

A review of the international evidence of the effectiveness of the use of CCTV in care home settings

A Rapid Evidence Assessment

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Summary Report



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Summary of the report

Overview of the report

The report begins with the rationale for this review which is in response to concerns regarding the quality of care and the potential for abuse in care home settings.

It then considers the range of technology used to monitor people within such settings, with particular reference to Closed Circuit Television (CCTV) based technology. The next section focuses on the complex ethical debates relevant to the use of monitoring technology in care home settings and the policies and guidance developed for the use of such technology in Northern Ireland and internationally.

The report then focuses on the rapid evidence assessment of the research on the effectiveness of the use of CCTV in care home settings for service users, carers/families and service providers. The methodology used to conduct the evidence assessment is presented followed by the key findings, including a table summarising all the included studies. The final section of the report considers the possible implications of the current debates and evidence for law, policy, service provision and practice in Northern Ireland.



**Context
of the
report**

The background for this report is largely due to the concerns raised about the quality of care and the potential for abuse in care home settings. These include at Winterbourne View Hospital in England, and more locally, Dunmurry Manor Care Home and Muckamore Abbey Hospital in Northern Ireland. In all three cases CCTV played an important role in recording potentially abusive behaviour by staff.

An important initial clarification is that concerns were not initiated by CCTV in these cases but it was used to explore concerns that had been identified by staff or family members. In the case of Muckamore, the CCTV recordings did then lead to the identification of other concerns.

It's also important to highlight from the start that there is a general acceptance of the importance of promoting the quality of care, and of preventing the abuse of people, in care home settings. This report focuses on the more complex question of how that can be best achieved for all people across all care home settings. In addressing this, the evidence of the effectiveness of CCTV is central and the main focus of the report but there are a range of overlapping issues which are also important to address including the range of technology, the ethical debates and the existing law, policy and guidance.

How is technology used to monitor people in care home settings?

CCTV is one of a wide range of technology used to monitor people in care home settings. Indeed its uses are varied and ranging (see main report for details). The Care Quality Commission (2018) has summarised the main categories of technology currently being used:



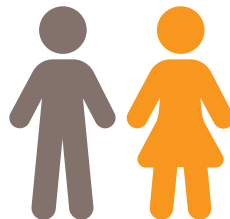
Telecare – including personal alarms that people wear or put in their home; sensors that can track activity and identify risks; memory aids



Telemonitoring – wearable, implants or in the home to monitor health such as: blood sugar, blood pressure, temperature, heart rate, breathing



Telemedicine or telehealth - phone or video contact between people and health and social care professionals and between professionals



Digital records - including: care plans, staff information



mHealth (or mobile health) including: apps, online patient communities, wearable technology to promote health

Overt and covert surveillance systems in communal/private settings



Automated triage technology – apps and devices that use algorithms





The ethical debates relevant to the use of CCTV are also important to consider. A useful frame for these debates has been proposed by John Chesterman (2017) Deputy Public Advocate for Victoria in Australia.

Adapted for the Northern Ireland context it asks how one would respond if the Department of Health proposed installing CCTV in your living room, kitchen, bathroom and bedroom with the aim of promoting your health and protecting you from harm. Chesterman surmises the instinctive response is likely to be negative.

Interestingly however, the initial instinctive response to the proposal that CCTV be used to try to prevent abuse of people in care home settings can be mixed or even positive. Some of the key ethical debates are therefore explored. These include:





What policies and guidance have been developed for the use of monitoring technology in care home settings?

There are already many existing policies and guidance relevant to the use of CCTV in care home settings and so important excerpts from these key documents are provided within. The general themes contained within existing policies and guidance include:

- (1) that CCTV should be for a specific purpose (to promote care/prevent abuse);
- (2) it is based on a comprehensive assessment;
- (3) there needs to be consultation with all involved;
- (4) issues of consent and capacity need to be addressed;
- (5) the relevant legal requirements need to be considered;
- (6) the associated need for training should be identified and;
- (7) the wider practical and operational issues also need to be considered.

Most current guidance mandates a process of carefully considering all the relevant issues before installing CCTV within care settings. However, the National Disability Authority (NDA) (2015) in Ireland have issued more specific *NDA advice on CCTV in residential settings*. It states that: "The National Disability Authority advises against the introduction of CCTV as practice in residential disability centres for the purpose of detecting or deterring abusive behaviour...The introduction of CCTV technology cannot be a substitute for tackling issues around culture, practice, and fundamental respect for the human rights of service users that should underpin disability services. People with disabilities say that what makes them feel safe is being treated with dignity and respect by staff, feeling included, being

supported to be independent and to advocate for themselves. Even with CCTV, abuse can take place off-camera or in private zones like bedrooms if there is a negative culture and a lack of respect. The introduction of CCTV would also raise serious issues around privacy, consent, and security and retention of recorded material. In practical terms, the volume of recorded material would make it very difficult and expensive to review even a sample." (p.1)

The Regulation and Quality Improvement Authority (2016)'s *Guidance on the use of Overt Closed Circuit Televisions (CCTV) for the Purpose of Surveillance in Regulated Establishments and Agencies* already provides comprehensive guidance on the relevant considerations. It includes:

- key principles;
- how the need for CCTV should be assessed;
- that data protection requirements for any footage;
- that covert and hidden cameras are beyond the scope of RQIA's guidance;
- the importance of staff awareness;
- the need for policies and procedures;
- the need for appropriate record keeping;
- the importance of suitable equipment; and
- the consent and capacity issues involved.

It also details the relevant wider legislative, regulatory and guidance context of the use of CCTV. The RQIA Guidance also specifies that CCTV should not be used in areas and rooms where service users normally receive personal care or where they could reasonably expect relative privacy.

Methodology for the rapid evidence assessment

The rapid evidence assessment for this report focused on the evidence for the effectiveness of the use of CCTV in care home settings. The methodology for a rapid evidence assessment involves a number of key stages which include:



"Surveillance

Technology is not something that should be applied collectively- for example, 'equip every room with a sensor and, while it is there, we might as well turn it on'.

Rather, technology should be suited and catered to each individual, with his or her specific needs."

(Niemeijer, 2011, p. 306)

"Many of the residents have dementia, so how do we ascertain if this is what they would want or not want? Does the family have the right to insist? The resident's dignity may be violated by their own family."

Staff member (Berridge, 2019, p. 57)

"The review has found no evidence that camera surveillance contributes to functional performance gains, increased independence or positive quality of life impacts. There is the possibility that surveillance may reduce costs associated with reduced staffing levels which may have a number of unintended consequences including reduced therapeutic touch and increased physical restraint."

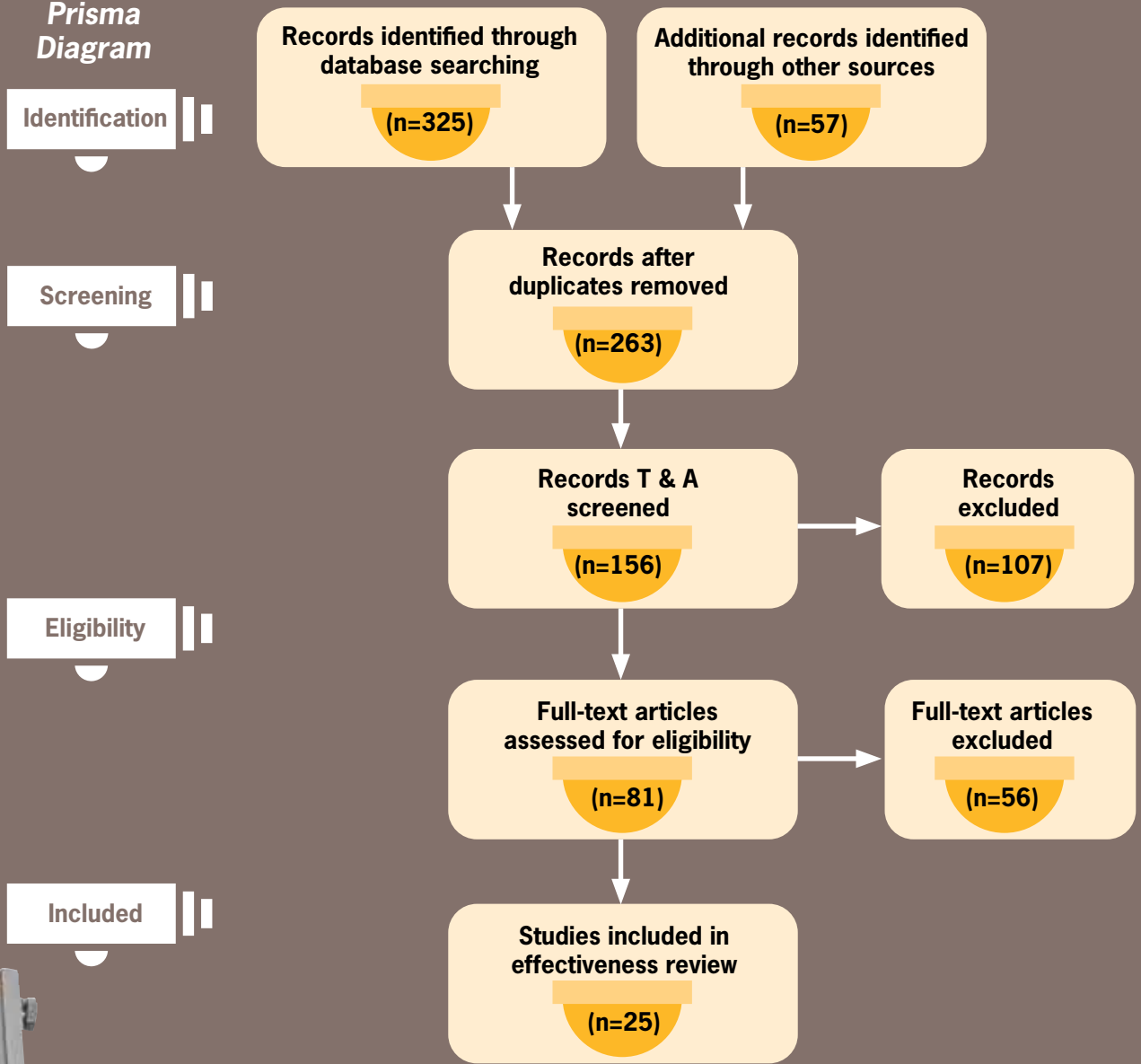
(Hayward, 2017, p. 129)

"You have to offer respect to staff. If these staff don't respect themselves and are devalued as human beings, then how can they deliver sensitive care?"

RCN professional lead for the care of older people Dawne Garrett (Duffin, 2014, p. 8)



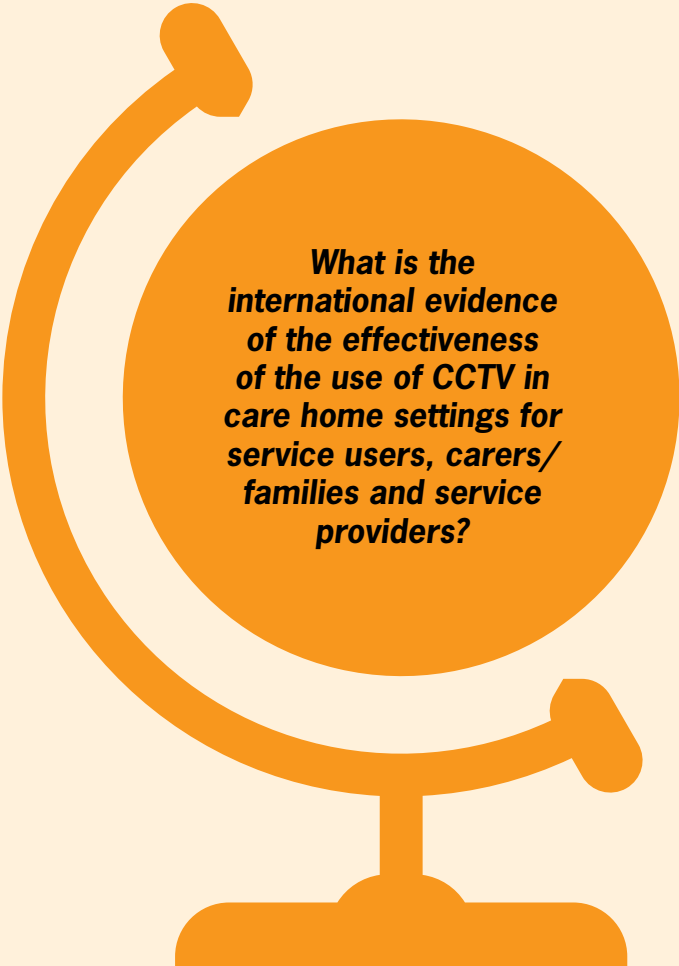
Prisma Diagram



“What does a better culture for relational care look like? ... empowerment of staff, resident-directed care and activities, decentralized decision making, and design of homelike living environments.”
(Berridge, 2019, p. 60)

“Installation of a camera recording the most private spaces is the very definition of institutionalization.”
(Berridge, 2019, p. 57)





What is the international evidence of the effectiveness of the use of CCTV in care home settings for service users, carers/families and service providers?



A total of 25 research studies were included in the effectiveness review (see Table 1). There were very few studies that actually tested the effectiveness of CCTV within care homes settings, however we included research that had general relevance to the ethical and practical use of monitoring technologies. This included so called 'Smart Home' technologies that can assist people to 'age in place' have types of monitoring often applied in residential care settings. As such, research evaluating alternative assisted technology that can reduce the need for CCTV was included and studies that have investigated attitudes towards surveillance within healthcare settings. One study considered the effectiveness of CCTV as a tool for solving crime, and another one study examined technology to monitor staff performance; both have relevance for the debate.

The majority of studies were qualitative in design (15), seven were quantitative and one study consisted of an economic cost-effectiveness analysis of two randomised control trials (RCTs) of healthcare monitoring. We also included a mixed-methods trial of a home monitoring system and a systematic review of camera surveillance in residential disability settings. Ten studies were based on UK research, others were conducted in Australia (2 studies), the Netherlands (5), Sweden (2), the USA and Canada (5 studies; 6 reports). Most of the research is fairly recent, and although our search strategy was confined to a period of last ten years, half of them had been published within the last five (2015-2019).

The quality of the studies was reasonably low; of the 23 empirical studies, only two employed an RCT methodology to assess 'smart home' technology and CCTV versus physical restraint in dementia patients. A PhD thesis from 2018 used a double RCT design to examine the cost-effectiveness of tele-monitoring and tele-healthcare in an English patient sample.

The studies almost exclusively looked at care of older people and people with dementia (n=23). One study concerned residential care of people with learning disabilities and another used CCTV technology to monitor residential inpatient treatment of adolescents. As one of the authors concludes, there is virtually no academic research on the efficacy or residual effects of cameras in care homes (Berridge, 2019).

Hayward's (2017) systematic review identified 43 papers and failed to establish any clear evidence of camera surveillance being effective in protecting the welfare of people with disabilities in residential care. He concluded that it was disliked by people with disabilities and was regarded with suspicion by staff. Functionality was limited and the ethical challenges associated with its deployment are considerable. It is expensive and difficult to trial and there is no evidence that camera surveillance increases functional performance, increases independence or improves quality of life. As with Welsh and Farrington's 2009 review of public area CCTV and crime prevention, the expectations of the use of CCTV often exceeded performance.

able 1 – Summary of Included Studies

Study/Country QR*	Methods	Population	Intervention	Summary	Quality Rating
Ashby 2017 UK	Quantitative Secondary data analysis	General population	CCTV footage captured by British Transport Police	CCTV significantly increased the chances of solving a crime except for covert crimes (e.g. drug/weapon carrying & fraud).	-
Berridge 2017 USA	Qualitative Semi-structured interviews	Older residents, family, tech & SW staff (independent living residence) (N = 41)	'QuietCare' passive monitoring system	Priorities of residents often different to those providing care. Threats to autonomy because of the alert system, fear of being watched. Use technology to reduce social isolation & make contact with staff. Very poor uptake (2%)	
Berridge 2019 USA	Quantitative Online survey	Healthcare professionals (N = 273)	Views of camera surveillance	Disadvantages outweigh the advantages. Undermines privacy, dignity & institutionalises care. Negative impact on staff – culture of mistrust. Culture change required to promote relational model of care.	+
Boström 2013 Sweden	Qualitative Focus group interviews	Older people (N = 5 focus groups)	Passive monitoring	Older people have ambivalent feelings towards technology – reduced their autonomy & control over their own lives.	-
Bradford 2018 Australia	Qualitative interviews	Older people (N = 8)	Smart Homes	Positive experiences – increased family communication & health autonomy.	-
Brown 2010 UK	Quantitative Survey	Home care workers (N = 266)	Technology for tracking staff	Increased impersonality of care & disillusionment with management.	+
Essén 2008 Sweden	Qualitative Interviews	Older people (N = 17)	Smart Homes	Care surveillance was seen as enabling – 'feeling cared for'.	-
Eyers 2013 UK	Qualitative Interviews	Older people care home residents (N = 14); care home staff (N = 13)	Passive monitoring	Relationship-based care supported by technology could improve older people's sleep in care homes.	+
Geertsema 2017 The Netherlands	Quantitative	Epilepsy patients in residential care	Development of an algorithm to help	Observation of CCTV data to develop a successful noncontact seizure detection algorithm in residential care for patients with predict seizures nocturnal convulsive epilepsy.	-
Gibson 2019 UK	Semi-structured qualitative interviews	People with dementia (N = 13); family carers (N = 26)	Smart Homes	Importance of habitual routines when introducing technology for people with dementia. Little knowledge or support available from healthcare professionals. Off the shelf products bought by family members often provided appropriate levels of support.	-

* Quality Rating (QR) - Each study was briefly assessed for quality and relevance to the review and scored as ++ (high quality and relevance); + (moderate quality and/or relevance) and – (low quality or relevance) and any specific quality issues considered.

Study/Country QR*	Methods	Population	Intervention	Summary	Quality Rating
Godwin 2012 UK	Qualitative Semi-structured interviews (N=27; N=9 triads (people with dementia, carers, professionals)	People with dementia, their family & professional carers (N = 4 residential care; N = 2 sheltered accommodation; N = 1 home with partner; N = 2 home alone)	Assistive technology	Evaluation of the equipment & the ethical decision making of the 3 groups involved. It the equipment is efficacious, it is ethical. Autonomy promoting devices were considered more ethical. More reservations about telecare. Developed an ethical checklist for professionals assessing possible use of AT.	+
Hall 2017, 2019 UK	Qualitative Embedded multiple case study (interviews, observation, case record review, other documentation)	Staff (N = 24) Residents (N = 9) Relatives (N = 9)	Passive monitoring	Residents & relatives not involved in the decision-making which limits understanding of technology. Mistrust between staff & management.	+
Hayward 2015 N/A	Systematic review	People with disabilities in residential care	Camera surveillance	No clear evidence of camera surveillance being effective in protecting the welfare of people with disabilities in residential care.	++
Henderson 2018 UK	Economic cost-benefit analysis of 2 RCTs	General population	Tele-health, Tele-monitoring	Did not improve self-reported QoL & other outcomes, nor reduce the cost of health & social care.	+
Hill 2012 USA	Qualitative Observation	Adolescent Residential Treatment for sexual abuse, trauma	Security staff video observation vs. overnight awake staff bedrooms during night-time	Security staff detected a total of 459 risky activities compared to 6 detected by overnight awake staff.	
Iedema 2010 Australia	Qualitative Observation	Hospital spinal unit	Video-based intervention	Video surveillance increased mutual benefits for clinicians & improved self-care & care for others.	-
Lie 2015 UK	Mixed methods evaluation of home monitoring technology	Older people interviews live field trials 1 (N = 24) and trial 2 (N= 43)	Home 'safety' passive monitoring	Pre- & post 6-12 week field trials. Infringement of privacy was a negative. Establishment of habits & norms engender feelings of safety & security. Other social network support systems reduce the need for monitoring & replacing social supports with technology negatively impacts on feelings of safety & security. System also relies on a willing 'monitor' to act as support. Importance of informed consent.	+
Mulvenna 2017 UK (NI)	Qualitative Workshops	People with dementia (N = 2) & dementia carers (N = 22)	N/A	Supportive of use of cameras in the home, workshop method could be useful for designing & implementing video solutions for dementia patients & their carers.	-

Study/Country QR*	Methods	Population	Intervention	Summary	Quality Rating
Niemeijer 2016 The Netherlands	Qualitative Ethnographic field study	Interviews with staff (N = 14) & interviews 340 hours of observation in a dementia care unit (N = 43 clients) & a residential care facility for ID (N = 42 clients)	Range of AT in use in both settings including DCET phones, movement & acoustic sensors, electronic surveillance, automatic bracelets, automatic doors. GPS tags & video surveillance	Technology might increase autonomy as it can open up new safe spaces to wander. Electronic bracelets offered some level of freedom however cameras were seen as inherently intrusive. Some wearable technology can be seen as stigmatising. Issues of consent also discussed. Supports person-centred approach, no one size fits all.	+
Robinovitch 2013 Canada	Qualitative Observation	Care home residents	Observation of CCTV footage of falls	Often falls were caused by poor ergonomic design, call for better housing & redesign of furniture.	-
te Boekhorst 2013 The Netherlands	Quantitative	Nursing home patients with tech (N = 170); with physical restraints (N = 22)	CCTV vs physical restraint	Multilevel longitudinal regression found that residents subject to surveillance had better QoL but when controlling for confounders this was not significant. Sample size too small to generate any conclusions.	-
Tomita 2007 USA	Quantitative RCT	Older people (N = 114)	Smart Homes	Some difficulties with technology but participants would recommend their use. Control group experienced some deterioration in their physical & cognitive health while the experimental group maintained theirs.	+
van der Lende 2016 The Netherlands	Quantitative	Residential care unit for individuals with refractory epilepsy & severe learning disabilities	Video monitoring, acoustic detection systems & bed motion sensors	Video monitoring particularly helpful for detection of tonic seizures, seizures late in the evening/early morning & facilitate detection of seizures requiring intervention. Costs are high, need for development of reliable seizure detection devices.	+
Wigg 2010 USA	Qualitative Observation	Dementia care facilities	Surveillance technologies	2 contrasting dementia care facilities. Wandering should be de-medicalised within facilities & seen as a therapeutic approach. Surveillance technologies could support this instead of secured locked doors etc.	-
Zwijnen 2012 The Netherlands	Qualitative Semi-structured interviews & focus groups	Care professionals from 7 seven dementia nursing homes (N =9)	Surveillance vs physical restraint	Dementia care professionals consider surveillance technology supplemental to physical restraints, rather than as an alternative.	+

Key themes in the available evidence

The key themes include:



The tension between the needs of residents, their family members and those providing care



Issues relevant to relationship-based care, cultural change and the institutionalisation of care settings



The potential for CCTV to improve care



The possible impact of creating a culture of mistrust, the negative impact on staff



Data security relevant to the recorded information



CCTV's uses in identifying and monitoring health behaviours



CCTV's uses as a crime solving tool



Issues of consent, capacity and best interests



The importance of consulting with all stakeholders



In the context of limited resources, cost effectiveness



Issues of accountability



What are the possible implications of the current debates and evidence for law, policy, service provision and practice in Northern Ireland?

Based on the rapid evidence assessment there is insufficient research evidence to support the proposal to use CCTV in care home settings. There are a range of complex debates involved which do also need to be considered and addressed but the available research evidence does not support its use. The report also highlights that the relevant legal issues (especially regarding covert surveillance) are also complex. If CCTV is proposed, as the current policies and guidance highlight, consultation, consent and best interests are central considerations. The practical and operational issues are also important.

References – please see the full report



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