

# A review of the existing Wayfinding strategy for Salford Royal NHS Foundation Trust

## Background

This research focuses on the role played by artefacts (physical objects and environments) in communicating or transferring knowledge to those who use and maintain them. Evidence suggests that knowledge embedded in artefacts is taken for granted and is used on an almost subconscious level. It is only when some kind of breakdown occurs that the value of such knowledge is retrospectively appreciated. In generally, more value tends to be attached to knowledge which is explicitly communicated through written or spoken word. This research is particularly interested in establishing that knowledge embedded in the physical properties of artefacts is as equally important and as effective as other forms of knowledge.

Most people will have experienced being lost at some point in their lives. Getting lost can be quite unnerving and is enough to cause anxiety and distress for some. Research on wayfinding at the Salford Royal NHS Foundation Trust seeks to establish whether the existing wayfinding problems can be solved by embedding knowledge which should make it easy for one visiting the hospital for the first time to find their way in and around the hospital with little need for signs. Wayfinding specialists observe that putting up signs without strategy sometimes has the opposite effect (Inside Information Ltd, 2008). Thus the need to design hospital environments that are easy to understand and navigate cannot be over emphasised.

Research on wayfinding at Salford Royal is in two overlapping phases. The first phase reported here studies the existing environment in order to establish why it is that people visiting the hospital or departments get lost.. This report describes good and bad practices in wayfinding as currently identified at the hospital site. The second research phase will focus on proposing strategies to improve wayfinding across the hospital, both in the existing and new buildings. Such strategies will be developed through action research, with a basis on existing good practice from literature on wayfinding as well as an analysis and application of potential solutions to specific problems at the hospital site. Successful completion of this project should help improve the accessibility and usability of the hospital environment which in turn impacts positively on service delivery and customer experience. The researcher also hopes to develop generic principles for embedding knowledge in artefacts based on the findings of the research.

## Research method and challenges

An ethnomethodological approach has been used to produce uniquely adequate (UA) accounts of the how users of this environment make sense of it in finding their way to, in and around the hospital. The researcher adopted an ethnographic approach to achieve a UA understanding of how patients, staff and visitors in this healthcare setting make sense of their built environment. This approach encourages the study of phenomena without relying on pre-conceived theories. The criterion for unique adequacy insists that the methods used to produce a description of a situation, should be those which originate from the situation they describe. Thus, to analyse a hospital setting adequately, the researcher must know what any member to that setting would ordinarily know about that setting and in reporting on it must not import theories which are not part of the

setting. Although the researcher was granted permission to move around the sight freely taking photographs, observing and talking to people, the need to demonstrate sensitivity to ethical issues around the welfare of patients was strongly emphasised by the hospital authorities. This became an issue when it came to the taking of photographs of the environment. Great care was taken to ensure that no patients or visitors were photographed. This resulted in most photos being taken during the weekends or later hours of the day when the environment is quieter. This is apparent in quite a large percentage of those taken indoors. As a result, the quality of some of the photos is poor due to poor lighting. Flashes and darkness for example can be seen on some of them.

This report is the outcome of ten visits spread over a period of two months where the researcher studied the methods people use to make sense of the hospital environment in order to find their way in and around the hospital. The methods used included direct observation, the taking of photographs of hospitals artefacts and talking to members of staff and other users of the setting. By adopting an ethnographic approach to researching how the users of this setting make sense of the environment, the researcher was exposed to people's views and behaviour without censure from other users of the setting. No formal interviews were carried out for this phase of the report. What is reported, as having been said, therefore is from spontaneous conversations that the researcher struck with staff and other users of the setting. The staff included nurses, porters, Patient Advice and Liaison Services (PALS) personnel, Women's Royal Voluntary Services (WRVS) volunteers, a pharmacist etc. They were spoken with in order to gain an insight into how the current wayfinding problems impact on their day to day duties and to establish whether they have suggestions on how the environment could better guide its users. Most of the rich spontaneous conversation occurred between the other users of the setting and the researcher in the process of getting lost. The other users included visitors and patients. In this report, the researcher uses photographs and auto-ethnographic accounts to bring to light the nature and extent of the impact of the environment on wayfinding. Auto-ethnographic accounts are accounts of the researchers' direct experience with aspects of the environment which impact either positively or negatively on wayfinding.

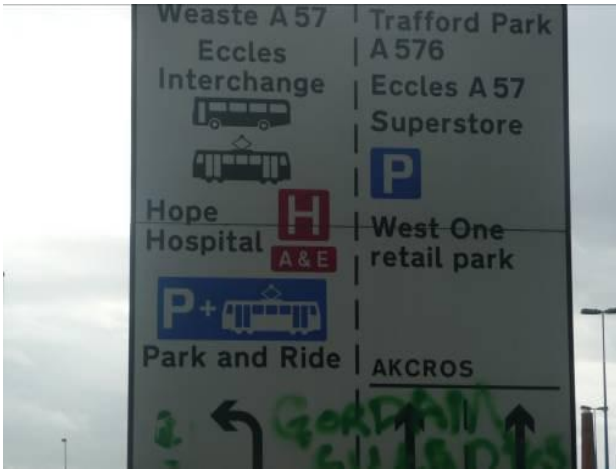
## **Aspects of the environment which impact on wayfinding**

It is generally held that finding one's way in and around Salford Royal is a challenging exercise. This is evident in the hospital's current search for a more effective wayfinding strategy and in the comments and behaviour of visitors, patients, staff and volunteers. Below is a report on the aspects that impact on wayfinding at Salford Royal. The helpful and unhelpful aspects of the Salford Royal hospital environment are highlighted. The first half of the report considers the helpful aspects which comprise mainly of information giving signs and people. The second half looks at unhelpful aspects which include ambiguous information giving signs and lack of clarity in the use of colour

## Helpful aspects

### ***Bold signs giving directions and information***

This section follows one's journey in pictures from the motor-way to the area outside the hospital buildings. The nature and extent to which the signs are useful in guiding visitors is explained under each picture.



**1:** This picture is of the first sign one sees after coming off the off the M60. It is situated few yards beyond the first traffic circle. The directions for the hospital are easy to spot



**2:** At the second traffic circle which is not far from the previous sign is another well situated sign giving clear directions.



**3:** These signs can be spotted from a good distance once one turns into the lane that leads to the hospital. They are situated at a pedestrian crossing controlled by traffic lights. The use of a yellow background here attracts attention from a distance. Good contrast



**4:** Yet another useful sign which can be easily understood and identified. It is situated at the entrance of the car park and is only a few yards from the previous set of signs





**5:** Inside the car park the signs guiding the disabled visitors are clear and situated at key positions where they can be easily identified. Again the use of a yellow background is effective.



**7:** The instruction on this signs cannot be missed. In the next picture are directions for the alternative route



**9:** This sign gives to the A&E department. NB: The red background and white lettering are consistent with the bottom instructions in pic 6. Once again, another clear sign which communicates with the user from a good distance.



**6:** This sign faces the car park and is on the other side of the road dividing the hospital and the car park. Its strategic positioning means that it can be easily identified by both pedestrians and motorists. Here the use of the red background to denote A&E is consistent with that used in pic 1, 2, 9 and 24 but not with the messages in pic 7(prohibition) , 17 and 18 (directions for the red area)



**8:** Not too far away from the last sign is this sign clearly communicating which way the pedestrians should go.

### ***Pictograms and computer operated Visual Display Units***

This section reports on the value of pictograms that can be easily understood by most people without the need for words plus a computer operated visual display unit (VDU) used in the outpatients department.



**10:** A pictogram forbidding unauthorised persons to go beyond the point where the sign is positioned. This sign is positioned at the top of the stairs that can be seen in pic. 33



**11:** This sign informs the user of the presence of stairs. It would be interesting to find out if the pictogram would be interpreted differently if the word *stairs* was missing. Apart from the announcement of the stairs, the pictogram appears to inform the user which way the stairs are leading (UP). This concept is paid attention later (see pic 40)



**12:** Here the symbol of a fire and a person running away from it could not be understood in other terms. Aided by an arrow, the two pictograms could be understood even by those who may have difficulty with reading



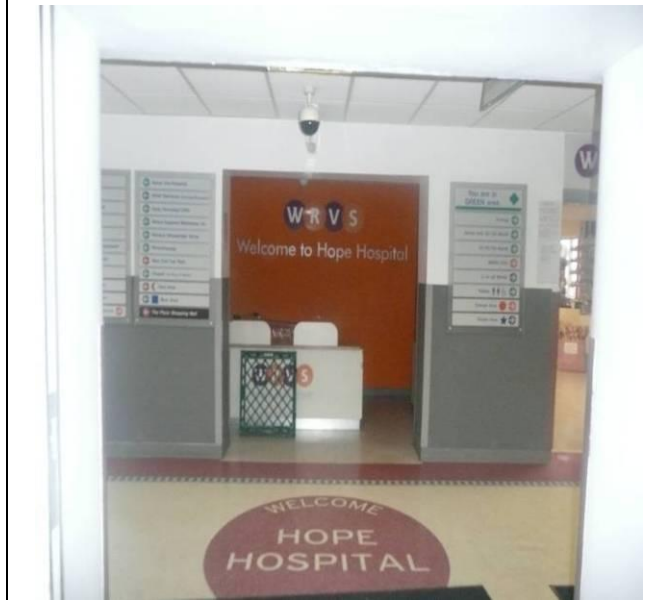
This is a picture of a VDU found at the outpatient reception. Patients attending clinics are guided by information displayed on this unit as to which way to go. As will become apparent later, its value is appreciated by staff doing clinics at the weekend

### Clearly labelled key decision-making points and destinations

In this section the clarity of information strategically positioned is emphasised in each of the four pictures.



**13:** This sign is positioned a few yards to the right of the actual entrance. It is difficult to miss which way to go from this point. This is partly due to the fact that the entrance itself is designed in such a way that one is able to identify it as one without the need for words to announce it (big glass doors, rotating doors with compartments etc).



**14:** Yet another clear entrance announcing arrival with warmth (WELCOME). The visitor is presented with not only useful and clear information but the smell of coffee coming from the WVRS shop not too far to the right. The atmosphere here is very comfortable.



**15** This sign faces the lane that runs through hospital. The information and directions on it are clear and easy to follow.



**16:** Unlike the other entrances around the hospital, this entrance could be easily mistaken for an ordinary door had it not been for the big and bold announcement on top of the door



**Clear signs hanging from the ceiling, above doors and along the wall**

In this part the use of clear and well positioned arrows is highlighted.



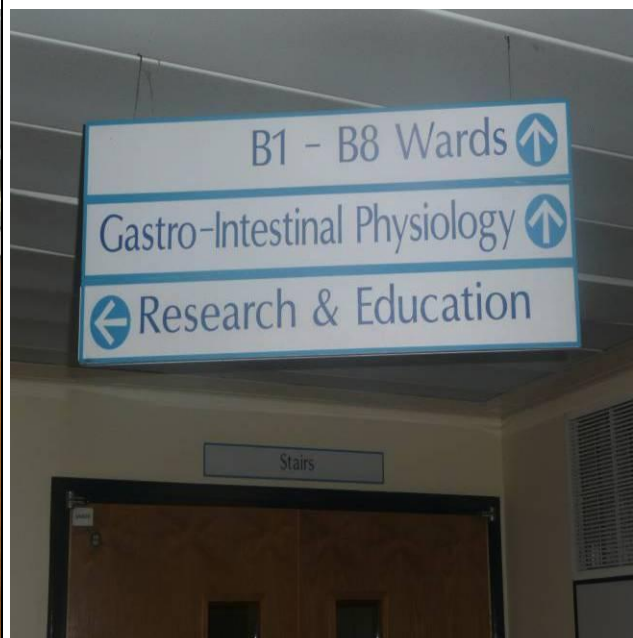
**17:** This sign clearly communicates which way to go for the main hospital (through the red area). Not difficult to spot.



**18:** The slanting arrows here guide the user to the ground floor. The signs are on the stairs between the ground floor and the first floor of the blue area. The red arrow says the way out is through the red area



**19:** Here is another bold announcement of the two buildings housed in the blue area.



**20:** These directions are strategically placed to communicate that going through the stairs would take the user to the next floor where the wards and the Gastro-Intestinal Physiology can be found.

### ***People: staff, WRVS volunteers, other visitors and patients***

The next set of pictures is of services rendered by PALS personnel and WRVS volunteers. In this complex environment, visitors and patients and staff who are more experienced and competent in finding their way can be observed assisting or offering help to those appearing to be lost. Even those lost stop to help each other, finding comfort in complaining about how confusing the place is. They can be heard saying '*It is the blind leading the blind*'. This remark is said with a great deal of humour. The part played by people in guiding each other is invaluable and cannot be overemphasised.



**21:** PALS personnel appear to be the first point of call as they are situated at the beginning of the internal journey via entrance 4. However, other hospital staff in general (nurses, porters, etc) will always stop and give directions either voluntarily or when asked



**22:** The WRVS volunteers are quick at spotting someone who is lost. They offer spontaneous help even to those who decide to make sense of the directions seen on the wall without asking for help. Interestingly most people appear to prefer to use this service more than they do the directions on the wall which can be seen in this picture.

The first part of the report has highlighted some aspects of the environment which impact positively on wayfinding. It is clear that the current system heavily relies on information giving signs and people. The next section will now consider aspects of the environment which impact negatively on wayfinding. They are classified under obscure, misleading and confusing aspects. The researcher reports on the journey starting from the motorway and ending right inside the hospital.



## Unhelpful Aspects

### Obscure



**23:** This sign is a few yards before the sign shown in pic 1. The vital information that should communicate road position for the hospital is obscured by overgrown trees. As both signs are very close to each other, it is easy to miss the correct turn to the hospital



**24:** This sign is the first sign one's sees after the one shown in pic 2. Between the two signs is a distance of at least a mile and a half. The branches of the overgrown tree make it easy for one to miss this crucial sign. As it happens the turn is only a few yards away at the traffic lights seen beyond the sign. It is possible that most drivers find themselves braking suddenly to turn right or miss it completely. The sign is not very bold.



**25:** Behind the display seen in this picture is a map which should be at every entrance and at key decision points. Needless to point out that the vital wayfinding information cannot be easily accessed in this instance

### Misleading

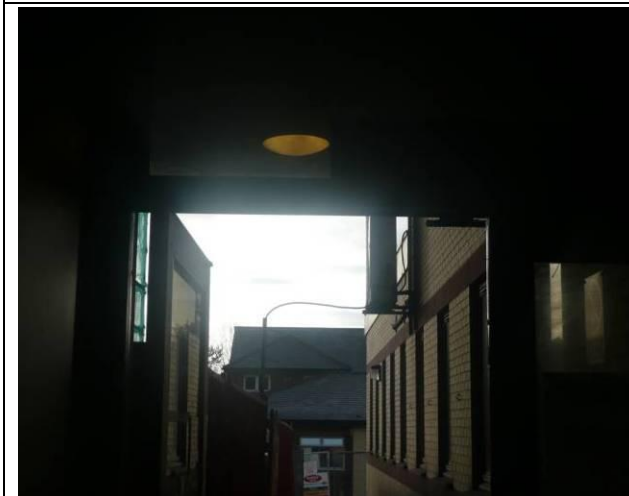
This section comments on arrows that are either ambiguous or suddenly die. There is prevalence of such arrows throughout the hospital. The first three pictures follow a journey to the Gastrointestinal Physiology Research and the next three show the directions to the Dermatology. The last two show ill positioned arrows which leave one confused as to which way to go.



**26:** The directions for the desired destination could be interpreted as next floor up or straight ahead. This is on the ground floor of the blue area. When one follows the straight ahead prompt, they eventually end up at the red door seen in the next picture



**27:** This picture is of a door on the ground floor. The directions for the destination could still be interpreted in the same way as in the previous picture. However, some new information (sign for the fire exit) may lead one to the conclusion that the destination is straight ahead.



**28:** This is what one finds on opening the red door, the fire exit. It becomes clear at this point that the arrow indicates that the destination is on the next floor.



**29:** These signs are positioned at the beginning of the section of the blue area which houses the departments shown. The missing arrow on the bottom sign creates the impression that Dermatology comes before In-patient pharmacy.



**30:** However, the next set of signs gives a different message. Dermatology is further ahead and the door to the pharmacy can be seen on the left hand side



**31:** Here there is a complete lack of guidance. Again, the missing of an arrow appears to announce arrival and indeed the door to the department is situated opposite the sign on the left hand side. The confusion created in this part of the hospital is observable in the way users go past the sign through the fire door and back again.



**32:** Is it right here or down downstairs. Going by the message portrayed by the arrows in pic 18, Photobiology is downstairs. However, the unit is opposite the sign to the left and it is on the ground floor (see pic 27) Perhaps a straight arrow (see pic 30) would be less confusing.



**33:** Is it though the door, up the stairs or to the right? As it happens, the door seen here is a cupboard and just at the top of the stairs is the symbol for no unauthorised entry (see pic 10). Could it be the case that this symbol was put to clear this confusion?



## Confusing



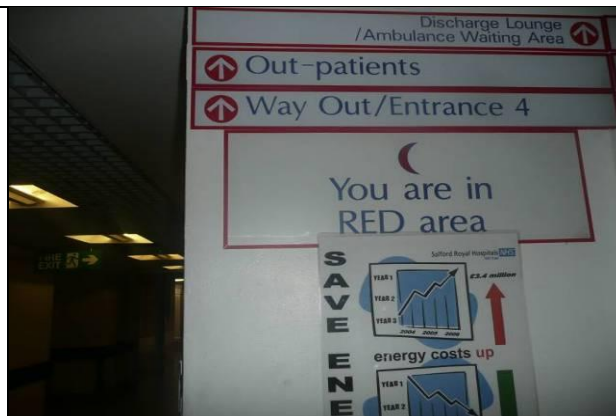
**34:** Map found at every entrance and key decision points (too much clutter and colour and commercial activity). A very small number of users can be observed trying to make sense of the maps with great deal of frustration. In entrance 4 where the help from PALS and WVRS is readily available, these maps appear to serve the purpose for which they were designed.



**35:** Signs in the connecting corridor between the red area and the purple, orange, green and yellow areas. Some admit to not paying attention to signs (see section colour). Besides what about those who cannot read? The symbols representing each colour coded area do not appear to be used by visitor's patients or staff who guide for wayfinding purposes.



**36** The **way out/car park** instruction here is confusing because entrance 1 to which the arrow points has been closed. From this point, nothing else gives the user an alternative way of getting out. This also happens to be the instruction quickly spotted by those arriving on the ground floor via the lift. Here, it is not difficult to tell by way of behaviour that someone is struggling to make sense of this part of the environment. The instructions contained in pic 37 happen to be on the wall opposite this artefact.



**37:** The instructions on this picture appear to have been put for the benefit of those coming from the car park (see pic 36). The arrows are well positioned for those looking for a way out through the Plaza. However, this set of instructions is easily missed by those walking out of the lift area which is to right of this wall. Unfortunately, the instructions for the way out end here. Beyond this sign, the user is presented with yet more challenges of working their way out through the Plaza (see pics 38 & 39). Pic 43 shows in full the corridor to the left of this wall.



**38:** This shop is situated at the end of the corridor shown in pic 42 and is opposite the doors which can be seen in pic 39. The area in between is a busy dining area which is laced with several other shops and a canteen. Direction giving signs are drowned by large bold ones advertising the commercial activity in this area. The latter distract one from finding their way out.



**39:** The automatic fire doors seen on either side of the pillar box mark the end of the Plaza. Hanging above the pillar box are signs guiding the user to the disabled toilet and outpatient reception but not the way out. It is only after one has walked through the open doors to the left that one is presented with the directions guiding one out of the hospital.

**NB:** Although there is confusion and lack of clarity in the Plaza due to the commercial activity described above, a point ought to be made that the same boldly labelled shops serve as useful landmarks used quite often by those giving direction by word of mouth. The WRVS volunteers can be often heard saying *'Go through that set of doors and past the pillar box and follow the directions on the signs hanging above The Body Shop'*

### Using the stairs in the red area

The next set of pictures describes the confusion that occurs when one uses the stairs in order to find their way out from the first floor. Two different exit points are highlighted. The first one leaves the user just outside the WRVS reception desk in the red area. It can be seen in pic 42. The second exit is in the corridor seen in pic 43.



**40:** This sign is found on the first floor. The pictogram appears to say the stairs are for going to the next floor up. However, once you go through the door, it is clear that the stairs are for both up and down.



**41:** The ground floor sign on the wall clearly announces that you have arrived but confusion follows because the user is not guided as to which door gets them out. The artefact on the door to the left is an advertisement. The door to the left is the exit.



**42:** The confusion continues here where one is presented with a small corridor with complete absence of guidance. However, the open door clearly invites one to walk through in search of further clues. Food for thought: Is this door a fire door? If it is, should it not be kept shut all the time



**43:** This picture shows the breakdown that occurs when one tries to find their way out via the Plaza area. On the right can be seen the pictogram announcing the stairs on the ground floor. When one gets out, straight ahead is a painting; to the left are hanging signs with instructions for clinical destinations and to the right which happens to be the way out to entrance 4 nothing at all to guide the user. The instruction on the wall to the left have instruction for the way out to the car park (see pic 36)



## Using the lift in the red area

Pictures 44-48 highlight the breakdown that is observable when one uses the lifts in the red area. Pictures 49-53 follow the breakdown that occurs when one tries to find their way to the purple, green, orange and yellow areas using either the lift or the stairs.



**44:** The journey by lift starts on the ground floor not far from the entrance to the blue area. Where to find lifts is clearly labelled. Besides, other people are always ready to assist.



**45:** This is on the ground floor. The information giving sign is on to the left when stepping out and to the right when going into the lift. Opposite is another set of lifts seen in the next picture.



**46:** This is a picture of what one is presented with on stepping out of the lifts on the first floor. Straight ahead another set of lifts can be seen. Here people can be observed looking straight ahead for clues. Some information giving artefact can be seen between the lifts.



**47:** However, a closer look reveals that the artefact is not intended to aid the user in finding their way. It is an advertisement.



**48:** The hanging signs do not give immediate information to the user coming out of the lift as they are not facing the lifts. They are meant to guide people into the lifts. Within the lift area, a clear breakdown can be observed. Once again as has been pointed out earlier, the open door (see Pic 41) clearly invites one to walk through in search of further clues. Also the sign on the wall beyond the door is an invitation to explore.



**49:** This sign is a close-up of the one which can be seen on the wall beyond the door (pic 48). Its clarity and sense of purpose cannot be faulted. However, the next set of pictures demonstrates the breakdown in the last set of instructions connecting the red area to the purple, green, orange and yellow areas.



**50:** To get to the other areas via entrance 4 one must use the lift or stairs up to the 1<sup>st</sup> floor. When using the stairs, the journey finishes on the corridor shown in pic 40 and in good sight of the instructions that can be seen on the wall in this picture. When using the lift the sign is the same one seen in pics 48 & 49 above. The impression created by the instruction at the bottom is that to get to the areas highlighted one has to walk through the doors that can be seen here. People can be observed walking up to this door and trying the handle. If this was not a locked door, several people would find themselves heading in the wrong direction.



**51:** Intuitively people appear to follow the curve which can be seen hear in the hope that this is the right way to go as there is nothing else to guide them.



**52:** This picture shows the continuation of the curve in the previous picture. Through the open doors can be seen the beginning of the corridor which connects the red area to the other four areas. Unfortunately, there is no bold announcement of this anywhere else apart from the instruction identified earlier. Those unable to read for one reason or another must find this particular part of the hospital most challenging.



**53:** This picture is of the other side of the door seen in the previous picture. Here the announcement of the destination helps the user orient accordingly. Confusion remains as to why such an announcement was thought unnecessary on the other side of the same door.

## The inconsistent use of colour

The pictures chosen to highlight the lack of consistency in the use of use of colour are representative of a generic problem that affects almost the entire hospital. Through direct observation and listening to or being party to several conversations by those lost, it became apparent to the researcher that those not competent in using signs or written information to find their way heavily rely on the use colour. An open expression of frustration by those lost can be heard by anyone who stops long enough to listen. One such conversation occurred between two women visiting a hospitalised relative and the researcher. The older of the two women admitted that she uses colour on the floor and not signs *'which I cannot make sense of love'* to find her way. *'They say it is the green area but all the floors are purple...You see I do not read signs me. I look at the floor'* Consistency in the use of colour in this case would have helped this lady who claimed to have *'spent more than half the time getting lost'* than she did seeing her relative. In the next eight pictures some of the confusing aspects in the use of colour are highlighted. What becomes apparent, here is that there is lack of clarity as to whether colour is being used decoratively or as a wayfinding tool. One other important confusion not told in these pictures is the lack of clarity in the use of a red background and white lettering. In the first part of this report white against red denotes A&E (pic 13), the red area (pic 18) or forbids entry (pic 7).





**54:** Blue in the red zone. Unfortunately this lift area is at the beginning of the blue area. From a distance the blue colour is more prominent than the sign announcing the red area.



**55:** This is the section that one is exposed to on leaving the red zone (see pic 52). Some think the purple is significant as this is the beginning of the connecting corridor leading to the purple, green, yellow and orange areas. But what about the blue trimmings?



**56:** The emphasis on the purple colour continues down the corridor this time including the skirting board as can be seen.



**57:** However, the sudden appearance of blue on the skirting boards here communicates a different message. One starts to wonder at this stage whether the purple colour is intended to lead the user to the purple zone or purely for decorative purposes.



**58:** Green in the green zone. This place can be found along the corridor of the green zone. Is this significant? What was the thinking behind this? Someone must have thought it a good idea perhaps.



**59:** This picture shows a section in the green zone not too far away from the places shown in pics 58 & 60. See the purple floor, the white skirting board and the grey and blue on the doors. More confusion!



**60:** Still in the green zone, see the turquoise trimming. Was this an effort to maintain the green colour coding? In most of the green zone, however, the colour coding appears to be consistent (green in green), suggesting that someone must have valued the appropriate use of colour in communicating with the users of the setting thus aiding wayfinding.



**61:** Here a strip of dark green with grey edges can be seen on the wall. What about the strip of blue along the floor. Blue appears to pop up in several places in the hospital. It would be interesting to find out why blue seems to be so popular.

The second half of the report has highlighted how some of the aspects of the environment impact negatively on wayfinding. The need to clarify the directions given by arrows has been emphasised as has the importance of guiding people from department through the appropriate use of colour. Further observations relating to the rest of the report are made in the next part. Conclusions are drawn and preliminary suggestions for improving the environment are given.

## Further observations, conclusions and preliminary suggestions

This report has highlighted that the current wayfinding strategy at Salford Royal relies on staff, volunteers, information encoded on signs colour coding and in certain cases VDUs. The first half of this report has identified the aspects of the environment which have a positive impact on wayfinding. They include, big clear signs strategically positioned for users of the setting to identify from a good distance, recognisable pictograms and people. The second half has identified several challenges met by users as they navigate this complex environment. These include misleading and/or ambiguous signs, inconsistent use of colour or too much use of it and information overload or lack of it at key decision making points. The observable confusion and frustration of the users of the environment at certain decision making points has also been highlighted. This can be seen in their behaviour (looking lost) and heard as they mutter to themselves or when they express their frustration openly. When staff stop to offer help there is an immediate sense of relief which is sometimes quickly replaced by more frustration and/or anxiety when one realises that they now have another task of recalling the verbal directions. However, quite often, the users politely give the impression that they have understood the instructions although it is clear that they haven't. This is evident in their behaviour both verbally and non-verbally once the helper is out of hearing range or sight. Remarks such as '*Can't make sense of all that*' or '*That helps!*' followed by rolling of the eyes and a tilting back of the head can be heard and observed.

Unfortunately in this complex environment where the language of signs and colour codes lacks clarity this human resource appears overstretched. The impact of this is particularly felt by the nursing staff who manage the Saturday outpatient clinics. With the absence of the PALS personnel, WRVS volunteers and the VDU in the outpatient reception area at the weekend, the nursing staff find themselves responsible for helping visitors and patients to solve their wayfinding problems on top of their nursing duties. It is clear that this added responsibility impacts on the efficient running of their clinics. However, they are quick to point out that during the week the services of PALS, WRVS and the VDU are invaluable. All the same, they would like to see a system in place that would solve their weekend problems.

From what has been highlighted in this report, it is clear that there is an urgent need to develop a more effective wayfinding strategy for Salford Royal. There is also a need to address the issue of open doors. The report has highlighted that an open door helps someone find their way quicker as it communicates an invitation to walk through. However, if indeed the doors left open happen to be fire doors addressing this matter ought to take top priority. Subject to further analysis of data collected and to the views of the Hospital Redevelopment Team on the findings presented in this report, a number of changes could be implemented in the short, medium and long term. In the short term, for example, clarity in the journey from the motorway could be enhanced by



trimming back the foliage which obscures the direction giving signs (pic 23 & 24), putting up a sign for the hospital at the first traffic circle off the motorway, putting up one or two bold signs in the distance between the second traffic circle (pic 2) and the last sign (24) and making the last sign bigger and bolder. Lessons can be learned from Balfour and Beatty who are keen to guide their customers all the way from the first traffic circle to where they are on the hospital site. In the medium to long term there is need to clear the confusion caused by ambiguous and misleading signs. A reduction in the number of signs used internally is likely to create a less confusing environment. There is plenty of scope for improving the environment by paying more attention to the current confusion caused by what appears to be a haphazard use of colour. The hospital environment also has a lot of room for embedding other forms of knowledge that should help the user find their way with much ease apart from signs and written word. The use of meaningful artistic landmarks on the bear walls and long corridors (see pic 30 & 51) that characterise the hospital could be one way of doing it. Literature on wayfinding also suggests several principles for improving wayfinding strategies in complex environments by paying attention to the design and architectural layout of buildings. For example, instead of labelling various entrances to the hospital by written word or sign some kind of landmark which can be spotted from a good distance on top of the roof could be used to denote entrances.