

# **Market review of fluid dispensers & drinking aids**

**Prepared by Elizabeth Dymond, Innovation Manager**

**September 2010**



## Executive Summary

This market review of fluid dispensers and drinking aids focuses on devices for older and disabled people who have problems getting enough fluids to drink. Previous work at the BioMed Centre has identified a gap in the market for a hydration device with monitoring and alarm functions (Medilink UK Review Spring 2009) and anecdotal evidence suggests there are very few devices suitable for people who cannot suck.

Drinking water and other fluids is fundamental to health and well-being regardless of the person or their situation, however age-related changes make older people more vulnerable to water imbalance and studies have shown that many older adults do not reach their recommended daily intake of oral fluids (Keller, 2006). Improving hydration for older people is a national issue which has attracted parliamentary interest and many organisations, including the National Patient Safety Agency (NPSA), Water UK and the Royal College of Nursing, are promoting greater awareness of the importance of hydration, stimulating research and influencing policy.

Older adults are particularly susceptible to dehydration because of a diminished thirst sensation and changes in kidney function. Drinking is a complex behaviour determined by a variety of factors and their interactions. Thus the capacity to maintain hydration involves a multiplicity of physical and psychological factors which are played out in complex and varied social environments.

Drinking aids and dispensers cover a broad range of products from cups to soft drink can vending machines, from toddler cups to coffee makers and so on. The products we are most concerned with here are for elderly and disabled people who have difficulty drinking from a standard mug or cup and relate to:

- hands free drinking equipment (4 found)
- drinking aids with alarms (3 found)
- drinks dispensers with a measurement function (approx 50 found)
- drinks dispensers with an alarm and monitoring function (only one product on the market was found which is a SwanTeasmade. The alarm function can act as a reminder for the person to drink and a hot drink is then ready for them, but there were no devices that monitor consumption and sound an alarm if that is too low).

The report has highlighted that a large number of drinking aids are already available if you have some hand control. There appears to be nothing on the market yet for people with very limited or no hand control to use independently and these people must rely on carers to supply drinks at the correct time.

It is definitely worth considering whether changes in routine or practice in the person's own home, in a care or residential home or in an acute hospital setting would mean that existing devices can be used reasonably successfully or whether there is still a niche market for devices to aid drinking in older people with very poor hand function. An observational study on hydration practices in a residential home and on an acute ward will highlight areas for further study and possible interventions to trial. This study is funded by the North Bristol NHS Trust Small Grant Scheme and D4D and runs until the end of December 2010.

The preliminary patent review in this report highlighted a number of potential solutions in different sectors, eg brewing industry and animal husbandry, and these sectors could be investigated further to see if their solutions translate well into healthcare settings.

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## Introduction

This market review of fluid dispensers and drinking aids focuses on devices for older and disabled people who have problems getting enough fluids to drink. Previous work at the BioMed Centre has identified a gap in the market for a hydration device with monitoring and alarm functions (Medilink UK Review Spring 2009) and anecdotal evidence suggests there are very few devices suitable for people who cannot suck.

This report:

- describes products currently on the market for this target population,
  - describes products under development,
  - reviews intellectual property and freedom to operate issues for those wishing to develop products in this area and
  - analyses the market for these products in both the UK and overseas.
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## Defining the Problem

Drinking water and other fluids is fundamental to health and well-being regardless of the person or their situation, however age-related changes make older people more vulnerable to water imbalance and studies have shown that many older adults do not reach their recommended daily intake of oral fluids (Keller, 2006). Improving hydration for older people is a national issue which has attracted increasing parliamentary interest <http://www.water.org.uk/home/water-for-health/news-viewpoint/hydration-of-older-people> and many organisations including NPSA, Water UK and the Royal College of Nursing are promoting greater awareness of the importance of hydration, stimulating research and influencing policy.

Whilst there is some evidence on which to base changes in hydration practice and there are guidelines for hospitals and care homes (<http://www.water.org.uk/home/water-for-health>) there are still problems with older people's fluid intake and their quality of experience around the consumption of beverages. The factors that promote adequate hydration and the barriers which prevent older people from drinking sufficiently are not well understood. In addition, the role of new hydration devices in meeting the hydration care needs of older people is unknown.

Maintaining adequate fluid intake is an essential prerequisite for health at any stage of life, however older adults are more susceptible to water imbalance (Mentes, 2006). Although the health benefits of proper hydration are well established, dehydration is common in older adults (Hodgkinson et al, 2003; Joanna Briggs Institute, 2001) and occurs in both hospitalised patients and residents of care homes (Haveman-Nies et al, 1997; Joanna Briggs Institute, 2001; Simmons et al, 2001). Adequate hydration is important since it is associated with fewer falls, lower rates of constipation, better rehabilitation outcomes in orthopaedic patients and reduced risk of bladder cancer in men (Michaud et al, 1999; Mukand et al, 2003; Robinson and Rosher, 2002).

Many of the policies which pertain to hydration are focused on food and mealtimes rather than drinking fluids per se. These include core standards which address food issues and help with eating (NICE, 2006; DH, 2007) and the Essence of Care benchmark statements (DH, 2003). Clearly, not all hospitals achieve these standards since a recent report (Age Concern, 2006) indicated that one of the most frequent issues raised with Age Concern by relatives of older patients in hospital is the absence of help with eating and drinking. Getting older adults to drink is a complex and challenging issue for nurses (Alford, 1991; Zembruski, 1997) and preventing dehydration in older people is important for professionals working in both hospitals and care homes (Archibald, 2006). Older adults are susceptible to dehydration because of age-related changes including decreased renal perfusion and a diminished sense of thirst (Kenney and Chiu, 2001). Other factors such as fasting prior to certain procedures, long-waits in accident and emergency departments without access to fluids and difficulty in pouring water from a bedside jug can all contribute to an increased tendency to dehydration (Mentes, 2006).

Several studies have indicated that the fluid intake of many older people is below the recommended daily requirement of 1500-2000 ml per day (Keller, 2006; Simmons et al, 2001). Specific interventions for improving oral hydration in older people are poorly understood (Hodgkinson et al, 2003; Ullrich and McCutcheon, 2008). The straightforward approach to improve hydration status is for older people to consume adequate fluids. However, drinking is a complex behaviour determined by many interrelated factors (Köster, 2009). Whilst thirst and drinking behaviour are controlled by homeostatic mechanisms there are many non-homeostatic controls including social, psychological and environmental influences (Kenney and Chiu, 2001). Indeed, under natural conditions when fluid is freely accessible neither the amount nor the pattern of fluid intake is regulated physiologically to any large degree but by the amount and timing of food intake (de Castro, 1988; Phillips et al, 1984). Other non-homeostatic influences include the availability, taste, temperature, appearance and palatability of the beverage; an understanding of the importance of hydration; drinking associated with meals and medication; and sociocultural norms (Kenney and Chiu, 2001; Simmons et al, 2001). Reduced fluid intake due to fear of incontinence (Hodgkinson et al, 2003; Simmons et al, 2001) and decreased mobility, confusion and polypharmacy make older people more susceptible to fluid and electrolyte imbalances (Joanna Briggs Institute, 2001; Keller, 2006; Mentis, 2006). Institutional and organisational factors such as staffing levels and professional supervision also impact on hydration care (Davidhizar et al, 2004).

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## Products

Drinking aids and dispensers cover a broad range of products from cups to soft drink can vending machines, from toddler cups to coffee makers and so on. The products we are most concerned with here relate to:

- hands free drinking equipment
- drinking aids with alarms,
- drinks dispensers with a measurement function and
- drinks dispensers with an alarm and monitoring function

for elderly and disabled people who have difficulty drinking from a standard mug or cup. Products were searched for using the terms 'drinks dispenser', 'drinking aids' and the terms in the above list. The products were found from several sources which included specialist websites and on-line shopping websites, these are: the Disabled Living Foundation database, NHS Evidence, NHS Supplies, Royal National Institute for the Blind, Google images, Amazon, Argos and Boots.

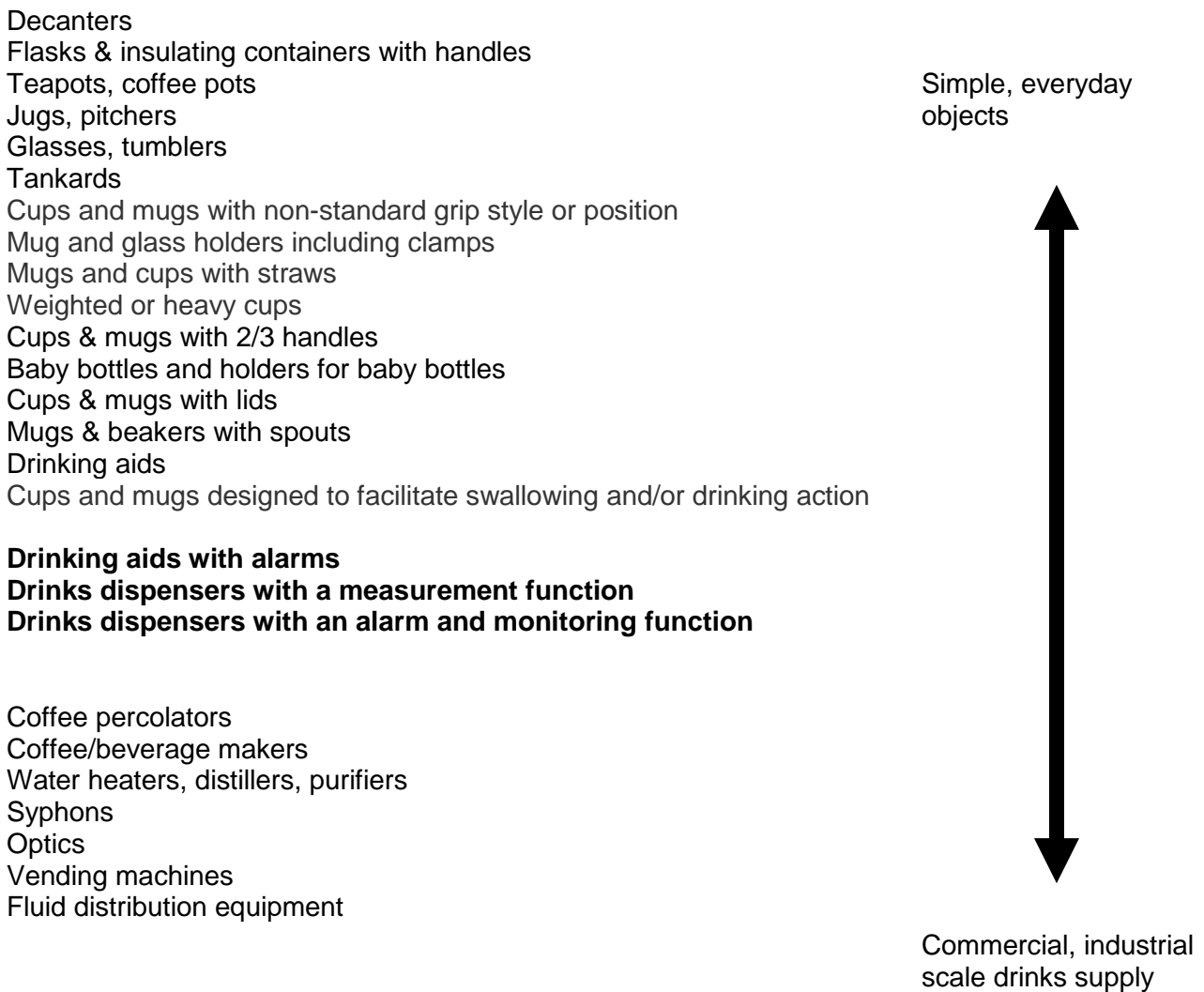
It is important to put the product features in context. For example, the use of an alarm in association with a vending machine usually indicates theft from the vending machine whereas we are interested in an alarm that reminds the user and their carers that the user hasn't drunk the required amount and/or at the required frequency. Figure 1 shows the breadth of products that could be considered as drinking aids or drinks dispensers. The information on specific products in the following sections comes from the suppliers' websites and these products have not been evaluated by BioMed or D4D.

The reader should contact the Disabled Living Foundation (DLF) for current information on simple drinking aids with tops, larger handles, grip features, straws etc. Table 2 gives three examples. This category contains several hundred products and DLF offers the following product design advice:



- a wide based vessel is more stable
- a lid may help to prevent spillage
- a vessel that is dishwasher and microwave safe can be labour saving
- large handles allow users to put their hands right around the handle, which may facilitate a more secure grip


- 'D', 'T' and 'J' shaped handles provide a variety of grips for users with reduced range of movement or strength
- an unbreakable, ribbed vessel may facilitate grip and be less likely to cause injury if dropped by the user
- cups that deliver liquids in controlled amounts are needed for those with swallowing difficulties
- a large vessel can be half filled to reduce the risk of spillage, but still provide a good size drink
- colour contrast, either in the form of a coloured vessel or a coloured line through a transparent glass or beaker, may be preferable for a user who is partially sighted.
- Cups with a nose 'cut out' can be more comfortable.

**Figure 1** Drinking aid and drinks dispenser space showing the types of products that range from simple, domestic objects to industrial drinks supply.






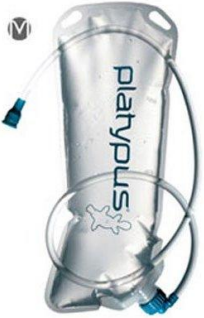
**Table 2** Three examples of **simple drinking aids**. The Disabled Living Foundation lists several hundred products in this category.

Product	Features	Benefits	Supplier	Approx price
<p><b>Kapi-cups</b></p> 	Semi-flexible top part of the cup allows the cup to be squeezed ...	...to help direct flow of fluid into the mouth by a carer or user	Kapitex Healthcare Ltd www.kapitex.com	Pack of 5 cups approx £10  Pack of 2 holders approx £3.50
	Bite-safe and shatterproof - smooth moulded edges and lightweight	Reduces risk of injury if cup slips or is dropped		
	Suitable for warm and cold liquids	Wider choice of drinks		
	Small size (30ml)	Easier for children to use		
	Each cup has an approximate fill line	Can be used for simple monitoring of fluid intake		
	The medium (80 ml) and large (160 ml) sized cups are supplied with a double handle holder	Gives user better control of a larger and heavier cup		
	Microwave and dishwasher safe	Easy to keep clean		
	A choice of single or double handle holders are available in packs of 2	Suitable for users with a range of abilities		
	CE marked under the Medical Device Directive 93/42/EEC			
<p><b>Hydrant</b></p> 	<p>Comprises a 1 litre water bottle, a one piece cap/handle/clip &amp; a drinking tube with a bite valve and small clip to attach the tube to clothing.</p> <p>The bottle is hung from the bed or chair and the user takes hold of the tube, inserts the bite valve between their lips then bites and sucks.</p> <p>The bite valve opens under pressure and closes when released.</p>	<p>User can control when they take a drink. No leakage for patients lying in bed.</p> <p>The Hydrant has been evaluated at Bristol University Hospitals Foundation Trust and as part of an audit at Heatherwood and Wexham Park Foundation Trust, Windsor. (Wakeling 2009). The audit used the Hydrant as part of its hydration improvement plan and whilst hydration improved, the study design did not test whether the same results could have been achieved using a different drinking aid.</p>	NHS Supply Chain order code UMT 004 plus see website for distributors  www.hydrateforhealth.co.uk	£6 to £13




<p><b>Hydrant Sports</b></p> 	<p>The Hydrant Sports is easy to hold with a large handle and indentations. It is designed for wheelchair users.</p>	<p>The handle can be used to keep the Hydrant within reach.</p>	<p>www.hydrateforhealth.co.uk</p>	<p>£6 to £13</p>
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**Table 3 Hands free drinking products.** This table includes all 4 products found in this category and not just examples. They all require the user to be able to suck even if the suck action is weak.


Product	Features	Benefits	Supplier	Approx price
<p><b>Drink-aide TM</b></p> 	<p>Drink-Aide™ consists of a FDA approved insulated water bottle (HDPE #2), a vibration resistant flexible drinking tube and a universal clamp.</p> <p>The universal clamp fastens the bottle to a wheelchair, bed or any other location.</p>	<p>Drink-Aide™ gives wheelchair users the ability to drink fluids independently</p> <p>Frees caregiver to attend to other needs</p> <p>Users no longer have to wait for a caregiver to quench their thirst</p>	<p>On-line from <a href="http://www.drink-aide.com">www.drink-aide.com</a></p>	<p>£40</p>
<p><b>Drinkup</b></p> 	<p>Drinkup is set up with the mouthpiece placed within reach of the user's mouth and the jug nearby. The length of the arm and fluid tube can be adjusted to suit the user as follows:</p> <p>Short Set-up – Approx 250mm reach  Medium Set-up - Approx 400mm reach  Long Set-up – Approx 550mm reach  Extra long Set-up - Approx 700mm reach</p>	<p>Drinkup can also be set-up in a 'safe siphon' mode to assist those who have a weak suck action. The jug unit must be above user head height for this.</p> <p>Once the Carer has 'primed' the tube with the chosen drink, the User only has to bite gently on the bite valve without sucking. A slow trickle of drink will flow and stop as soon as the bite is released.</p>	<p>Online <a href="http://www.drinkup.uk.com">www.drinkup.uk.com</a></p>	<p>£100 plus £6 for consumables set.</p>

<p><b>Drinkup Travel Lite</b></p> 	<p>Drinkup Travel Lite attaches to wheelchair or bed frames with a round-section tube diameter of 18mm to 35mm, and converts tube-fed hydration bladders and bottles to totally hands-free use.</p>	<p>Easy access to drinks while the user is out and about.</p>	<p>Online  <a href="http://www.drinkup.uk.com">www.drinkup.uk.com</a></p>	<p>£80</p>
<p><b>Platypus Hoser Hydration System</b></p> 	<p>Converts any existing pack into a hands-free hydration system.</p> <p>Modular design lets you create your own system.</p> <p>Gusseted bottom keeps reservoir upright for easier filling (sizes 1L and 1.8L only).</p> <p>HyperFlow bite valve offers high flow rate.</p> <p>Available in 3 sizes: 1 Litre, 2 Litre, and 3 Litre.</p>	<p>Packs up flat so an empty Platypus is easy to take out and about.</p>	<p>Amazon plus other on-line stores</p>	<p>£15 - £23</p>

**Table 4** The products below are examples of **domestic drinks dispensers**. These may be useful for people who need independent access to drinks over the course of a day but can't make themselves a hot drink or use taps in a sink for a cold drink. Search engines list a hundred or so products in this category.




Product	Features	Benefits	Supplier	Approx price
 <p><b>Barrel drink dispenser</b></p>	<p>Large tap handle Raised &amp; extended dispenser.</p> <p>For use with standard 750ml wine and spirit bottles or large beer bottles, the tap will fit standard screw bottle necks.</p>	<p>May be high enough to stand a cup on the same surface. Otherwise need to hold cup in one hand while pulling tap with other hand</p>	<p>Shop Com UK <a href="http://uk.shop.com">http://uk.shop.com</a></p>	<p>£19.99</p>
 <p><b>Cool drink dispenser</b></p>	<p>3 gallon capacity 10.5 " diameter 18" height</p>	<p>Has ice compartment to keep drinks cool and tasting fresh.</p>	<p>Greenhead <a href="http://www.thegreenhead.com">www.thegreenhead.com</a></p>	<p>From £9.99</p>
 <p><b>Zojirushi Gravity Beverage Dispenser</b></p>	<p>Can keep hot water hot for up to 4 hours and also keep cold drinks cool.</p> <p>Capacity 10 litres.</p> <p>This tabletop dispenser has collapsible feet, push up dispense button and a strong ABS handle and neck. It has a stainless steel body and an ABS non-stick interior lining.</p>	<p>Provides ready access to cool drinks or hot water. Suitable for domestic use.</p>	<p>Amazon <a href="http://www.amazon.co.uk">www.amazon.co.uk</a></p>	<p>£75 + VAT</p>

**Table 5 Drinking aids with alarms.** The use of an alarm in association with a drinks dispenser usually indicates theft from a vending machine whereas we're interested in an alarm that reminds the user and their carers that the user hasn't drunk the required amount and/or at the required frequency. Here we have one novelty item and two categories of products from the Disabled Living Foundation (DLF).

Product	Features	Benefits	Supplier	Approx price
<p>Talking Tankard</p> 	<p>The tankard will tell you when it's full and an alert sounds when it's empty and a refill is required.</p> <p>Transparent with silver handle and base</p> <p>Requires 2 x AA batteries (included).</p> <p>Size (H)15, (W)13, (D)13cm.</p>	<p>Can be used as a reminder to drink.</p> <p>Inexpensive.</p> <p>Fun product</p> <p>Large handle</p> <p>User may need help to fit new batteries.</p>	Argos	£13
<p><b>Swallow reminders</b></p> <p>These are aimed primarily at people who have problems swallowing their own saliva but a simple alarm reminder system with longer intervals may be helpful to encourage more drinking</p>	<p>Emits audible tones and can be set from 15 seconds to 2 minutes</p>	<p>Remind someone to swallow</p>	<p>Winslow Health &amp; Rehabilitation</p> <p><a href="http://www.winslow.cat.com">www.winslow.cat.com</a></p>	£58
<p><b>Liquid level indicators</b> can be fitted to a mug or cup.</p>	<p>DLF list 4 devices that emit a sound or vibrate when liquid is approximately a centimetre from the top of a cup.</p>	<p>They are designed for people with visual impairments so they don't overfill or spill drinks.</p> <p>These could be made to work 'in reverse' so that an alarm goes when a fluid level has been low for a set time and would remind someone that they needed a drink, they needed to refill their cup and have a drink, they needed to ask someone else to refill their cup</p>	<p>RNIB</p> <p><a href="http://Onlineshop.rnib.org.uk">Onlineshop.rnib.org.uk</a></p>	£7


**Table 6** Examples of **Drinks dispensers with a measurement function**

This category includes containers with taps, containers of different shapes & sizes and those that can be used for hot or cold drinks. They either dispense known quantities or include a scale. They can indicate how much liquid has been poured out into a cup but this does not equate to how much someone has drunk if they don't drain the cup. Amazon has 44 drinks dispenser products listed.

Product	Features	Benefits	Supplier	Approx price
	<p>Dispenses using push button operated nozzle.</p> <p>Holds up to 900ml.</p> <p>Size (H)48cm, diameter 14cm</p>	<p>Nozzle can be placed into any cup or glass.</p> <p>Can be used for non-alcoholic drinks too!</p>	<p>Argos www.argos.com</p>	<p>£17</p>
 <p>Talking Measuring Jug</p>	<p>Male English voice announces the measurements in imperial, metric and U.S.</p> <p>Jug contents volume is spoken at the press of a button or automatically as liquid is added</p> <p>The reading can be set to zero without emptying the container, to allow a measured volume of a second liquid to be added</p> <p>Speech volume is adjustable</p> <p>Dimensions - Height: 240mm (9.45"), Width: 140mm</p>	<p>Can monitor how much has been poured out of the jug.</p> <p>The user defined function allows the jug to be calibrated for any liquid or solid.</p> <p>The wide range of features allow the user flexibility in how they use the jug.</p>	<p>Royal National Institute for the Blind</p> <p>Onlineshop.rnib.org.uk</p>	<p>£40.95</p>
<p><b>Rotating Bar Butler Drinks Dispenser</b></p> 	<p>4 bottles can be mounted in a table top optics drink dispenser.</p>	<p>Can hold cup and dispense drink with one hand.</p> <p>Offers choice of drink</p>	<p>Amazon www.amazon.co.uk</p>	<p>£18.99</p>


**Table 7 Drinks dispensers with an alarm and monitoring function**

Only one product was found in this category.

Product	Features	Benefits	Supplier	Approx price
<p><b>Swan Teasmade</b></p> 	<p>A cup of tea or coffee is made ready to drink when the alarm goes off.</p> <p>Capacity 0.6 litres</p>	<p>The Teasmade could be set up by the user or their carer as a way of reminding them to drink and preparing a hot drink at the same time.</p>	<p>John Lewis</p> <p><a href="http://www.johnlewis.com">www.johnlewis.com</a></p>	<p>£59.95</p>

**Table 8 Products under development**

Two products are currently in development and they both have very similar names.

Product	Features	Benefits	Supplier	Approx price
<p>Hydracare</p> 	<p>Reminds and educates the user through gentle visual alarm.</p>	<p>User drinks more frequently</p>	<p>Hydracare</p>	<p>Not yet known</p> <p>The developer of the Hydracare is looking to sell or licence the IP in this product. Please contact <a href="mailto:Nathan.murphy@alloyfish.com">Nathan.murphy@alloyfish.com</a> if you're interested in this commercial opportunity</p>
	<p>If the patient does not drink at a sufficient rate the alarm becomes more aggressive until it is flashing bright red.</p>	<p>This enables carers to quickly identify those who are not drinking properly.</p>		
	<p>The product aims to deliver a minimum of 2/3rds of the patient's total fluid intake.</p>	<p>This ensures that each patient is getting enough good hydrating fluid to prevent dehydration.</p>		

<p>Drinks4U from Hydrocare</p> <p>The developer of Drinks4U is discussing arrangements for a small evaluation at an acute NHS Trust.</p>	Can be used with any cup, beaker, bottle or jug including bottled drinks.	Provides reassurance for relatives & carers that the user drinks what they want to, when they want to.	Hydrocare	Not yet known
	Can be used for warm drinks as well as cold.	Wider choice of drinks for user.		
	Facilitates independent drinking.	Puts user in control & saves staff & carer time.		
	Provides a constant accessible supply of drinks	User can drink when it suits them.		
	Can be used even if lying horizontally.	User can drink when it suits them		

## Intellectual Property Review

This IP review will consider patents and registered designs. The fact that a patent or design is registered does not mean that the product it describes is available to buy. Registration is an early stage in product development and individuals and companies can register a range of designs or apply for a patent, do further development work and then take none or one of those designs to market because of other commercial factors. Patents and registered designs may impose technical, functional and/or design restrictions on any new product if the new product has to be designed ‘around’ existing IP in order not to infringe it. All existing IP needs to be taken into account when designing a new product. It may well be worth negotiating a licence to use someone else’s IP in the new product.

The IP review will focus only on issues relating to:

- Drinking aids with alarms
- Drinks dispensers with a measurement function
- Drinks dispensers with an alarm and monitoring function

The Intellectual Property Office can carry out a novelty search (approx £750 + VAT) to help identify any existing patents or publications that will show whether the product is novel and involves an inventive step ie is not obvious to a skilled person in the field of work.

### Patents

Patent searches were conducted using esp@cenet ([www.ipo.gov.uk](http://www.ipo.gov.uk)) and the search terms “drinking aid”, “drinks AND monitoring” and “drinks AND alarm”. The search was not exhaustive and patents of interest using these search terms are highlighted below:

#### **Table 9** Search term “drinking aid”

29 results were found and of these, five had no abstract or original document and therefore their relevance could not be assessed, several related to straw inserts and can tops and one was for a pet. The applications are listed in date order with the most recent first. None of the following applications have been granted but their publication will count as prior art and future patents will need to demonstrate novelty.

Title & brief description	Patent number	Status	Inventor	Applicant
<u>Hands-free drinking aid.</u> Weighted table top stand holds 1 litre jug. Rigid & jointed arm supports tube running from container to user’s mouth.	WO2007042814 2007-04-19	(A1) Application published	Christopher Adams (GB)	Christopher Adams (GB)
<u>Drinking aid cord has loop, shank and drinking vessel attachment.</u> A lifting device raises a drinking vessel to the mouth of a consumer by pulling a cord. The cord is placed around the neck with one hand holding the loop.	DE02014453 2003-02-13	(U1) Utility	Not given	Werner Mummert (DE)
<u>Eating and drinking aid.</u> Baby bottle mounted on a clay wedge so drinks can be taken lying down.	JP2006247001 2006-09-21	(A) Patent specification	Chisato Osugi	Chisato Osugi
<u>Drinking aid device for elderly people, patients and the like</u> Fluid bag is held on a stand with a tube and valve held in the users mouth. Fluid can be sucked through the tube.	US5609582 1997-03-11	(A) Patent specification	Victor Kruetten (DE)	Victor Kruetten (DE)
<u>Bottle holder for use as drinking aid for small children, disabled people etc</u> The holder has a stand, a bottle holder and a swing arm. The arm swings the bottle into a drinking position. The arm can be varied in length.	DE4421648 1996-01-04	(A1) Application published	Giacomo Sorce (DE)	Giacomo Sorce (DE)
<u>Drinking aid.</u>	US5199633	(A) Patent	Arthur	Arthur

Cylindrical container with annular wall. A hinged straw is set into the base to enable gravity-fed flow of the fluid so people with poor motor skills can drink more easily.	1993-04-06	specification	Jantzen (US), Raymond Maguire (US)	Jantzen (US), Raymond Maguire (US)
<u>Multifunction device as drinking aid</u> Drink container mounted on an upright stand with a tube mounted on a horizontal bar.	WO02080838 2002-10-17	(A1) Application published	Guiseppa Martelli (DE)	Guiseppa Martelli (DE)

**Table 10** Search term: drinks AND monitoring

46 patents were found. Many of these patent applications relate to factory processes associated with the brewing and drinks trade. A significant number relate to ensuring livestock are getting sufficient water, drugs and nutrients. Both these sectors should be explored more thoroughly at the product design stage. Further details of the 10 most relevant patents are given below.

Title & brief description	Patent number	Status	Inventor	Applicant
<u>Recording device for drinks dispenser</u> Electrical signal generated each time a tot is dispensed. Can be used to prevent drink being dispensed.	GB2240763 14/08/1991	(A)	Adam David	Adam David
<u>Device for detecting operating data in filling and sealing machines</u> A device which will make it possible to mount the monitoring equipment at any distance in a position where the froth has dissolved and the level of the liquid is stable.	DE3622000 22/01/1987	(A1)	Listner Gerthold Dr [DD]; Kretschmer Wilfried; Wahl Guenter	Nagema Veb K [DD]
<u>Method and system for monitoring the dispensing of drugs or nutrients to animals</u> The portable units are designed to interact electronically with a stationary dispenser to control the amount and timing of drugs or nutrients dispensed in a drinking trough.	CA1194577 01/10/1985	(A1)	Meister Jack B; Van Winkle David	Jbm Ass Inc
<u>Foodstuff substance physiological parameter calculating device for monitoring e.g. blood alcohol concentration when consuming alcoholic drinks, has storage device permanently storing dataset that is updated by inputting new substances</u>	DE102008020480 2009-10-29	(A1)	None Given	M G A Martina & Alfred Grund G [DE]
<u>Drinks container with contents monitoring means.</u> The control means is adapted to activate the alarm if the contents monitoring means indicates that the quantity of a drink in the container is not falling at a predetermined rate.	GB2435465 (B) 29/08/2007		Murphy Nathan [GB]	Murphy Nathan [GB]
<u>Water drinking device for driver</u> The utility model is characterized in that a high-position water cup is arranged in the driver' cab, and the water can be directly sent into the driver's mouth through a guide pipe and a control device at any time	CN2202676 (Y) 1995-07-05		Zifeng Hu [CN]	Hu Zifeng [CN]
<u>System and method for diet control</u> Consumer inserts personalized smart card into card reader writer. As foods and drinks are purchased, dietary nutritional	US5412564 (A) 1995-05-02		Ecer Gunes M [US]	Ecer Gunes M [US]

consumption data is electronically collected, sorted, and combined with historical daily averages of nutritional consumption data stored in consumer's personalized smart card and daily averages of nutrition consumption along with other nutritional and personal data is printed out.				
<u>Monitoring liquid consumption of a laboratory animal</u> A drinking station is established within which the end of a drinking tube is located. The tube is supplied from a reservoir and a meniscus of liquid is present at its end. A photo-electric source and a photo-electric cell are provided as companion units. The beam emanating from the source is directed so it passes the distal end of the tube. The beam of light is broken only when the animal is drinking.	US4373471 (A) 1983-02-15		Coulbourn John N [US]	Coulbourn John N [US]

**Table 11** Search term: drinks AND alarm

21 patents were found with most of them dealing with devices for testing drivers for blood alcohol levels. Those listed below are of more interest for our target market.

Title & brief description	Patent number	Status	Inventor	Applicant
<u>Cup dropping device of drink-making machine.</u> Alarms if cup not in place in vending machine.	CN201085496 2008-07-16	(Y) Utility model	Zaida Wu [CN]	Zaida Wu [CN]
<u>Saucer arrangement for regularly reminding a person to have a drink</u> has a switch activated by placing or removing the cup on or from the saucer that triggers a timer, which in turn activates a signal generator after a set time	DE202004017738 2005-07-07	(U1)	None Given	Hoellt Egon [DE]
<u>Drinks dispenser with fluid resistance sensor</u> If bubbles are present in the fluid indicating the fluid is running out, then the resistance monitored rises and an alarm may be given or valve may be activated to provide syrup from second supply	GB2367128 2002-03-27  JP11301793 (A) US4708791 (A) US5145575 (A) WO9608711 (A1)	(B)	Rodgers John [GB]	Booth Dispensers [GB]
<u>Container for drinks and medication</u> Container each for drink & medication. A dispensing mechanism for the solid mechanism and/or an alarm-timer mechanism may be incorporated.	WO9818426	(A1)	Haberman Mandy Nicola; Davies Victor Owen; Llewellyn- Jones Adrian	Haberman Mandy Nicola; Davies Victor Owen; Llewellyn- Jones Adrian
<u>Programmable robot and corresponding equipment to act as an alarm and for preparing and transporting a hot drink, particularly in a domestic environment</u> It has means for enabling the movement from a first rest position to a second position of destination and use, and the corresponding return movement, of a	IT1262498 (B) 1996-06-28		None given	None given

container of drinks which are heated by means for bringing them to the desired temperature; the sequence of the actions is achieved by a program in the permanent memory of a microprocessor.				
<u>Apparatus for jointly actuating an alarm and preparing a hot drink or the like</u> Time delay means put the heating resistance in circuit before the alarm is actuated. A device is provided for stopping the alarm when the cup is removed..	US4133256 (A) 1979-01-09  IT1104977 (B)	Out of 20 year patent life	Lamour Danielle M	Lamour Danielle M

## Design rights

Designs for products can be registered with the Intellectual Property Office and are subject to registration fees, renewal after set intervals etc. They are designed to protect the appearance of an object rather than its function. Designs are categorised into classes and sub-classes and preliminary searches in the most relevant classes were carried out. Classes and sub-classes are not mutually exclusive as a design can be registered against several classes and sub-classes. Overall there are approximately 2500 registered designs that could be of interest when considering the need or potential market for a new drinking device. The review below offers mainly examples of the type of product registered with that classification and if detailed designs are to be developed to meet a precise specification, it would be worthwhile carrying out a Freedom to Operate search with a patent attorney before work is too far advanced.

**Table 12** The classes and sub-classes searched for drinking device designs.

Classes of interest	And their sub-classes of interest	
07 - Household goods not elsewhere specified	01 - china glassware dishes & other articles of a similar nature	16 - cups and mugs with 2/3 handles
		21 – mugs/beakers with spouts
	02 - cooking appliances, utensils & containers	25 – coffee/beverage makers & machines
		27 – water heaters, distillers and purifiers
31 – Machines & appliances for preparing food or drink, not elsewhere specified		

### Example of a drinking aid with a measurement function

Design #4010394

Registration granted 14/07/09

Class 07 – 01 04

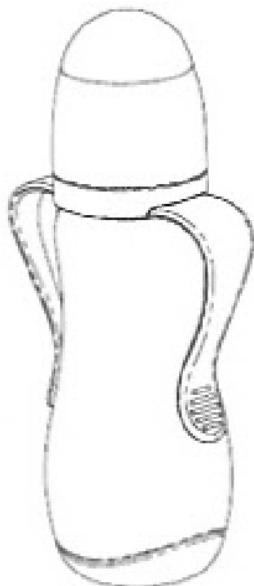


## Example of a drinking aid for people with poor hand control

Design #4013311

Registration granted 02/12/09

Classes 07 – 01 02



### **Freedom to operate**

Published patent documents, like those cited above have two roles. Firstly, they can be simply viewed as disclosures of information, in a similar way to a published article in a magazine. Most technology is described in patents. Patents can also be considered from the point of view of their ability to exclude others from exploiting an invention. This is often referred to as considering your Freedom-to-Operate.

Only granted patent rights that are still in force can be asserted in Court, and these will affect your freedom to operate. Patent applications that are pending, and therefore have the potential to become granted patents, may also affect your freedom to operate. In the case of pending applications, it is often unclear what the scope of any ensuing patent rights may be. As a rule, searches focus on either patentability or freedom to operate.

Patent Attorneys and the Intellectual Property Office can carry out Freedom-to-Operate searches (IPO cost approx £1,500 - £3,000 + VAT) to help find patents you might be at risk of infringing. IPO can also search through the database of patents that are currently 'not in force'.

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### **Market Analysis**

The market sectors of interest here are the food and drink sector and its healthcare sub- sectors. Healthcare settings are similar in many ways to hotel operations and healthcare is a growing market as the population ages. It is difficult to find specific information that relates to the market size for drinking vessels, dispensers and cups. Most market reports in this area deal with all catering equipment from ovens to freezers or alcoholic or soft drinks companies. (World Market for Food Service Equipment. 5<sup>th</sup> Edition SBI Sept 2009 Pub ID SB1926701).

Our target market for a drinks dispenser with monitoring and alarm functions includes users and purchasers as described in the stakeholder section below.

**Table 13** Summary of **stakeholder needs**. The stakeholders, their function in ensuring people have enough to drink and their specific needs relating to drinking devices are tabulated below. These have been derived from the references listed previously and the presentations given during the BioMed Design competition for a drinking device for elderly and disabled people. It is expected that this table will be added to during the course of the scoping study on hydration.

Stakeholder	Stakeholder's function	Stakeholder's need
Elderly and/or disabled people with poor hand function:	Wants to/needs to maintain fluid balance but finds it difficult to use standard cups, mugs or glasses to drink from. Doesn't want to use a baby cup as considers that a loss of dignity.	<ul style="list-style-type: none"> <li>• Easy access to a drink when I want it – I can pour/dispense the drink myself</li> <li>• The device can hold hot or cold drinks</li> <li>• The jug/drink dispenser won't spill liquid</li> <li>• The cup won't spill liquid as I bring it to my mouth or when I'm drinking from it</li> <li>• The device looks good, not too different from everybody else's and definitely not like a baby cup</li> <li>• Something to remind me to have regular drinks</li> <li>• The drink should flow into my mouth at a comfortable rate, not too little so I have to work hard to get my drink (eg bite valve) &amp; not too much to choke me or to spill over</li> </ul>
Paid & unpaid carers including relatives, friends, nursing staff, care home staff, healthcare assistants, catering staff	to ensure that the people in their care have enough to drink .....	<ul style="list-style-type: none"> <li>• The disabled or elderly person can pour/dispense the drink themselves, bring it to their mouth and drink at a comfortable rate</li> <li>• I'm happy to refill the device with fresh drinks every 3 hours or so</li> <li>• Something that looks good in the surroundings ie not clinical in a home environment</li> </ul>
nursing staff, care home staff, healthcare assistants,	..... and that they can provide evidence of this	<ul style="list-style-type: none"> <li>• It is easy to see how much has been drunk in units that are the same as those used on the fluid monitoring chart</li> <li>• An alarm to tell me to intervene when someone has not had enough to drink over a specific period</li> </ul>
cleaners, domestic staff, health care assistants and carers.	involved in keeping cups, mugs, jugs and drinking devices clean. Devices should be dishwasher proof or disposable or sterilisable.	<ul style="list-style-type: none"> <li>• Can go in dishwasher &amp; maintain smooth surface over many washes – product lifetime, replacement cycle</li> </ul>
This can include individuals buying single items over the counter, ward staff placing orders, procurement agencies who agree what can be purchased.	Purchasers of drinking devices	<ul style="list-style-type: none"> <li>• Value for money</li> <li>• Fit for purpose</li> </ul>

Catering equipment suppliers	Supplying equipment to healthcare establishments	Being able to source items that are fit for purpose and offer value for money.
Professional product designers, human factors specialists	Designing drinking devices	Understanding the users, environments & markets

**Table 14** Estimates of stakeholder numbers. Further analysis is required to determine market sizes.

Stakeholder	
Elderly and disabled people with poor hand function:	<ul style="list-style-type: none"> <li>Stroke – 100,000 people have a stroke every year in the UK. Approx 28,500 of these people will have impaired hand function. (<a href="http://www.fast.co.uk">www.fast.co.uk</a>) More than 900,000 people in England are living with the effects of stroke, with half of these being dependent on other people for help with everyday activities. (NHS Evidence)</li> <li>Multiple Sclerosis – 100,000 people in the UK have MS and a significant number of these people will have impaired hand function (<a href="http://www.mssociety.co.uk">www.mssociety.co.uk</a>)</li> <li>Cerebral Palsy – 1800 new diagnoses per year in the UK (<a href="http://www.nhschoices.nhs.uk">www.nhschoices.nhs.uk</a>)</li> <li>Spinal Cord Injury – 825 new cases of SCI were admitted to spinal injury centres in the UK (<a href="http://www.paralyzed.com">www.paralyzed.com</a>)</li> <li>Some people with acute conditions affecting hand function may wish to purchase a drinks dispenser whilst awaiting treatment eg Dupuytren’s disease causes thickening of the fibrous tissues beneath the skin in the palm of the hand which means the fingers cannot be straightened. It is estimated 2 million people in the UK have this condition with 1 in 6 men over 65 being affected. Treatment consists of surgery and splints. (<a href="http://www.fast.co.uk">www.fast.co.uk</a>)</li> </ul>
Paid & unpaid carers including relatives, friends, nursing staff, care home staff, healthcare assistants, catering staff	<ul style="list-style-type: none"> <li>6 million unpaid carers in the UK (<a href="http://www.carersuk.org">www.carersuk.org</a>)</li> <li>35,000 catering staff in the NHS</li> <li><a href="http://www.healthcarefoodservice.org">www.healthcarefoodservice.org</a> 1700 membership in USA &amp; beyond This organisation is aimed at in-house/ self operations rather than third party suppliers</li> </ul>
Healthcare & nursing / residential home staff	<ul style="list-style-type: none"> <li>354 Trusts in UK (acute, mental health, foundation)</li> <li>400,000 nurses</li> <li>40,000 GPs (<a href="http://www.nhs.uk">www.nhs.uk</a>)</li> <li>Dieticians &amp; Nutritionists have a responsibility for ensuring patients have the correct quantities of food and drink.</li> <li>Speech &amp; Language Therapists The Royal College of Speech &amp; Language Therapists has over 14,000 members in UK many of whom deal with swallowing &amp; drinking disorders.</li> <li>Hospital Caterers Association</li> <li>National Society for Healthcare Food Service Management (<a href="http://www.hfm.org">www.hfm.org</a>)</li> </ul>
Catering equipment suppliers	<ul style="list-style-type: none"> <li>Catering Equipment Suppliers Association <a href="http://www.cesa.org.uk">www.cesa.org.uk</a></li> <li>Association of Catering excellence – <a href="http://www.acegb.org">www.acegb.org</a></li> <li>British Hospitality Association <a href="http://www.bha.org.uk">www.bha.org.uk</a></li> <li>Catering Equipment Distributors association <a href="http://www.ceda.co.uk">www.ceda.co.uk</a> <a href="http://www.efeda.org.uk">www.efeda.org.uk</a></li> </ul>

**Market drivers PESTLE: Policy, Economic, Social, Technology, Legal, Environmental**

PESTLE analysis considers market drivers for any new product from a number of points of view. The following issues need to be considered and addressed by any new drinks dispenser and the benefits associated with its use.

Policy	Water for Health initiative NHS Core Learning Unit: Food, Nutrition & Hydration in Health & Social Care – e-learning training programme (2hrs) links with Essence of Care benchmark on Food & Nutrition. Infection control
Economic	Good hydration improves well being across a range of health specialties thus reducing health & social care costs. Drinking water is cheap
Social	Older people often don't like to drink water as 'it doesn't taste of anything' Drinking is very much a social activity eg offering tea when a visitor calls, meeting at a café or the pub...
Technology	Keeping drinks fresh ie keeping cool drinks cool & hot drinks hot but not stewed Minimising infection through mouthpieces, drinking tubes etc Controlling fluid intake if biting (to operate a bite valve) & sucking not strong enough.
Legal	Duty of care to patients and nursing home residents includes appropriate nourishment and hydration, minimum risks of infection. Drinking aids may be considered to be medical devices as defined by the Medical Devices Directive and the relevant regulatory bodies should be consulted (MHRA in UK). If the drinks dispenser is used for general well-being then it is unlikely to be a medical device. If the dispenser lists medical conditions for which it could be especially useful, then it is more likely to be a medical device. Standards relating to food grade materials should also be adhered to.
Environmental	Tap water vs bottled water Disposal of plastic drinks bottles The same user will require an appropriate drinking aid in the different environments they visit eg in their own home, as a regular visitor to friends or family, at a day centre, in a café etc

**Selling to individuals**

Drinks dispensers will be bought over the counter by the user themselves or by their relatives and friends. The usual high street stores and their online equivalents should all be considered as marketing channels eg pharmacies & pharmacy chains eg Lloyds, Boots and general household goods suppliers eg Amazon, Argos.

**Selling to nursing and residential homes**

Nursing and residential homes will have their own buyers and procurement processes which will depend on their status (independent, part of a chain, local authority). Procurement methods include direct buying, using approved supplier lists, buying through procurement specialists, advertising opportunities etc Local authorities are subject to the same EU regulations on procurement as NHS Trusts where opportunities for the supply of goods and/or services over and above a threshold of £105,000 must go through an EU tendering process. The threshold level does change periodically.

## **Selling into the NHS**

Many suppliers find this a confusing process having started with the assumption that the NHS will have one entry point for potential suppliers of goods and services. The section below outlines the different organisations and departments involved as at June 2010.

NHS Trusts can purchase from one of five main routes:

- Directly from suppliers using National Framework Contracts (negotiated by the NHS Supply Chain)
- From the NHS Supply Chain
- Collaborative procurement Hubs/Confederations
- Local contracts managed by individual trusts
- Pan-government National Framework Contracts, negotiated by the Office of Government Commerce Buying Solutions.

Procurement is managed either through collaborative procurement hubs, local purchasing consortiums (collaborative purchasing decisions for multiple local Trusts) or by individual Trust procurement services. More information on NHS procurement stakeholders in the form of purchasers and influencers is given in Appendix 1.

### Secondary care

Purchasing decisions are made in conjunction with the relevant hospital department, and requests can be made by individual healthcare professionals through their department. All hospital supplies are provided through the electronic EROS system. The products available on EROS are managed by the hospital procurement service for the Trust.

### Primary care

A product must be listed on the Drug Tariff in the UK to be prescribed in the community. GPs and nurses can prescribe products for a fixed reimbursement. Suppliers wishing to list their products under the Drug Tariff for prescription by GPs or nurses must seek approval from the NHS Business Service Authority (NHSBSA). If the NHSBSA grant approval, the cost will be reimbursed.

The list price for a product is a negotiated process between the NHSBSA and the supplier before it is set in the Drug Tariff. If near identical products exist then higher price will not be accepted by the Department of Health (DH). This ceiling applies unless the manufacturer is able to convince DH that its product is a new and superior type of product justifying a higher price. In the latter case the company may be able to obtain a higher price, but will face delays in obtaining a listing while the application is considered by DH.

## **Selling in the USA**

Again, as in the UK, a drinks dispenser could be considered a medical device but its classification would very much depend on the claims made for its use and the context and environments it was to be used in. It would be worthwhile consulting a specialist with expertise in classifying products under the Food and Drug Administration (FDA) guidelines when a specific device has been designed.

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## **Conclusion**

The report has highlighted that a large number of drinking aids are already available if you have some hand control and can suck. There appears to be nothing on the market yet for people with very limited or no hand control to use independently and these people must rely on carers to supply drinks at the correct time.

It is definitely worth considering whether changes in routine or practice in the person's own home, in a care or residential home or in an acute hospital setting would mean that existing devices can be used reasonably successfully or whether there is still a niche market for devices to aid drinking in older people with very poor hand function. The observational study on hydration practices in a

residential home and on an acute ward will highlight areas for further study and possible interventions to trial. The report from this research is expected at the end of December 2010.

The preliminary patent review in this report highlighted a number of potential solutions in different sectors eg brewing industry, animal husbandry and these sectors could be investigated further to see if their solutions translate well into healthcare settings.

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## Acknowledgements

Thanks to Devices for Dignity HTC for funding this report. The North Bristol NHS Trust Small Grants Scheme is funding the parallel observational study mentioned in the report. Thanks to the product suppliers for the information and images obtained from their websites and special thanks to Adele Long, Director of BioMed and Dr Jo Worthington, BioMed Project Facilitator for their advice and comments on earlier drafts.

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## References

- Age Concern. (2006). *Hungry to be heard*. London: Age Concern England.
- Alford DM (1991) Tips on promoting food and fluid intake in the elderly. *J.Gerontol.Nurs.* **17**(11): 44-6
- Anon (2009) Design on tap. Medilink UK Review Spring 2009 : 20-1
- Archibald C (2006) Promoting hydration in patients with dementia in healthcare settings. *Nurs.Stand.* **20**(44): 49-52
- BioMed HTC (2008) Newsletter Issue 4 Spring <http://www.bui.ac.uk/Downloads/NewsletterSpring08.pdf>
- Caldwell K, Atwal A (2005) Non-participant observation: Using video tapes to collect data in nursing research. *Nurse Res* **13**(2): 42-54
- Davidhizar R, Dunn CL, Hart AN (2004) A review of the literature on how important water is to the world's elderly population. *Int.Nurs.Rev.* **51**(3): 159, 66; discussion 134
- de Castro JM (1988) A microregulatory analysis of spontaneous fluid intake by humans: Evidence that the amount of liquid ingested and its timing is mainly governed by feeding. *Physiol Behav* **43**(6): 705-14
- DH (2003). *Essence of care*. London: Department of Health.
- DH (2007). *Improving nutritional care* London: Department of Health and the Nutrition Summit stakeholder group.
- Godfrey H, Hogg A (2007) Links between social isolation and incontinence. *Continence UK* **1**(3): 51-8
- Godfrey H (2008) Living with a long-term urinary catheter: Older people's experiences. *J. Adv. Nurs.* **62**(2): 180-90
- Haveman-Nies A, de Groot LC, Van Staveren WA (1997) Fluid intake of elderly europeans. *J.Nutr.Health Aging* **1**(3): 151-5
- Hodgkinson B, Evans D, Wood J (2003) Maintaining oral hydration in older adults: A systematic review. *Int.J.Nurs.Pract.* **9**(3): S19-28
- Joanna Briggs Institute (2001) Maintaining oral hydration in older people. *Best Practice* **5**(1): 1-5
- Keller M (2006) Maintaining oral hydration in older adults living in residential aged care facilities. *Int J Evid Based Health* **4**(1): 68-73.
- Kenney WL, Chiu P (2001) Influence of age on thirst and fluid intake. *Med Sci Sports Exerc* **33**(9): 1524-32

- Köster EP (2009) Diversity in the determinants of food choice: A psychological perspective. *Food Qual Prefer* **20**(2): 70-82
- McKiernan F, Houchins JA, Mattes RD (2008) Relationships between human thirst, hunger, drinking, and feeding. *Physiol.Behav.* **94**(5): 700-8
- Mentes J (2006) Oral hydration in older adults: Greater awareness is needed in preventing, recognizing, and treating dehydration. *Am.J.Nurs.* **106**(6): 40,9; quiz 50
- Michaud DS, Spiegelman D, Clinton SK et al (1999) Fluid intake and the risk of bladder cancer in men. *N.Engl.J.Med.* **340**(18): 1390-7
- MRC (2000) *A framework for development and evaluation of RCTs for complex interventions to improve health*. London: Medical Research Council
- Mukand JA, Cai C, Zielinski A, Danish M, Berman J (2003) The effects of dehydration on rehabilitation outcomes of elderly orthopedic patients. *Arch Phys Med Rehabil* **84**(1): 58-61
- NICE. (2006) *Nutrition support in adults* London: National Institute for Health and Clinical Excellence.
- Phillips PA, Rolls BJ, Ledingham JG, Morton JJ (1984) Body fluid changes, thirst and drinking in man during free access to water. *Physiol.Behav.* **33**(3): 357-63
- Robinson SB, Rosher RB (2002) Can a beverage cart help improve hydration? *Geriatr.Nurs.* **23**(4): 208-11
- Simmons SF, Alessi C, Schnelle JF (2001) An intervention to increase fluid intake in nursing home residents: Prompting and preference compliance. *J.Am.Geriatr.Soc.* **49**(7): 926-33
- Ullrich S, McCutcheon H (2008) Nursing practice and oral fluid intake of older people with dementia. *J.Clin.Nurs.* **17**(21): 2910-9
- Wakeling JS (2009) Putting dehydration to bed within the NHS. Thesis in part fulfilment of MSc in Clinical Nutrition, Roehampton University
- Zembrzuski CD (1997) A three-dimensional approach to hydration of elders: Administration, clinical staff, and in-service education. *Geriatr.Nurs.* **18**(1): 20-6

## **APPENDIX 1 - NHS Procurement Stakeholders**

NHS stakeholder groups can be divided into purchasers and influencers and information on each group is given below.

### **Purchasers**

#### NHS Trust Procurement Services

<http://www.pasa.nhs.uk/PASAWeb/NHSprocurement/Collaborativeprocurementregional/CurrentcollaborativesintheNHS.htm>

- **169 Acute Trusts and 149 Primary Care Trusts in England, June 2010**
- NHS procurement services can be through purchasing consortiums or individual Trust procurement services
- Consortiums make procurement and supply chain decisions for multiple NHS trusts, normally within the same strategic health authority or regional boundary

#### Collaborative procurement hubs

##### **13 collaborative procurement hubs in England, June 2010**

- Collaborative procurement hubs were a specific initiative set up in 2005 to bring innovation and cost saving efficiencies into the NHS
- As in the case of purchasing consortiums, they manage procurement for multiple Trusts within an area
- Have been subject to criticism for not working in close collaboration with hospitals, and for extending into the role of the NHS Supply Chain. Contracts with the hubs can be of limited value, as they are not necessarily taken up by the individual Trusts.

#### NHS supply chain

<http://www.supplychain.nhs.uk/portal/page/portal/Public>

- 10-year contract, operated by DHL on behalf of the NHS Business Services Authority (NHSBSA).
- Manages the procurement and delivery of products for NHS trusts, hospitals and other healthcare organisations.
- Encourage organisations to tell them about new/innovative products once they are ready for market so that they can evaluate them and if deemed innovative, offer them through the Supply Chain. Formalised process through their Innovation Scorecard, developed with support from the NHS National Innovation Centre.

#### NHS Business Service Authority (NHSBSA)

<http://www.nhsbsa.nhs.uk/Index.aspx>

- Special Health Authority, Arms Length Body of the Department of Health
- Manages a 10-year outsourced contract for the delivery of supply chain services to the NHS (in England and Wales)
- Approve products and agree list prices for the NHS Drug Tariff (FP10)
- Provide payments to pharmacists (in England) for prescriptions dispensed in primary care settings

#### Hospital departments

- Each hospital department holds its own budget. Departments work with the Trust procurement departments/purchasing consortiums on purchasing decisions.
- Silo budgeting can be a problem in the adoption of new technologies – within hospitals this refers to the budgetary allocation systems discouraging the movement of funds from long stay wards to day surgery care or even simply between two in-house departments.

## **Influencers**

### National Institute of Clinical Evidence

<http://www.nice.org.uk/>

- New Medical Technologies Advisory Committee (MTAC)
- Single evaluation pathway to promote more rapid uptake of medical device technology in the NHS
- Some of products evaluated are new, while others are already in use but not in widespread or consistent use.

### Commercial support units

- New initiative of 20 units
- Set up to offer a range of dedicated commercial support to commissioners and providers to help them achieve market stimulation and more efficient commissioning.
- Contact: Keith Morris (Commercial Director, Northeast commercial hub), 01642 354583.

### Department of Health

- New DH commercial centre – the Procurement, Investment and Commercial Division (PICD)
- Set up to strengthen commercial and procurement support for DH itself and to ensure alignment of the wider commercial landscape.
- Innovation procurement devices programme assesses and scores technologies that change clinician practice
- Contact John Warrington, Deputy Director, Procurement, Investment and Commercial Division, [john.warrington@dh.gsi.gov.uk](mailto:john.warrington@dh.gsi.gov.uk), 0207 633 7107

### NHS technology adoption centre

<http://www.technologyadoptionhub.nhs.uk/>

- Assists organisations to navigate NHS adoption, identifying those technologies which will provide cost effective improved patient outcomes in the NHS
- Produce NHS focused Guides detailing how the technology can be successfully implemented and the benefits to both patients and organisations that can be achieved
- Contacts: Sally Chisholm (Director) and Gareth Redmayne (NIC Link Manager)

### National Innovation Centre

<http://www.nic.nhs.uk/>

- Supports innovators, commissioners, and clinicians to speed up the development and use of innovations that will benefit the NHS.
- Have a Scorecard tool to help organisations identify the strengths and weaknesses of their idea, and provide suggestions for improvement.
- Contact: Brian Winn

### Lifesciences Innovation Delivery Board

- Established with a key objective of improving the strategic relationship between the NHS and the Life Sciences industry, including working together to meet the quality and productivity challenge in the NHS.
- Also has a role in accelerating the uptake of cost-effective drugs and innovations in medical technologies.
- Director, Mark Wilkinson, [mark.wilkinson@northwest.nhs.uk](mailto:mark.wilkinson@northwest.nhs.uk)

### Healthcare professionals

- Healthcare professionals can request certain products and technologies to be available, subject to a sound business plan