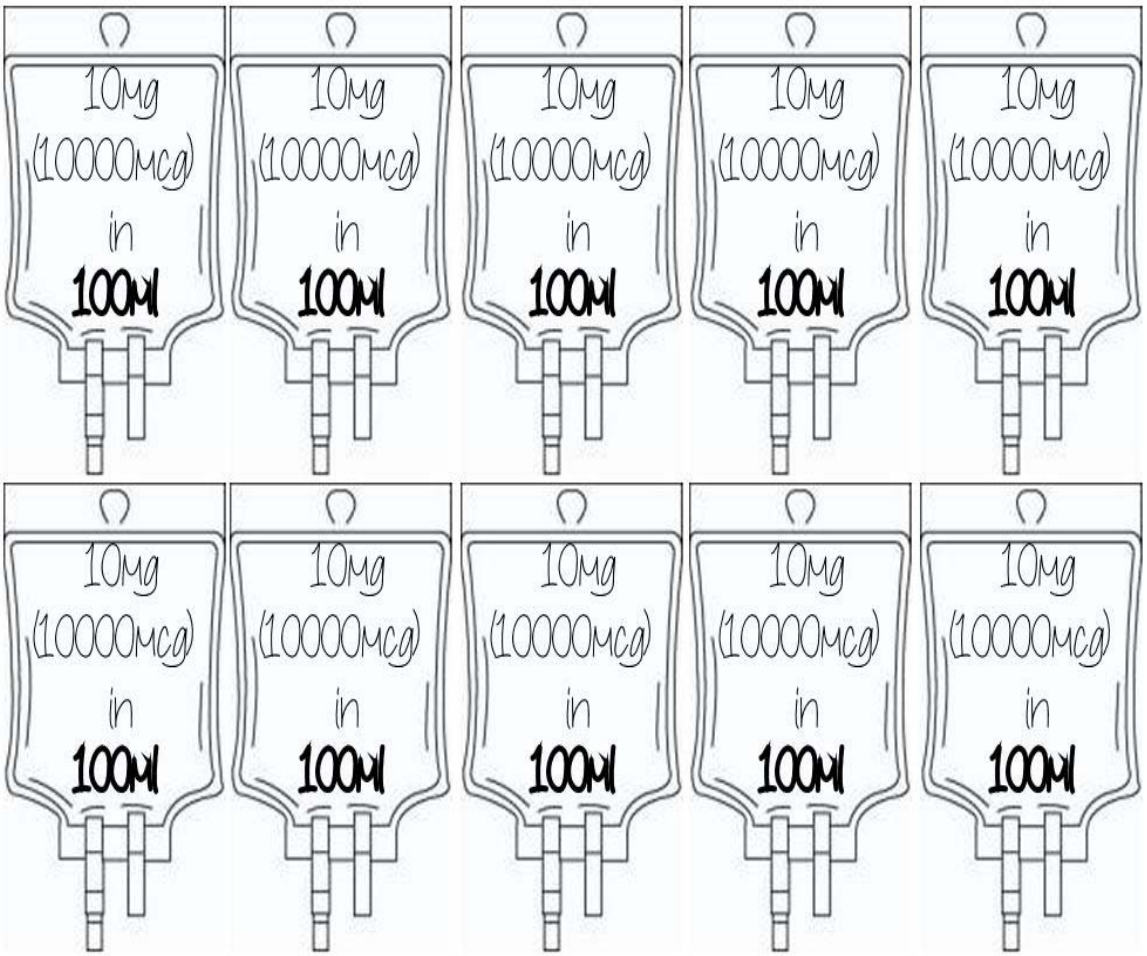
COLLABORATION ON REVISION OF CARE PLAN WITH FOLLOWING MEMBERS OF IDT:

Employee: (Last, First)	Signature:	Discipline:
Patient Name: (Last, First)	MR #:	Date:

White - Medical Record Yellow - Facility/Home Record

nutrition_assessment – Updated 11/30/2011

A a 1litre bag can be divided down into 10, 100mls bags. each 100ml will then contain 10mg or 10000mcg



AM I HYDRATED?

Urine Color Chart

1		
2		If your urine matches the colors 1, 2, or 3, you are properly hydrated.
3		Continue to consume fluids at the recommended amounts.
4		If your urine color is below the RED line, you are
5		DEHYDRATED and at risk for cramping and/or a heat illness!!
6		YOU NEED TO DRINK MORE WATER!
7		
8		

MPSSAA Health and Safety
11/22/2012

FLUID BALANCE CHART

Patient Label Here

Date: Weight: (kg)

Input (mls)												Output (mls)						
	Oral/NG/NJ		Line 1 (I/V)			Line 2 (I/V)			Line 3 (I/V)									
Time	Fluid Type	Volume (mls)	Fluid Type	Hourly Total	Running Total	Fluid Type	Hourly Total	Running Total	Fluid Type	Hourly Total	Running Total	Time	Urine	Vomit/NGT Loss	Bowels/Stoma	Drain(s) Total (Indicate Drain Site)	Hourly Total	Running Total
2400												2400						
0100												0100						
0200												0200						
0300												0300						
0400												0400						
0500												0500						
0600												0600						
0700												0700						
8 hr total												8 hr						
0800												0800						
0900												0900						
1000												1000						
1100												1100						
1200												1200						
1300												1300						
1400												1400						
1500												1500						
8 hr total												8 hr						
1600												1600						
1700												1700						
1800												1800						
1900												1900						
2000												2000						
2100												2100						
2200												2200						
2300												2300						
8 hr total												8 hr						
24 hr total												24 hr						

Intravenous 'Fluid Type' Abbreviations

NS=0.9% Saline / DSW=5% Dextrose / D10W=10% Dextrose
DS=Dex Saline / P148=Plasmalyte / Har=Hartmann's /
Vol=Voluven / Gel=Gelofusine / Alb=Albumin / RBC=Blood /
Plt=Platelets / FFP=Fresh Frozen Plasma / TPN

Input	
Output	
Balance (indicate + or -)	

Date: Weight: (kg)

Input (mls)												Output (mls)						
	Oral/NG/NJ		Line 1 (I/V)			Line 2 (I/V)			Line 3 (I/V)									
Time	Fluid Type	Volume (mls)	Fluid Type	Hourly Total	Running Total	Fluid Type	Hourly Total	Running Total	Fluid Type	Hourly Total	Running Total	Time	Urine	Vomit/NGT Loss	Bowels/Stoma	Drain(s) Total (Indicate Drain Site)	Hourly Total	Running Total
2400												2400						
0100												0100						
0200												0200						
0300												0300						
0400												0400						
0500												0500						
0600												0600						
0700												0700						
8 hr total												8 hr						
0800												0800						
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1200												1200						
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8 hr total												8 hr						
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2300												2300						
8 hr total												8 hr						
24 hr total												24 hr						

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Input	
Output	
Balance (indicate + or -)	