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The arrhythmia of bodily urgency: Using rhythmanalysis to understand the organisation of care people living with dementia experience within acute hospital wards

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A B S T R A C T

This article posits Henri Lefebvre's concept of Rhythmanalysis as a novel methodology for observing and understanding the everyday life of the hospital ward and its consequences. To do so we draw on observational data taken across three multi-site studies of acute NHS hospital wards in England and Wales (22 wards across 12 hospitals) between 2015 and 2023. Our analysis of the rhythms of the ward, and of the arrhythmias patients can produce, allow us to develop a detailed and embodied perspective of how the ward is experienced by the many different actors within it. In this paper, we focus on one particular group, people living with dementia, considering how they fit both within and outside the rhythms of the ward, and the dressage used by staff to maintain those rhythms. We conclude by discussing rhythmanalysis as a means to observe and record otherwise underseen aspects of hospital care which can provide a means for researchers to better understand relationships of power, personhood and dignity, and their consequences, within clinical environments.

1. Introduction

People living with dementia represent a significant population within acute hospital wards in the UK, representing between a quarter and up to half of all patient admissions (Alzheimer's Society, 2016). However, a growing body of research has identified hospitals are 'challenging' (Sampson et al., 2014: 194) and 'dangerous' (Mathews et al., 2013: 465) environments for someone living with dementia. This group fares poorly on admission to hospital (Sampson et al., 2013), often experiencing rapid deterioration, deconditioning, adverse events, cascade iatrogenesis, with an expectation of decline (George et al., 2013; Thornlow et al., 2009). Evidence suggests the setting and built environment itself is inappropriate for this population (Dewing & Dijk, 2014).

Despite dementia friendly training schemes, specialist roles, and the increased importance of diagnostics (Kuberska et al., 2022) people living with dementia continue to have poor care experiences within this care setting, resulting in unequal care outcomes, reduction of functionality and independence, institutionalisation post-discharge and high risk of post-admission mortality (Featherstone & Northcott, 2021). People living with dementia are likely to resist and refuse care during their acute admission, in particular food and medication (Featherstone, Northcott, & Bridges, 2019), experience 'pad cultures', unnecessary incontinence care leading to decreased functionality and independence (Featherstone & Northcott, 2021), and are more likely to experience restraint and restrictive practice compared to other patient groups (Mwale et al., 2024). As a result people living with dementia are likely to experience functional and cognitive decline during a hospital admission, leading to delayed discharge (Bai et al., 2014) (unfairly characterised as 'bed blocking' (Quirke et al., 2023)), institutionalisation, and significantly higher risk of mortality during or within six months of an admission (Lehmann et al., 2018).

There has long been recognition that more needs to be done to understand how wards can better respond to and recognise the needs of their populations (Armstrong et al., 2024), including those living with dementia. Despite this, ward organisational cultures continue to prove resistant to change (Featherstone & Northcott, 2021), closely reflecting the 'total institution' revealed in classic ethnographies and sociological texts on hospital settings (Goffman, 1968) which are observable within the contemporary hospital setting (Featherstone & Northcott, 2021; Hope et al., 2022). The significance of this patient population within the acute setting and the seriousness of the impacts on this vulnerable population, make understanding why these institutional cultures are so resistant to change an urgent concern.

A significant issue faced by people living with dementia during a hospital admission is the need to recognise, acclimatise to, and live within the timetables of the hospital ward (Featherstone & Northcott, 2021). The timetables of bedside care – meal times, medicines and

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observation rounds, and so on – provide an obvious 'rhythm' within which both staff and patients must function - but which present difficulties for people living with dementia, and in turn for the staff caring for them. A growing body of research demonstrates how the person living with dementia neither fits or belongs within the routinised demands of the acute ward (Gwernan-Jones et al., 2020; Moyle et al., 2010; Porock et al., 2015)

There has been a body of work utilising a range of different approaches to studying time and timetables and its impact within organisations, including within the hospital. For example, the work of Pentland and Feldman examines organisational routines and how these impact the functioning and processes of organisations as a whole (Pentland & Feldman, 2005); Zerubavel posits a notion of time as subjective and socially constructed, exploring the 'sociotemporal order' (1979: xiii) and the many institutional cycles which structure and govern hospital life. In comparison, Lefebvre's work on rhythmanalysis has potential for examining not simply the institution, but the ways in which the rhythms of an individual's time operate within the wider patterns of time of an organisation. This thus holds promise for exploring in greater depth findings from classic institutional ethnographies that have explored the social role of the patient in hospital ward (Coser, 1962), the institutional treatment of 'unwanted' older people (Roth & Eddy, 1967), findings such as those of Goffman's classic examination of the total institution in which he notes how 'the minute segments of a person's line of activity may be subjected to regulations' (1968: 48), as well as more recent research finding that individuals living with dementia experience difficulties in recognising and adapting to the timetables of the hospital ward (Featherstone & Northcott, 2021). This paper joins a growing literature examining organisational time, suggesting that rhythmanalysis may be helpful (Blue, 2019) by examining how time is disrupted and why, within institutional settings, and in particular the hospital ward.

Lefebvre, in a posthumous publication, is bold in the scope he envisions for the analysis of rhythms within everyday life. He writes that rhythmanalysis 'proposes nothing less than to found a new science, a new field of knowledge [*savoir*]: the analysis of rhythms; with practical consequences' (Lefebvre, 2013: 13). This paper takes up these lofty goals and focuses on applying rhythmanalysis, and in particular the management of arrythmia, to investigate the situation faced by people living with dementia who are admitted to hospital wards, and to provide understandings of how both bodily urgency and perceptions of dementia as a condition become entwined within these settings. In terms of Lefevre's 'practical consequences' the authors propose to support institutions by highlighting rhythms, and how they can be modified to recognise and respond to the needs of their key populations.

Since Lefebvre's work, rhythmanalysis has been applied to various fields exploring social interactions in relation to place and to time. For example, analysing patterns of activity at a fish market (Lyon, 2018) and restaurant (Lyon, 2020); to the clinical: routines of renal patients (McQuoid et al., 2017); the disruptive impact of COVID-19 lockdowns on women (Thorpe et al., 2023); and delayed discharge from NHS hospitals (Blue, 2019). Significantly, in these examples of healthcare contexts, we can see that disruption or delay to rhythms occurs. The exploration in rhythmanalysis of overlapping rhythms lends itself to discerning patterns of individual behaviour against the functioning of institutions. In relation to dementia, recent work by Osborne et al. (2023) uses rhythmanalysis to understand the routines of dementia care by informal caregivers in a domestic setting. Interview data demonstrates the importance of routines which follow the individual rhythms of the person living with dementia.

1.1. An outline of rhythmanalysis

For Lefebvre (2013), everywhere there is interaction between a place, a time, and an expenditure of energy, there is rhythm. In general, rhythms will involve a) repetition (of movements, gestures, actions, situations, differences); b) interferences of linear processes and cyclical processes; and c) birth, growth, peak, then decline and end. This general outline of rhythm has since received further engagement, critique and refinement (Chen, 2016; Lyon, 2020).

Lefebvre (2013) points out that repetition in rhythm gives rise to differences. He distinguishes cyclical and linear repetitions. Cyclical rhythms last for a period and restart, and are found in nature: dawn, the seasons, monthly cycles, etc. Linear rhythm instead arise from social practice and construct, human activity imposed from repetition and structure. These competing and co-existing rhythms have very different natures and are constantly interacting with each other in an antagonistic unity. Hence the imposition of the linear, of monotony, takes into account in various ways and to various degrees, cyclical rhythms such as those of the seasons, night and day, and the body (2013: 20).

Given the known difficulties that people living with dementia have in fitting into a structured rhythm, such as that of the timetabled ward, the interference of linear and cyclical time within them seems ripe for examination. For Lefebvre, quantified time imposes monotonous repetitions, with a bitter and dark struggle around time (2013: 83). He describes this struggle as intense in industrial practice where the linear tends to dominate, echoing the body of research examining clinics and hospitals (Featherstone & Northcott, 2021; Roth, 1963). The uniformity and monotony of quantified time breaks apart and fragments, in ways which form a hierarchy, while disturbances of rhythm proliferate (Lefebvre, 2013: 83). It is often the anomalies in rhythms that lead to awareness of both the rhythm and the arrythmia.

There will typically be multiple overlapping rhythms within a situation: *polyrhythmia*. In contrast, *arrhythmia* is a discordant state: rhythms break apart, alter and bypass synchronisation. Lefebvre identifies arrhythmia as a pathological situation that require intervention to address (2013: 77). Arrhythmia is at once 'symptom, cause and effect' (2013: 25). Arrhythmias is a focus of our analysis, highlighting how patients are expected to meet and fit their needs within the established rhythms of the hospital ward.

Lefebvre (2013) discusses 'dressage' as a way of managing rhythms and arrythmia. We understand dressage as the methods through which people and animals are entrained to behave in certain ways through the imposition of routines via repetition and reward. This includes the ways in which, for example, animals are trained to certain tasks by repetition of already learned behaviour with innovation in the form of new behaviour, hence combining a linear series of commands and gestures, rewards and punishment which cyclically repeats for the desired 'correct' behaviour. Likewise, one can 'break in' humans by making them repeat actions, gestures, or movements, distinct from education or learning. This paper will highlight how this is a key feature of the experience of an acute admission for anyone without a tacit understanding of (and obedience to) how the ward must work, or without the ability to recognise and harmonise with the rhythms to which the ward endeavours to move. The capacity of medical settings to exert dressage on the body alerts us that in the formal setting of the hospital, timetables of routine care are driven by the institutional agendas of power and hierarchy.

Lefebvre is clear in what rhythms are and how they are maintained, but is less clear in exactly how rhythmanalysis should be conducted, and as a posthumous publication, this is as issue he was unable to address. Our contribution is to show how rhythmanalysis can be used to observe the hospital, or clinical setting, drawing on Lyon's (2020) emphasis on the body, bodily function and the embodiment of both the researcher and the observed in the methodological approach, which neatly fits into contemporary focus on embodiment in understanding and approaching care for people living with dementia (Kontos, 2004). Lyon acknowledges the close alliance between rhythmanalysis and ethnography, and in the following section we outline how we were able to use the two approaches in conjunction, as rhythms become pronounced and observable across long observations and within our 'thick descriptions' (Geertz, 1973).

2. Methods

This paper draws on long term ethnographic engagement within NHS hospital wards (22 wards within 12 hospitals across England and Wales) purposively sampled to represent ordinary hospitals serving a range of socio-economic and cultural demographics and communities across England and Wales. The data discussed in this paper was collected from 2015 through to 2023. A total of 555 shifts were observed. Each period of observation lasted three to 8 h, covering the full 24 h of ward life, including night shifts, weekends and public holidays. The researchers were embedded in each ward for 15–30 days, recording fieldnotes with pen and paper (and later electronic tablet), observing the rhythms of the setting, generating over a million words of written data.

Observations on the first two studies were carried out by two of the authors of this paper, starting in 2015 and both now senior researchers. On the third study a further senior researcher was introduced working with the team from 2021. The research team is a mix of genders, age, ethnicity, and social class backgrounds. The researchers are not registered medical professionals and did not hold regulatory duty of care.

Unlike rhythmanalysis, ethnography is a well-established means of observing, engaging with, and understanding interactions, behaviours, and institutional cultures, within healthcare settings (Greenhalgh & Swinglehurst, 2011). The prolonged periods the researchers spent within each ward attuned researchers to the timetables that govern them (Featherstone & Northcott, 2021; Roth, 1963), the routinised lulls and inaction in contrast to periods of bluster and action. In observing timetables the a priori decision to consider rhythmanalysis was taken with the researchers recording not just event within their fieldnotes but non-event, the times and periods of inactivity, alongside events that should (and should not) happen, with each interaction taking its own rhythm alongside the daily repetition of both linear and cyclical processes (Lefebvre, 2013). By observing these timetables and rhythms the researchers could gain an understanding of how these wards, and their institutional cultures, impacted the patients admitted within them. Including a standpoint of rhythmanalysis in our analysis deepened our understanding of the experiences recorded in our fieldnotes, allowing us to observe rhythm, repetition and intangibles (such as ennui, non-event and recurrence) that could otherwise be overlooked within our data.

Lefebvre (2013) describes the rhythmanalyst as a means of observation beyond the standpoint of a conscious ego, a means to observe a setting by considering all of its aspects, including smells, noises, and aspects physically embodied within both the researcher and the observed, such as breathing, circulation, and exertion. This allows the observer to see beyond what is happening in front of them to understand how relationships change through times, to distinguish noise and to hear silence, revealing the patterns that form as an unseen consequence (Leigh, 2021), such as how in the workplace slowing down or pausing can be a stigmatised behaviour.

Such observations are brought further into focus in a hospital ward, where disinfectants fails to mask smells, bright light or darkened rooms veil the passing of time, and where the institution enforces the timing of bodily function. The rhythmanalyst is not an auto-ethnographer, recording their own thoughts and modalities, but the impact on the researcher to these phenomena, their reactions, their boredom, their uncertainties, via a temporal connection, give their observations an authenticity (Field-Springer, 2020; Leigh, 2021).

We captured in fieldnotes how time is experienced subjectively, at an individual, and a collective level (Brown & Morgan, 2021: 110–126), by the multiple actors within a ward. Roth (1963) observed this in his classic ethnography of tuberculosis wards, where a day to a doctor is fast-paced and value laden, but to a patient is slow and drawn out, with each day of admission weighing heavy. Brown and Morgan take this further by arguing that by observing the rhythms and timings of a built environment one can show whom the building is for, with the researcher using their body as a tool to observe, listen, and sense their environment, being both immersed in a setting but simultaneously removed enough to identify as different (Elden, 2004).

In this way our team embedded themselves within the rhythms of these wards, using the perception of time as a framework for our analysis (Brown & Morgan, 2021: 110–126). Each team-member observed a single ward, embedded with the everyday rhythms of care throughout the shift/day. Observations included observing meetings, such as shift handovers, shadowing individual staff members or teams, speaking to clerks and coordinators at their stations and talking to patients about their experiences. For the most part, however, the researchers' role was typically to stand in the corridor of each ward observing the mundane aspects of the organisation and delivery of care within it. The team did not directly observe care behind the privacy curtain or closed doors, protecting patient privacy at all times. Conversations from behind curtains and privacy screens could be heard from the corridor and were recorded as fieldnotes where the researchers had appropriate consent.

Fieldnotes produced thick description (Geertz, 1973), recording all aspects of the ward that felt relevant by the researcher. Observations typically began with an event central to the rhythms of the ward, such as a shift handover, meal, or meeting, and notes included staff and patient numbers and the layout of the built environment of the ward itself. These observations focussed on the rhythms of each bay, unit, and ward as a whole, and how these rhythms diverge for different groups within each strata. The observer struggles to keep up with the ward staff for whom the ward is hectic, high pressured and time-poor (Roth & Eddy, 1967: 98), and for whom pausing or sitting has a negative connotation (Leigh, 2021). In contrast are the patients, for whom the rhythm of the wards are barely perceptible, mealtimes and medications rounds interrupting a tangible inactivity, dragging out every minute as they sit in silence, looking out at other silent patients, with little to no interaction with others, activities or stimulation.

3. Ethics

All three studies were approved by NHS Research Ethics Committees and the Health Research Authority [15/WA/0191 (June 26, 2015), 18/WA/0033 (September 05, 2018), 22/LO/0448, (July 15, 2022). All studies were co-produced with people living with dementia. Process consent was used when recruiting and collecting data from people living with dementia. If a person was considered to lack capacity they were not approached, or their participation in the study suspended or withdrawn. Patients' dignity and privacy was prioritised at all times.

4. Findings

The place of the researcher within the ward: On arrival, the researchers were almost always subject to habitual attempts to remove them from the embodied rhythms of the wards. Typically they would be offered a seat, and when this was politely declined, would be subject to repeated calls from staff of how their feet must hurt or how they must be tired for the duration of the observations. It would take several days for this effect of the researchers' presence to pass, only to return when new ward staff arrived. The physical activity of the person is a strong sign of their place within the rhythms of the ward. Doctors are never seen to sit on the ward, but frequently retreat to offices to sit down. Nurses are always on their feet except for assigned breaks. Patients are always lying in bed or sitting down, and only on their feet when there is a purpose that is recognised by the ward staff. To be 'on your feet' without a permitted purpose is 'wandering', which in the case of the person living with dementia is an arrhythmia which must be immediately remedied in conjunction with an appeal to the rules of the ward, the dressage of its rhythms. In contrast, attempts at dressage failed to curtail the 'wandering' of rhythmanalysts, reinforcing the novelty of the researchers' presence. The act of observation is therefore an arrhythmia to the embodiment of the ward, but one that is tolerated by the researchers' privileged position.

The routine rhythms of the ward: Once settled within these wards,

the rhythms that govern each, while subtly different, are familiar and easy to align oneself to. The pre-round rushes, the post-round lulls, the time for note-taking, for breaks and to prepare for significant ward routines like food service and doctors' rounds follow linear patterns each day. What is missing from this though is the cyclical, the rhythms (and bodily needs) of the individual patient, the very purpose of the institution is missing from its daily patterns and routines. As a result, we as 'rhythmanalysts' found ourselves frequently recording nothing, watching patients lying in bed, inactive, and unstimulated, as nurses stand by chest-high mobile trolleys in doors and corridors updating records on computers, reproducing and typing up hand-written patient notes and scraps of paper, or heading away from bays for breaks and meetings:

> 12:00 - Bed 19 is a new patient, sat in bedside chair. Everyone else in bed or bedside chair, patients in bed have one or both side bars raised. The lady in Bed 3 is still here, in her bedside chair with the HCA (healthcare assistant) (agency staff, a different HCA to one posted yesterday) sat in front. It is all very boring. The HCA is sat looking out of the bay, her patient looking forward. She has been sat in the same position in the chair for days. Most staff are away doing the MDT (multidisciplinary team) meeting in the doctors' room. All very quiet. 17 is back at bed, organising her things into carrier bags. The HCA puts her head in and checks she is OK. 17 still looking for lost things - doesn't know what she has lost now, only that she has. Day room is empty again. No music or TV. [Site 10, COTE, Day 28]

This boredom is in and of itself a rhythm and one that can be predicted almost to the minute when the ward is working without arrhythmia. It will change from ward to ward, but set hours, such as hours between morning rounds and lunch, the hours before afternoon medication rounds, or the time after visitors leave but patients are yet to sleep. These periods will be boring, required rhythms of stillness to allow the ward to catch up, for records to be updated and notes to be taken, periods of nothing happening with sounds muted to perhaps the slightest background hum of familiar pop music from decades past coming from a clerk's radio, or the sudden volume increase of the advert breaks on the televisions playing in the side rooms.

Conversely, for ward staff the rhythms of the ward are experienced as fast paced and 'heavy'. With variations across hospitals, a typical ward's rhythm can be observed across the day. From around 6:30 a.m. nurses and care assistants will begin to file into the staff room as they prepare for a day shift, while the night shift staff wind down. At 7 a.m. there will be the handover (typically in the staff room or between nurses at the top of bays), hand-written notes quickly scribbled on pre-printed sheets of paper outlining each patient's condition, medication and schedule. In the background, the senior nurses will be chasing up latecomers, asking for agency cover, or fending off calls for the secondment of staff to understaffed wards. From 8 a.m. the bright lights will be turned on in the bays, and care assistants begin their routines of personal care and waking patients, awakened early for a day of lying in bed. The breakfast trolley will rattle along, distributing cereal, cold precooked toast and 'Ready Brek' (a commercial cereal) presented as porridge, to be followed by the hot drinks trolley. At 9 a.m. the wards will fill with people as the medical teams leave their offices to begin rounds and the therapy teams begin their shifts, each group moving rhythmically from bed to bed, interrupted by the irregularity of the porters' appearance, arriving to collect or deposit patients, who work against the rhythm of the ward and instead to a strict timetable set by the wider hospital. These rhythms play out every day, the cycle renewing every 24 h.

Bodily functions for patients and staff are assimilated into the rhythms of the ward. For the institution to function, personal care rounds, food provision, lunch, coffee, even toileting in the form of continence 'pad checks', must fit into the circadian rhythm of the ward, the only observable change to the rhythm being the staff on shift, and the patient in the bed, but all actors assimilated to the routine, or, as we will see, to be conditioned to it.

The arrhythmia of bodily urgency: When the contrasting rhythms of timetabled care performed at pace for staff and monotony for patients are broken by arrhythmias, the arrhythmia's very prominence makes it straightforward for the rhythmanalyst to identify, adjusting their position on the ward to observe the arrhythmia as symptom and the activity that surrounds it. The initiating cause of an arrhythmia is often routine, the patient expressing an everyday need: to go to the toilet, for a cup of tea, or to speak to a relative.

> Bed 8 is resting on the end of the bed, asking to put his socks on. The nurse is with bed 7, tells him he will have to wait before she can help him. He mutters the now familiar exasperated 'oh my god' in response. Seconds later he asks for his socks again, repeats himself. The socks are urgent to him. He is sat on the side of the bed and wants to get up and the socks are on the floor, he is bending to reach adding an element of danger to this. The nurse says to him again 'you have to wait, I have got four other patients to look after, you can see my hands are full at the moment'. 'But I can't reach my socks', 'Look at my hands' [she is doing observations with bed 7 and has equipment in her hands] 'you have to wait'. 8 is dressed in his own jumper but he looks a mess. His hair is scruffy and he hasn't shaved in days. [Site 8, Day 2]

Dressage is achieved in a number of ways: when arrhythmias appear, the response will almost always be to reinforce the rhythm of the ward, often using verbal commands and restrictions (as above). It was also achieved via drawing on the physical environment and resources within the ward; by the actions of the staff such as repeatedly returning patients to their bed, raising the bedrails as containment; and technologies, such as catheters and continence pads to discourage use of toilets, and so on. Also through the use of furniture, for example the placement of tray tables to prevent movement, and in the case below in response to the potential disruption to the ward of a person living with dementia shouting for help, the adjustment of the bed to raise the person's head and legs to prevent movement so that timetabled care can continue where rhythms require it.

> 14:00 - The man in bed 6 starts to shout 'help me', but nobody on the bay, including the other patients, reacts or looks over. He shouts 'help me' three times, getting louder, then stops. He has stopped by the time the nurse comes back to the bay with equipment to see another patient. She adjusts 6's bed into a zig zag shape, his head and legs raised to stop him from getting up. He stops moaning for a second then continues, more quietly.
>
> [….]
>
> 14:25 - The man in bed 6 is calmer but still vocal. There is no one on the bays or corridors to help because both the nurse and HCA are going on break. He eventually goes quiet and pulls the sheets back over himself. [Site 6, Day 15]

This containment of the patient, a physical dressage to ensure the rhythms of the ward continue as the ward needs them, is not only evident in a patient calling as in the example above. We will explore how it is a regular response to the arrhythmical expression of bodily need against the rhythm of the ward itself.

Consider the case of those in continence pads for whom the urgency and bodily needs to go to the toilet is felt, especially for the many continent patients living with dementia placed in pads 'just in case'; the capacity to act on the urge is disciplined by the dressage of the pad, as patients are then required to empty their bladders and bowels into pads while in bed and sitting at the bedside, in the public arena of the ward. Yet this ignores social conventions of dressage around continence, another interference superimposed upon the cyclical rhythms of the body by the need to maintain the rhythms of the institution: socially consecrated rites (Lefebvre, 2013, p. 48). The continent adult and child in everyday life is able to adapt their cycle of urges of excretion with social niceties, and is afforded privacy. So embedded is this dressage into

our cyclical rhythms, that the demand to urinate with others present may be difficult to fulfil (Kuoch et al., 2017).

> The lady in bed 17 goes to her bedside chair but remains standing up. She announces that 'she needs the toilet', to which the HCA's (sat monitoring other beds), response is to remind her that she has a pad on. 17 responds to this by reaching down and beginning to take the pad off. The HCA tells her to pull it back up and tells 17 that 'you have a pad on, you can just go there'. 17 is confused by this. She again tries to take the pad off and sits on the bedside chair. The carer suddenly shouts across the bay 'Wait a minute, that's not the toilet! Wait a minute!' 17 looks confused and says 'I can't wait I need to go'. 17 stands and the HCA comes over to her, pulling up the pad, 'Sit down, please'. 17 responds, quite desperate now 'I'm going to do it here'. The HCA has gone back to her seat, observing other patients, repeating the command to sit down. [Site 8, Day 11]

For people living with dementia, arrhythmias can be even more pronounced. Bodily need is required to fit rhythms of the ward. The catheter, a tube inserted into the urethra to collect urine, is a tool that eases the arrhythmia of a ward space. The catheterised (typically male) patient is also viewed as a body that no longer needs to be supported with the unpredictable cyclical rhythm of going to the toilet, instead a large bag needs to be emptied once it is full. This, however, relies on the patient understanding what the catheter is, and allowing it to remain in the body. In the example below a man living with dementia in his 80s, admitted following a fall brought on by a urinary infection causing delirium. His catheter is at once a requirement of his treatment, becomes a source of arrhythmia across a ward shift. He is disturbed by his catheter, which he has removed.

> 13:00: Patient 1 has been put back onto his bed. He says 'oh dear'. He's not covering himself up and sits up and waits for the HCA to get the sheet to cover his crotch. The lunch trolley has arrived and the HCA is beginning to serve food. Patient 1 has his plate brought out first, but the HCA interrupts and says he can't have it yet, he needs to have his catheter sorted first, he tells the patient he will need at least five minutes or so to do this.
>
> 13:05 While patients 10 and 11 are sat looking contented with their food, the rest of the ward look bored and miserable. Patient 1 has been curtained by a domestic and a nurse. He looks terrified, his eyes darting around unsure as to what is happening. The nurse reassures him he will just pop the catheter in and then he can have some lunch [which is an odd thing to say to someone].
>
> 13:10 Patient 1 is grunting loudly as he is catheterised. The board suggests he will be in for four days (Mon-Thurs).
>
> 13:15. Patient 1 is offered his food as soon as the HCAs are finished with him. The position the tray over him and present him with a plate of stew. He asks for a cup for his orange juice. He seems scared of spilling anything, has a real fear of doing something 'wrong' [Site 4 Day 5]

A diagnosis of dementia and the experience of an invasive but routine medical technology can expose the rhythms of the ward. The catheter's presence, both the physicality of the tube inserted within the urethra and the weight of the tube and bag itself, provoke a physical response, a discomfort (which is typically not recognised by ward staff), one coupled by the difficulty of moving with the equipment in place. For the patient living with dementia who may feel distress, discomfort, and who may not able to recognise what this tube is for, the reasonable response is to remove it. This impacts the rhythms of the ward in multiple ways: the now usually exposed patient must be covered up by ward staff, protecting the patient's dignity but also the modesty of other patients and visitors. The catheter needs to be reinserted, a painful and intrusive procedure. There is the near certainty that, once replaced, the catheter will be pulled out again, rhythm restored only for arrythmia to reproduce.

What this ignores is the urgency of continence and the natural place of urgency within cyclical bodily rhythms. For those catheterised the urge to urinate can feel constant and distressing (Jang et al., 2020). The normal rhythms of a sense of urgency are artificially interpolated by the presence of the intrusive catheter to become constant, rather than intermittent and responsive to other cyclical rhythms of the filling of the bladder. The cyclical rhythms of the body echo in repeating cycles; Lefebvre describes this repetition as 'tiring, exhausting, and tedious' while the return of the cycle has the appearance of an advent: 'Dawn always has a miraculous charm, hunger and thirst renew themselves marvellously … ' (2013: 82). The urge to eat or drink, the urge to urinate, appear in cycles followed by eating, drinking, or urination, but for the patient fitted with a catheter, this cycle of desire and resolution is broken. The response of attempted removal of the catheter seen thus, represents an attempt to impose renewed cyclical order on the body against the intrusive discipline of the catheter.

The use of the catheter and the pad to maintain the rhythms of the ward against bodily need, and the arrhythmias caused by both its absence and presence, lead to strict reinforcement and dressage, and implies a hierarchy subordinating the patient to the institution supposedly designed to serve them. In terms of rhythmanalysis, we can see the use of the catheter as intended to silence one of the bodily cyclical rhythms of the patient. But the symptom this leads to is cacophonous noise. Nurses will become increasingly exasperated, going from polite request to hostile shout as they reprimand the patient to leave the tube alone, to stay in bed, or to be quiet, compounded with appeals to the institutional setting to which they must conform: 'You are in the hospital', as the discipline of dressage escalates, perhaps evading Lefebvre's call to avoid brutality. The disruption of the cyclical rhythm of the body to a state of arrhythmia then issues a cascade of effects upon the linear rhythms of the ward.

But perhaps most revealing for the dominance of rhythms is how the bodily need of the patient, and the technology employed to enforce this, interrupts other rhythms of both the patient and of the larger ward rounds. Across our observations we witnessed patients interrupted to have these devices fitted as they spoke to loved ones, slept, or even ate meals, and for the patient to be reprimanded for not then settling back into the ward's rhythm, for refusing to go back to sleep, or for being scared of the meal that was just interrupted. At the same time the other rhythms of the ward, such as visiting hours, continue uninterrupted, overriding the patients' dignity as they lay exposed and in distress mere feet from other patients' visitors. The ritualised rhythms of social interaction and of dining are thrown into savage arrhythmia in this way.

Going to the toilet is an unusual thing to observe because it is something that would normally be hidden in wider society, with protections for dignity and modesty. We all have individual bodily rhythms for which we expect provision to be made. When workers (delivery drivers and warehouse staff are recent examples) are denied access to the toilet it becomes a news story framed around human rights (Webber, 2021). But this is not so for people living with dementia on hospital wards, and due to contagion, also not so for many of the older patients around them. The rhythms of the ward dictate that nurses and care staff can only take patients to the toilet when patterns of other work allow. A patient shouting for the toilet during a handover or a medication round becomes an arrhythmia, and the response prioritises the needs of the ward, the maintenance of a steady rhythm, over the dignity and needs of the patients. Technologies are employed to contain urine and faeces: bedpans and urine bottles for patients to use in bed, continence pads to allow for routinised toileting with timetabled checks, and catheters.

The arrhythmia of bodily need is pronounced as patients call out their needs and their distress, punctuating the routine chorus of beeps, phone calls and chatter to highlight a need people would otherwise keep quiet. The patients' noisy shouts are, in Lefebrve's sense, 'murmurs' with intense meaning. We again observe dressage, nurses protecting the ward's rhythm, rather than interrupting it to aid the patient. In the

previous example we see the woman trying to leave her chair, calling for help, only to be told she is wearing a pad and to 'go' where she is seated. We hear the man shouting 'nurse' being told to use the cardboard bottle on the tray table over his bed. This dressage turns the cyclical needs of the patient into an arrhythmia which then produces a new arrhythmia, managing bodily waste such as urine and faeces, which must be quickly dealt with. This means the harmony it introduces for the staff, when viewed from the perspective of the activity of the ward as a whole, is illusory. It is a metastable state, a state which appears stable but which is vulnerable to transformation to another state (Lefebvre, 2013: 1; Osborne et al., 2023).

The rigidity of ward rhythms are perhaps best observed through the lens of bodily need, an issue that a rhythmanalyst would be unlikely to observe in any other setting. The rhythms of the ward, the rounds, the observations and the times when staff take breaks or complete paperwork all mean that not only toileting but the time to clean up bodily excretions must also fit within the preestablished routines. Patients are expected to sit in soiled or wet pads until staff have the time to wash and change them. We observed patients living with dementia for whom the pad had failed, visibly covered in faeces while the person was confined to bed; pads frequently failed to fulfil their function of containing waste effectively, but the linear rhythms of the ward overshadowed this, as in the example below:

> 15:57 Patient 22's visitor comes out and speaks to the HCA at the nursing station. He explains to her that his dad has 'poo' and has spread it all over himself and his bed, has 'poo' all over his hands. The HCA acknowledges this but doesn't get up, instead she spends a few minutes finishing what she is doing, typing on a computer. She then gets up, puts on a pair of blue latex gloves in the corridor, and then goes on to another bay, continuing her routine, speaking to a nurse before going behind a curtain. The nurse carries dirty sheets down the corridor, passing the patient and visitor but not stopping.
>
> […]
>
> An agency nurse then goes on to the patient's bay 4 looking for empty beds but does not stop to help 22, just walks past the patient and the visitor: she is dealing with the visitor of another patient who is upset that their son has been put in a side room, which he won't like. A mental health nurse walks onto the bay and observes from the foot of the patient's bed, making notes before leaving. All of this plays out in front of the visitor, who looks incredulous that nobody is helping, he is pacing the floor in the corridor by the nurses' station.
>
> […]
>
> 16:05 The mental health nurse shouts to the HCA that she must come and assist her next. The visitor is still at the station and the patient remains soiled.
>
> […]
>
> 16:11 Two nurses come back from their break, immediately going about routines. The HCA leaves one bay with more dirty laundry, passing the visitor as he paces the corridor, watching the nurses chat and do other jobs while his dad waits for help. The HCA comes back and sits down at the station next to one of the nurses. 'Bed 22 needs to be changed, can't do it myself' [no urgency or description of condition] 'let me just ring the pharmacy first'. The HCA begins to type up notes at the computer again. The mental health nurse joins them, bringing an observation trolley over to scan and starts typing.
>
> […]
>
> 16:15 The HCA and the nurse are both still at the station, the nurse is on the phone and the HCA is still typing. The visitor has gone back to the bay, standing at the patient's bedside and then pacing the bay. No urgency, the nurse is sat waiting on hold to the pharmacy. A haematology consultant on rounds then approaches the nurse and asks about another patient. Nobody has responded to the visitor since he last raised the matter, he is stood staring at them from the bay door. A consultant then enters the bay but immediately goes behind the curtain of another bed. The nurse keeps talking to the pharmacist on the phone, it does not seem urgent.
>
> […]
>
> 16:19 The visitor approaches the station and again asks for help. The HCA is dismissive 'I can't do it on my own, I need my colleagues' [they are on a scheduled break]. The visitor snaps at this 'please, he has got poo on his hands, he has rubbed it in his hair and on his face'. The nurse turns in her chair and calmly asks him 'he has opened his bowels?' The visitor responds 'he has done a poo, we have been waiting ages'. The HCA responds defensively to the nurse, 'I couldn't do it on my own'. The nurse turns and speak to another nurse, arranging breaks and clerking patients, before finally getting up and going in to the bay, where they are stopped for the rounds of the mental health nurse and somebody asking about bloods.
>
> […]
>
> 16:24 – The patient is curtained, still whimpering, getting louder. Nobody talks to him.
>
> […]
>
> 16:37 Curtains are opened around the patient, the visitor is cleaning his face with a wipe, attempting to comfort and reassure him. The staff tidy away the dirty linen, and immediately go to the neighbouring bed, as the patient closes his eyes and leans himself against the sidebars of his bed. The soiled linen goes with the HCA at 16:40
>
> [Site 8, Day 30]

Even after a visitor notifies staff, the issue isn't immediately resolved, rather the patient has to wait for the rhythm of the ward to catch up. A patient may wait half an hour because the job is categorised as requiring two people, and the only other available person is on break, or doing another job. Meanwhile the member of staff aware of the problem will continue to do whatever their routine demands. Even on the second staff member's return, cleaning the soiled and visibly distressed patient is a job that is only addressed once the routine prioritised tasks are finished. Seeing another patient in a neighbouring bed given priority over a visibly soiled patient, and the distress and urgency of their visitor, were both powerful and dehumanising symptoms of the rhythms of the ward, and a demonstration of how the power of those that can control and conduct these rhythms is reflected in the levels of dignity afforded to different actors across the ward.

5. Conclusions

This paper shows how rhythmanalysis (Lefebvre, 2013) can be a useful and novel methodology to explore and understand hospital care. It allows the researcher to draw on yet move beyond classical ethnographies that have highlighted the contractions and contradictions of ward timetables (Roth, 1963), and contemporary tellings of how these timetables continue (Featherstone & Northcott, 2021). Through rhythmanalysis, we can explore phenomena beyond interaction and intervention, including intangible and harder-to-define aspects of the everyday that are crucial to the hospital experience, such as inactivity, distress, and violations of dignity. Rhythmanalysis is not simply a chance to observe and record, but a means to enact change, and as a means to observe the ward, allows us to show the indignities that timetabled care inadvertently creates.

Rhythmanalysis also provides the qualitative researcher with a means of analysis beyond coding and themes. For the ethnographer, much of what is observed is nothing. Hospital wards, and one would presume, most institutional settings, are frequently boring, field notes often written recordings of nothing happening and of time passing. By

analysing the rhythms of this time, this data is a means to understand the passing and resetting of the everyday, rather than data that would be otherwise excluded and set aside by a coding framework.

We set out to examine whether, and how, rhythmanalysis might be helpful to address the particular difficulties facing people living with dementia on hospital wards. The cases studied here of bodily need within the ward demonstrate how the multiple rhythms of the patient and of the ward interact and clash, giving rise to arrhythmias which may cascade, and which in turn produce attempts at dressage which often only give the appearance of restoring harmony, while in practice, worsening arrhythmias for both the patients and the staff.

Our brief analysis of bodily need demonstrates that rhythmanalysis enables us to discern the operation of multiple and separate rhythms, how they interact, and how an arrhythmia may be presented as *symptom*, as the *effect* of certain behaviour, but at once the *cause* of further arrhythmias (Lefebvre, 2013: 25), often in response to the attempts at dressage. We can also see the particular situation of the patient living with dementia on an acute hospital ward: the arrhythmias arise in various ways, not simply from the conditions of age and of illness, not simply from features of the condition of dementia, but from these *in conjunction with* the challenges of the ward's linear rhythms, timetables, and dressage. These include patients' frequent failures to understand verbally issued commands and instructions; attempts to resist the physical dressage of the ward (such as attempting to climb out over bedrails which have been raised precisely to prevent 'wandering'); and the interference in the expected cyclical rhythms of their own bodies and of their place in the social world. The catheter tube disrupts the body's own cyclical rhythm of sensation of urgency followed by emptying and relief. The arrhythmia this gives rise to magnifies with failure to understand the catheter's purpose for those with reduced ability to comprehend who, in response, have dressage increased via other technologies, such as raised side bars or sedation. The social rhythms and rites of our physical needs to eat and to excrete are also disrupted into a manifest arrhythmia as patients sitting in soiled or wet pads and bedding are expected to eat and to receive visitors while in such disarray. The confusion and distress this is likely to produce is itself an arrhythmia, unrecognised by the needs of the institution, and likely to produce looping and to magnify any confusion that a patient living with dementia may feel. Our analysis also shows the overall impact for the ward, as attempts at dressage which 'officially' restore the rhythms of the ward may in fact do the reverse.

We have considered arrhythmias as 'symptom, cause, and effect', and would suggest that Lefebvre's rhythmanalysis helpfully gives us the clue to think of all three of these at once, as building upon each other, and as seen in different ways from the perspective of different actors in a scenario. The collapsing of these distinctions may illuminate how the person with dementia is identified as the cause of discordant episodes on the wards, when initiating behaviour might more appropriately be seen as a symptom, and when the arrhythmias may be the effect of prior arrhythmia nested upon arrhythmia.

Examining the different rhythms involved, their interrelationships, the manifestation of arrhythmias and in response, dressage, we can see that arrhythmia in the case of patients living with dementia is not caused simplistically by their physical ill-health and their lack of cognitive capacities, but also by the technologies used (catheters, pads), the actions and verbal instructions of staff, for the convenience of the linear rhythms of the ward, that amounts to a form of dressage that not only fails for patients, but fails to work adequately for staff. Dressage so often in practice breaks down on the ward, the rhythms of dressage are themselves then disrupted, hence dressage itself adds to arrhythmia, despite the best and sincere efforts of staff.

The efforts of staff are not to be underplayed. The linear rhythms we discuss are typically 12-h shifts of hard work, staff on their feet, understaffed and managing and enduring their own dressage to ensure linear rhythms from higher in the institution. The cyclical rhythms of the staff, the children at home, the older relatives to be cared for, are also not present or discussed in these settings, erased by a self-enforced institutional dressage of discussing only the job in hand. As a result we found that staff were often shocked when challenged with notes of their own rhythms and routines, at once recognising the issues posed by these routines but also how their own busyness means they cannot observe them:

> 'The matron asks me what I really think of the ward and I mention how watching everyone in bed with the curtains closed, the boredom, the closed curtains, the pale green walls and the flickering strip lights got a bit much. She tells me she had never even noticed it because they are so busy [Site 11, Day 30]'

The practical responses from this analysis are firstly to highlight the existence of these rhythms to those that unconsciously enforce them. What is striking from the privileged position of observer (the ego discussed by Lefebvre (2013)) is how little the participant is aware of their own steps in the dance of the everyday ward. This is not borne from the ego of the researcher (which Lefebvre himself acknowledges), looking down from some hypothetical tower to observe the drones below, but instead from the everyday reality that we do not recognise our own routines, our own everyday practice. Rhythmanalysis of wards allows us to present a new understanding to practitioners, nurses and care staff of aspects of their work that they may not see in the day-to-day reality of 'doing care' but that they recognise when presented, and can understand the negative impact, of this strictly routinised care. From our own experiences, the ability to demonstrate how the rhythms of every day work can impact patients can be just as if not more effective than a new intervention, checklist, or strategy to be assimilated into the existing rhythms of everyday ward life. This forms the foundation of our ongoing training and engagement programs, including a community of practice, with nurses and ward managers, alongside our work with NHS Trusts and policy makers to understand how institutions can be better organised for those for whom they care.

While this paper has focussed on arrythmia, and the interruption to the rhythms of the everyday life in these wards, Lefebvre also speaks of harmony, of cyclical and linear polyrhythms working in time with one another. The authors hope to take this analysis outside of theory and into practice, promoting the benefit this harmony can have for both patient and practitioner. We have demonstrated in this paper the many common occasions when rhythms on the ward clash, and the real-world impacts this can have, but we must not overlook the opportunities that harmonising these rhythms can have:

> The man from bed 20 comes out of the toilet smiling. As they walk down the corridor, the one to one carer starts to dance next to him. He notices this and she starts to joke saying 'Shake, shake, shake' as she dances next to him, half walking, half twerking, him half strutting as best as he can. They start to talk about dancing, and have a misunderstanding about the term 'Dancehall'. He says he used to dance. She starts asking what type of dancing he did, asking if it was classical dancing. He says quickstep but she doesn't know what this is. Because he is deaf and she doesn't recognise quickstep and foxtrot the conversation becomes a bit confused. She starts talking about hip hop and R&B and he's never heard of these either. It's a funny conversation. They are both smiling and laughing at each other, although not sure either understands what the other is talking about, their references are too far apart, but they have found a bond in their awkward dancing. They start to talk about football. He, a Millwall fan, groans that she supports Arsenal, and they walk together back to his bed, him giving a very detailed report of how he got from home to the stadium each week. [Site 8, Day 11]

Further issues to consider in future research and analysis are how these rhythms affect non-patient actors within clinical settings, such as how these rhythms shape nursing practice, limit nurse agency and contribute to issues such as burnout. A further area for research would be to look at macro-level decisions and quantitative constraints and

targets around assessment, patient flow and event management, to see how these may shape rhythms within wards beyond their inattention, how this may create undue work for senior ward staff and nurses, and its own form of institutional dressage that may inadvertently shape the patient-based scenarios we have outlined in our data.

Our ongoing research will continue to examine this latter factor, drawing from a community of practice to observe if the act of discussing rhythms and ward routines to those that enforce them can be, in its own way, a form of alternative dressage. While the ward will always have a rhythm, by recognising it we can adapt wards and practice to better supports the diverse rhythms of patients living with dementia, those who cannot step to the rhythms of the ward as they currently play out. We will continue to use rhythmanalysis in our ongoing data collection, with a focus on using it to look at the poorly defined intangibles of ward life that are central to the organisation of care delivery and patient experience.

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CRediT authorship contribution statement

Andy Northcott: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Paula Boddington:** Writing – review & editing, Writing – original draft, Methodology, Funding acquisition, Formal analysis, Conceptualization. **Katie Featherstone:** Writing – review & editing, Project administration, Investigation, Funding acquisition.

Patient consent statement

All studies were coproduced with people living with dementia. Process consent was used when recruiting and collecting data from people living with dementia. If a person was considered to lack capacity they were not approached, or their participation in the study suspended or withdrawn. No observations took place behind curtains or screens and patients' dignity and privacy was prioritised at all times.

Ethics approval statement

All three studies were cleared by NHS Research Ethics Committees and the Health Research Authority [15/WA/0191 (June 26, 2015), 18/WA/0033 (September 05, 2018), 22/LO/0448, (July 15, 2022).

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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