

**Geoff Cooper explores the understanding of Soft Signs in the Literature, their application to Health Care in general, and Deterioration in particular, and describes three Wessex based examples of their use in Care Home settings.**

## **The history of Soft Signs**

Neurological Soft Signs (NSS) have been used since the early 20<sup>th</sup> century to help Neuropsychologists identify subtle abnormalities in sensory-perceptual, motor, or other central nervous system functions as nonspecific indicators of impairment <sup>1</sup>.

Paediatricians in the UK may also use NSS as indicators of “minor neurological abnormalities in the absence of other features of fixed neurological disorder” to help them diagnose underlying clinical conditions <sup>2</sup>.

The experiences of these clinicians who have found value in identifying non-specific predictors of impaired functioning in neurological conditions may provide valuable insight when exploring the concept of “Soft Signs” in physical care.

Early signs of physical “unwellness” can be recognised intuitively by physical healthcare practitioners as evidenced by staff saying “I know something is wrong, I just don’t know what”. Even people without training, but who are familiar with someone’s usual behaviour and habits, can often sense a problem resulting in them reporting that the relative, resident or child in their care “just isn’t themselves”.

The fact that these feelings “of something not being right” are a general experience and not limited to healthcare professionals also suggests that they are different from the “intuitive grasp of complex patient situations” held by expert practitioners as described by Dale et al. and Benner <sup>3,4</sup>

## **Recognising “unwellness” early**

Although recent clinical studies have called into question the time honoured concept of a “golden hour” <sup>5</sup> as a fixed period of time during which prompt medical and surgical treatment will be most effective, the importance of rapid intervention is well recognised in many healthcare settings.

There is much debate about which elements most improve the potential for successful outcomes <sup>5,6</sup> but one common theme is the value of early recognition of illness and initiation of treatment.

If clinical outcomes depend on prompt treatment then it follows that the earlier deterioration can be identified and treatment started the better. Equally it seems illogical to consider that this “treatment window” only starts at the time the person sees their GP or attends the Emergency Department, when perhaps that person may have been demonstrating signs of illness for some time previously.

There is evidence to suggest that it is possible to identify physical deterioration before hard physiological signs are present, one study by Boockark et al found that “Nursing assistants’ documentation of signs of illness preceded chart documentation by an average of 5 days.” <sup>7</sup>

This is particularly relevant to the Care Home setting where, as Interserve’s Chief Nurse Andy Cook notes, *“Because the home is a challenging diagnostic environment it means patients can develop problems that need substantial intervention. Clients can often deteriorate slowly over several days and this can mean disease is more advanced when they exhibit more clinical signs.”* <sup>8</sup>

Other studies highlighting the role of care assistants in identifying deterioration early include Tingström et al's "he seems to be ill - a reason for nurses to take action"<sup>9</sup>, Allemann and Sund-Levander's "Nurses' actions in response to nursing assistants' observations of signs and symptoms of infections among nursing home residents"<sup>10</sup> and Sund-Levander and Tingström's "Clinical decision-making process for early nonspecific signs of infection in institutionalised elderly persons: experience of nursing assistants".<sup>11</sup>

It is also the case that a medical model may not be considered appropriate for all care settings, in residential care homes for example. As Andy Cook also notes: *"Unlike a hospital, it is important to avoid medicalising a person's home environment. Many people in their own homes don't get out of bed in the morning and take their blood pressure, which is no different for people with a disability or a long term condition."*<sup>12</sup>

### What exactly are Soft Signs

In 2016/17 Wessex Patient Safety Collaborative (WPSC) ran a Breakthrough Series Event (BTS)<sup>13</sup> focussing on Physical Deterioration which was attended by two teams from Wessex, Interserve Healthcare and West Hampshire CCG (WHCCG). Both teams were working on projects to identify early signs of physical deterioration in out of hospital settings, specifically Care Homes (WHCCG) and Patients own homes (Interserve).

These teams used the development opportunity provided by the BTS to explore whether the feelings of "something not being right" could be described in such a way as to allow staff to communicate their concerns to others. They were also looking to determine whether there were any "flags of early onset of deterioration" that could be identified without the use of medical equipment.

Wessex PSC also became aware of another project taking place in the region at Southampton City CCG where staff were seeking to develop prompt cards for Care Home staff based on the idea of asking a deceptively simple question, namely 'Is my resident well today?'

The work of these teams, alongside others working to improve the recognition and response to deterioration in other care settings, resulted in three specific tools being developed to recognise and respond to early signs of deterioration, these three projects are described below.

It was during this period that the term "Soft Signs" was adopted by the teams to refer to the early signs, flags or indicators of physical deterioration as distinct from the "Hard Signs" that could be measured such as heart rate, blood pressure or temperature.

Interserve's Andy Cook explained that *"soft signs' work as proxy measures for deterioration and include observed changes in patients' normal behaviour, such as sleep, eating, drinking and mood. These observations avoid the need for complex measurement equipment, whilst proving to be good indicators of early negative changes in the patient's well-being."*<sup>14</sup>

The concept of "Soft Signs" also reflected the desire of the teams to promote a qualitative, holistic or intuitive model alongside the more scientific or physiologically focussed approaches.

As Wessex based Consultant Nurse Maria Ford observed *"soft signs may be useful in other care settings too. 'As nurses we don't pick up the early [pre-hospital] signs, such as a change in the patient's behaviour,' 'Soft signs are important. We need to bring in our physiotherapists and the family at that point, to get to know the patient and ask the family at the beginning of hospital admission: 'What would make you worried about your relative?'"*<sup>8</sup>

## Using Soft Signs to recognise and communicate Nurse or Carer Concerns

Soft Signs also support another difficult to define concept namely “Carer Concern” which, when taken together with a structured communication tool such as SBAR(D),<sup>15</sup> can be used to support the communication of safety critical information between individuals.

*In addition (by) identifying soft signs early, ensuring review and intervention took place sooner, we were able to either avoid patients’ hospital admission altogether or significantly reduce the length of stay and complexity of treatment.*<sup>14</sup>

Whilst an “intuitive grasp of complex patient situations” is one of the elements that differentiate expert practitioners from novices<sup>3</sup> a Soft Signs approach may help explain some elements of that intuitive, almost subconscious awareness that forms the basis of “Nurse Concern”. If so it raises the potential for the basis of a framework for sharing that awareness with learner practitioners.

## Soft Signs in Practice - Three Wessex Projects

### ***A Taxonomy of Soft Sign Indicators of Physical Deterioration - Interserve Healthcare & Wessex PSC***

The Interserve Healthcare team reviewed cases where clients had been admitted to hospital and identified a range of ‘events’ that indicated developing health concerns which could have triggered an earlier review of the client. These were developed into a list of around 120 ‘soft signs’ or ‘proxy measures’ of deterioration.

These 120 measures were grouped into a Taxonomy against what they described as systems of life dimensions and activities of daily living, essentially all things that are just ‘observed’ or ‘noticed’.

Between 5 and 10 of the most relevant Soft Signs are then placed into personalised care plans for each client and the Soft Signs Taxonomy has also been incorporated into the organisations electronic incident and concern reporting system.

### ***An Integrated Physical Deterioration and Escalation tool incorporating Soft Signs, NEWS2, SBAR(D) & TEP/ACPs - West Hampshire CCG & Wessex PSC***

RESTORE2™ is a physical deterioration and escalation tool for care homes wanting to include "Soft Signs" in their approach to deterioration as a pre-diagnostic indicator of concern" to facilitate earlier treatment and help avoid unnecessary transfers to hospital.

RESTORE2™ includes Soft Signs for early identification of deterioration, a physiological assessment and escalation process based on the National Early Warning Score (NEWS2)<sup>16</sup>, the use of structured communication processes to communicate concerns (SBAR[D]) and also references any Treatment Escalation Plans (TEPs) / Advance Care Plans (ACPs).

West Hampshire CCG have also now released a standalone "Soft Signs" only module entitled RESTORE2 Mini™ for use in care settings such as residential Care Homes which are promoting a non-medicalised environment. In these situations Soft Signs can still be used to promote earlier identification and communication of deterioration by carers concerns with the next step of physiological monitoring carried out by the attending GP or ambulance crew.

### **Recognising and Responding to Soft Signs of Deterioration in out of hospital settings - Southampton CCG & Wessex PSC**

The Wessex PSC REACT (REcognise and Act) cards are based on a project by Southampton City CCG which prompted Care Home staff to look out for, and respond to, 'Soft Signs' of Deterioration in their residents. Using a deceptively simple question "Is my resident well today?" the card includes a series of prompts to support staff to consider possible 'soft signs' of deterioration and to suggest actions to take if any triggers are present.

Possible triggers include (amongst others): Breathing difficulties; changes in appetite; mobility; consciousness or confusional state; bowel or urinary tract problems. Suggested actions include (amongst others): Raising the alert; recording observations (using NEWS2/RESTORE2) and communicating concerns by using the SBARD communication process.

Staff are also prompted to ensure that residents personal End of Life care preferences are considered as part of the response process.

### **Benefits of Soft Signs**

The NHSE Patient Safety Alert issued in April 2018<sup>17</sup> highlighted the importance of early recognition of, and response to, Physical Deterioration across the NHS. The use of the National Early Warning Score (NEWS2) is intended to improve the care delivered to patients by responding promptly and effectively to physiological indicators of deterioration.

Using Soft Signs to identify signs of deterioration in out of hospital settings, and before they can be seen in physiological monitoring, raises the potential for significant benefits to the individual being cared for, as well as to the health care system in general.

A report by the Health Foundation<sup>18</sup> found that up to 41% of emergency admissions from care homes may be avoidable as being for conditions that are potentially manageable, treatable or preventable outside of a hospital setting.

Earlier recognition and treatment arising from the use of Soft Signs and NEWS2 suggests there is potential for improvements in the treatment and management of Care Homes residents conditions as well as for reductions in GP call outs, ambulance conveyances, emergency department attendances, hospital admissions and length of stay.

Andy Cook notes that: *"Since our system was first implemented we have avoided around 35 hospital admissions as a result of the use of early indicator soft signs"<sup>8</sup> Our registered nurses review clients sooner and we've managed to... significantly reduce the length of stay and complexity of treatment."*<sup>9</sup>

In qualitative terms Interserve staff also reported greater staff confidence not just in relation to escalating their concerns but also in terms of managing clients locally and avoiding unnecessary transfers or treatment.

As one West Hampshire Carer reported: *"Where before we would ask for a visit from GP and they would come and do observations and may say that the resident is ok and to monitor, we can now monitor them using restore2, which has decreased the GP visits."*<sup>19</sup>

## Conclusion

This article seeks to explore the understanding and practical application of the concept of indicators, or flags, of deteriorating physical health which collectively have been referred to as “Soft Signs”.

As well as helping with early detection of unwellness the concept of Soft Signs provides the basis of a language to help verbalise the intuitive feelings of staff when “something just doesn’t feel right” and possibly also the intuitive knowledge that Bennet and others have ascribed to expert practitioners. As such they can help carers or nurses to raise their concerns to others.

Deterioration outcomes, whether attributed to Sepsis or other causes, are known to improve as a result of earlier recognition and response. A National Early Warning Score (NEWS2) has been implemented across the NHS in England but this may not be practical or appropriate, in patients own homes or Residential Care settings.

However even where NEWS2 is used, in Nursing Homes for example, the question remains as to what motivated staff to take that first set of observations that confirmed physiological evidence of deterioration? And then following on from that question, could that deterioration have been identified earlier?

The case studies emerging from the literature suggest that Soft Signs provide an approach which might assist carers to recognise deterioration earlier, potentially even days before physiological signs are present. Soft Signs also provide a language for explaining and communicating pre-physiological changes between healthcare staff, for raising carer and nurse concerns and for teaching purposes.

As well as improving residents outcomes, the use of Soft Signs has the potential to help staff care for residents in their preferred locations by preventing inappropriate emergency department attendances and hospital admissions as well as freeing up resources such as GP visits, ambulance conveyances and hospital beds.

Whilst their predictive validity is currently untested, Soft Signs present a helpful construct, including a language and transferable methodology, to aid pre-hospital recognition and communication of deterioration. Andy Cook also points out that the use of identification and escalation tools built on Soft Signs design may *“promote the concepts of Safety 2 by building resilience in staff to cope with the unexpected.”*

Hopefully this article will stimulate further thinking around the value of Soft Signs in areas of direct care in general, the identification and prevention of physical deterioration in particular and their role in communicating concerns, professional development and reflective practice.

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