

Factors influencing parents' decision-making when sending children with respiratory tract infections to nursery

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ABSTRACT

Background Many families rely on formal day care provision, which can be problematic when children are unwell. Attendance in these circumstances may impact on the transmission of infections in both day care and the wider community.

Methods Thirty-one semi-structured interviews were conducted to investigate how parents make decisions about nursery care when children are unwell. Topics for discussion included: illness attitudes, current practice during childhood illness and potential nursery policy changes that could affect decision-making.

Results A combination of illness perceptions and external factors affected decision-making. Parents: (i) considered the severity of respiratory and non-respiratory symptoms differently, and stated that while most other contagious illnesses required nursery exclusion, coughs/colds did not; (ii) said decisions were not solely based on nursery policy, but on practical challenges such as work absences, financial penalties and alternative care availability; (iii) identified modifiable nursery policy factors that could potentially help parents keep unwell children at home, potentially reducing transmission of infectious illness.

Conclusions Decision-making is a complex interaction between the child's illness, personal circumstance and nursery policy. Improving our understanding of the modifiable aspects of nursery policies and the extent to which these factors affect decision-making could inform the design and implementation of interventions to reduce the transmission of infectious illness and the associated burden on NHS services.

Keywords children, communicable diseases

Introduction

Health services internationally are under constant pressure from patients with infectious illness, particularly at the extremes of age. In the UK, respiratory tract infections (RTIs) are the most commonly managed problem by the National Health Service (NHS), particularly in children.¹ For example, two-thirds of all pre-school children visit their general practitioner (GP) annually for acute cough¹ at a cost to the NHS of around £31M.² Add to this the costs associated with other infectious illnesses and those of children presenting to other providers, including secondary care, and the NHS costs are considerable. Alongside this is the significant cost to carers and families² as well as the public health implications.

Children, especially in the pre-school age group, are known to be important contributors to the high community incidence of respiratory and other infectious illnesses in all age groups (including the elderly). This is illustrated by the reductions in infectious morbidity in both children^{3,4} and the elderly³ following the

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introduction of childhood pneumococcal vaccines. However, strategies to reduce the incidence and transmission of infectious illness cannot rely on vaccination programmes alone. Other public health interventions such as improving hand hygiene have also proven effective.⁵

Over 70% of children aged under 4 years in the UK are enrolled in formal day care,^{6,7} most commonly in nursery and childminder settings,⁸ and the pressures on working parents to send children even when 'borderline' or marginally unwell are high. Certain childhood behaviours, such as placing objects in the mouth, close contact with other children and a lack of hygiene awareness, can increase infection transmission in these settings.

Given the burden to primary care services of caring for this age group, in terms of both consulting rates and antibiotic prescribing, we have chosen to explore the mechanisms behind some illness transmission by investigating how decisions are made to send unwell children to day care.

Methods

This research was carried out using qualitative interviews as part of a larger mixed-methods study investigating parent decision-making and preferences for nursery-based care when children are unwell.

Participants

Parents of pre-school age children were identified through eight nurseries in Bristol, recruited via email to all those registered with the 'Office for Standards in Education, Children's Services and Skills' (OFSTED) within the local council area. The eight nurseries recruited varied in terms of sociodemographic location (informed through the Indices of Multiple Deprivation (IMD)) as well as the number of families registered and whether the establishment was privately or council funded. All families registered at each of the eight participating nurseries were provided with a study pack, including an invitation letter and an information sheet. A reply slip was returned to the researcher if interested, and direct contact then made to arrange an interview. A purposeful sampling strategy was employed to ensure that a range of parental characteristics were covered. These included sociodemographic status, employment status and hours of nursery provision used.

Data collection

Data were collected using semi-structured interviews conducted between October 2012 and February 2013. A flexible topic guide was used to ensure that the topics of interest were consistently covered across interviews. Topic guides covered

participants' current practices if their child(ren) are unwell and due to attend nursery, current alternative care options to nursery and their attitudes towards infections. A further purpose of this study was to identify possible factors that could affect parents' decision-making to quantitatively investigate these using a discrete choice experiment (to be reported separately). All interviews were digitally recorded and transcribed verbatim.

Data analysis

Data were coded thematically in an iterative manner using the framework approach.⁹ Initial readings of the transcripts were followed by line-by-line coding to identify recurrent themes, and NVivo software (V.9) was used to aid data management. Ten per cent of transcripts were independently coded by three researchers (F.C., L.R. and A.O.-S.) midway through data collection and any differences in coding or thematic interpretation resolved through discussion. Topics were grouped into 'main themes' and 'subthemes' and an individual matrix created for each main theme, with one row per interviewee and the relevant subthemes forming the columns. Once matrices were completed, descriptive accounts were written where core concepts emerging from the data were explicated in depth and relationships between themes were established through constantly revisiting the data.

Results

All parents with children registered at eight participating nurseries (characteristics presented in Table 1) were invited to participate in qualitative interviews. A total of 50 agreed, and we used a maximum diversity sampling strategy to select parents with a range of characteristics, including sociodemographic and employment statuses, number of children and number of hours of nursery provision used. After 31 interviews, it was judged that saturation of the data had been achieved (i.e. no new themes were arising in the data collected) and no further interviews were conducted. Apart from one conducted with a father, all interviews were conducted with mothers. Characteristics of those interviewed are shown in Table 2 (no data were available on non-responders).

The main themes reported here cover 'lay perceptions of RTIs', 'attitudes towards other parents' decisions', 'nursery sickness/exclusion policies', 'practical considerations and pressures to send children to nursery' and 'potential nursery policy changes that could affect decision-making'. Direct quotations are used to illustrate the findings, shown with participant number, age and employment status.

Table 1 Nursery characteristics (total $n = 8$)

	n
Type of nursery	
Private	5
Council	3
Number of families registered	
<40	2
40–80	2
80–120	2
>120	2
Index of Multiple Deprivation (IMD) category (nursery address) ^a	
1	2
2	2
3	3
4	1

^aIMD is based on postcode and divided into quartiles; 1 being the most affluent and 4 being the least affluent

Lay perceptions of RTIs

During discussion of symptoms that constituted an illness appropriate for taking time off nursery, there emerged a clear distinction between respiratory (e.g. coughs and colds) and non-respiratory symptoms (e.g. gastrointestinal). Decisions around sickness and diarrhoea appeared much easier and clearer than decisions relating to respiratory symptoms such as coughs and colds:

... with sickness and diarrhoea I wouldn't dream about sending him in ... it's not fair on him, it's not fair on [the nursery] either (P24; 37; not in paid work)

... the slightest cough and cold blends into a heavier cold, blends into the thing people describe as flu, blends into what is clearly properly debilitating type flu ... it's a continuum that we're talking about isn't it (P14, 47, part-time work)

Parents identified a potential 'grey area' between children being 'slightly off colour', but well enough to attend nursery, and being unwell enough to warrant exclusion, and it is this grey area where decision-making was difficult.

Probably if she was not eating very much and had a slight temperature but was still running around quite happily, then I would struggle ... but at the same time she still appears, to anybody that would look at her ... to be her normal self. (P22, 33, not in paid work)

Symptoms in this grey area included eating and sleeping patterns as well as a general demeanour different to normal,

Table 2 Parent characteristics (total $n = 31$)

	n
Gender of interviewee	
Female	30
Male	1
Mean age of interviewee (range)	34 years (26–47 years)
Number of children in family (mode)	2 (range: 1–5)
Number of children per household who attend nursery	
1	30
2	1
Mean age of child attending nursery (range)	2.5 years (9 months–4 years)
Marital status	
Married	21
Cohabiting	8
Single	2
Current employment status of interviewee	
Full-time working/full-time study	3
Part-time working	10
Self-employed	4
On maternity leave	5
Not in paid work	9
Household income (gross)	
<£10 000	1
£10 000–30 000	8
£30 000–50 000	14
>£50 000	7
Not given	1
Ethnicity	
White	31
Highest education qualification	
NVQ/vocational qualification	4
A level	3
First degree	15
Higher degree	7
Other ^a	3
Index of Multiple Deprivation (IMD) category (participant home address) ^b	
1	3
2	10
3	10
4	8

^aOther stated as 'DipHE' or 'HND'.

^bIMD is based on postcode and is divided into quartiles; 1 being the most affluent and 4 being the least affluent.

coughs/colds and elevated temperature. A combination of these factors made the 'send-to-nursery' decision difficult. However, single symptom was often not sufficient for parents

to keep their children home, and these were commonly in the respiratory category.

If it was just a runny nose, I wouldn't even look at it ... just clean his nose and carry on (P17, 29, full-time student)

I guess the borderline bit would be if his temperature was getting ... high ... and also ... if he's been kind of a bit dodgy with a cough ... then certainly ... we would probably think about whether or not to go in. (P28, 37, on maternity leave from full-time work)

On the whole, parents' reasoning for sending children to nursery with RTIs, in particular colds, fell into four groups: (i) that colds are highly prevalent, can be caught from anywhere and are not preventable; (ii) that adults with colds are still expected to attend work; (iii) that an individual can still function and carry out daily activities and (iv) that it is not something that can be treated, so should not affect daily life. A contradiction arose in the data however, with many parents stating that while they would not send their child to nursery with a contagious illness, coughs and colds were deemed acceptable despite an awareness of their contagious nature.

...[colds make you] not ill enough not to function, everybody's going to get them, you're going to get them wherever you go unless you seriously quarantine your child but they would have got it from somebody else by then anyway, whether it's from nursery or out and about, you can't prevent these things by avoiding them. (P13, 44, not in paid work)

... sort of contagious on a different level I think, contagious but don't really harm the child and they're going to get them anyway, you can get them from rubbing your hand on a shopping trolley ... but I think anything that's contagious that's actually going to cause a problem, you know like chicken pox can be quite nasty and it has such knock on effects for the child, isolation for however many days, weeks. (P23, 28, on maternity leave from part-time work)

Attitudes towards other parents' decisions

Those interviewed described an almost unwritten rule among parents about what is and is not acceptable. This was often linked with what would be problematic for their own children to come home with, which influenced whether they felt it acceptable to send them with that particular condition. As well as this, there was discussion around whether other parents make responsible decisions, given that there was a perception that children often catch illnesses from nurseries in the first place.

I would be annoyed if [daughter] came home from pre-school with an illness that she caught from somebody and

then she was unwell with it, I would be cross at that because whoever gave it to her shouldn't have sent their kid in (P4, 28, not in paid work)

Thoughts about the decisions others make were often related to the difficulties they themselves face; they imagined other families being in similar situations. There was therefore an appreciation that sometimes the 'best' decisions are not made, but that other issues affect the practicalities of keeping children at home.

It's really hard to put judgement on other parents I think because you don't know what their circumstances are ... actually if I really thought about it they're going to have the same pressures as me and I guess I just have to trust that if their child really couldn't be in nursery that they knew about they wouldn't keep them there. (P15, 31, full-time student)

Nursery sickness/exclusion policies

There was also discussion about the 'rules' surrounding respiratory illnesses in nursery. Parents reported that nurseries' sickness policies are vaguer on these symptoms/conditions in comparison with those linked with gastrointestinal illnesses, which came with clear timescales for exclusion.

I think they're quite sketchy because a lot of the policies that are out there do just really mention diarrhoea and sickness because they're the most contagious and if you had that going round a nursery you'd be in trouble. (P1, 31, on maternity leave from part-time work)

... [with] sickness and diarrhoea they won't take them for 48 hours after the last bout ... (P16, 33, part-time work)

In terms of the remaining content of nursery policies, some parents were very well versed about what is and is not acceptable (for example, regarding chicken pox). There was however often confusion and in some cases uncertainty around the content of the policies, and what conditions/symptoms would be subject to regulation or control.

Hand, foot and mouth they have to stay off until the spots have gone ... conjunctivitis they allow them in ... chicken pox ... they have to stay off until the spots have sort of scabbed over ... if they go on medication they have to be off for twenty-four hours to see if there's any reaction with the medication. (P16, 33, part-time work)

I think they probably say something like don't send them if they're unwell, but I'm not aware of whether it's anything specific with this, this and this, ... I don't know to be honest, I'm sure I've read not to send them if they're ill but I'm not sure if they've said what specific symptoms they would be. (P4, 28, not in paid work)

There was a definite sense from those interviewed that respiratory illnesses are not of concern to the nurseries and are not something that a child would be excluded for.

And because there are no firm boundaries that say 'I'm sorry if your child has got a bit of a cough they can't come', there's nothing firm written down saying you cannot send your child under this situation... so that automatically gives you permission to send your child if they're a bit unwell. (P1, 31, on maternity leave from part-time work)

Practical considerations and pressures to send children to nursery

The pressures parents reported facing relating to sending their children to nursery fell into three main categories: work issues, financial penalties and availability of alternative care.

Parents often stated that their decision-making around whether to send their child to nursery when ill was affected by work and finances, but there was an emotional burden attached to this. In some cases, feelings of guilt that such decisions came down to money or that they felt they needed to put work before their child.

... the main driver behind what childcare arrangements we make is to do with fitting it around work (P14, 46, part-time work)

at the end of the day it's such a hard impact on us if he doesn't go that really if he's borderline maybe then it does come down to the next thing that you think about that is the work, and the money implications to him being at home and not in the nursery. (P7, 26, full-time work)

Occupational pressures were deeply felt by working parents while those who were not working acknowledged the difficulties of managing unwell children when you have responsibilities at work as well.

... when it comes down to [it] I've got the luxury [of not working] I could say he's staying with me. It must be difficult if you didn't have that facility... I don't know what people would do... I think that would be awful. (P12, 29, not in paid work)

One of the key issues in relation to work was the perception of other colleagues' opinions about being absent to care for unwell children. This was particularly the case for part-time working parents. They often felt that since their working week was shorter anyway, time off due to child illness could mean being away for what would be considered a very long time.

... he was off for a couple of days with a sickness thing but because [at the time] I was working part time, I think that

rolled round so it seemed like a longer time that I was off from work... I was thinking what are they going to think if he's not better and can't go in [nursery] next week what are they going to think of me, like am I skiving off. (P15, 31, full-time student)

As well as this perceived attitude of others, there was a more pragmatic concern about the additional pressure placed on colleagues to cover absence, thereby potentially increasing others' workload.

I feel bad for my work colleagues because they've got to cover... it does make work harder for them... they [employers] don't like it when you phone up on the day and say you can't [work]... to have another person off is an inconvenience to them (P25, 33, part-time work)

The financial burden arising from child illness was a significant issue for parents in this sample. This included the issues about financial implications of not being at work, but also the advanced payment of nursery fees and no subsequent reimbursement if the child does not attend.

That is probably the worst thing ever, I can kind of to a certain point understand why they have to because of the short notice, it's all to do with ratios... if they've got the staff in they need to pay them... but at the end of the day, you know he was off all last week, so that's over £100 I've got to pay for nothing... just to throw away... most of the things that he's unwell with he gets from nursery and that's where it started from! (P7, 26, full-time work)

A further issue that parents discussed was that their options for childcare are limited and as such there is pressure to send children to nursery, because there is no straightforward alternative.

No, nothing at all. We haven't got any family here... I haven't got another plan, for example, a child minder or anything like that, we haven't got that. (P30, 36, part-time work)

... we've got both families in [local area], but everyone works full-time. So I mean on the odd day if someone had a day off, you know, you can go phoning around, but that's very rare because everyone works full-time now... [sister-in-law] has got two children and I wouldn't want to put my sick child onto her... she's got her own kids to look after and I wouldn't take a sick child around to other kids anyway (P6, 30, not in paid work)

It was evident that some parents felt a real dilemma when their children were marginally unwell with an RTI as to whether to send them to nursery or not.

... you kind of feel like you're damned if you do, you're damned if you don't really because if you make the wrong decision it's cost you a lot of money... you send them anyway you then feel guilty because the nursery's had to ring you and you shouldn't have sent them anyway so you just dread it when they get ill because you just think 'oh no' (P1, 31, on maternity leave from part-time work)

The pressures parents described can be seen in the visual representation/model shown in Fig. 1. This highlights the way these factors are interlinked with the decision parents face about sending their children to nursery with an RTI.

Potential nursery policy changes that could affect decision-making

Participants were asked about specific factors relating to overall nursery policy or procedures that could potentially alter their decision-making. For many, this naturally followed the discussion around the pressures to send their unwell children to nursery. This was particularly evident in relation to financial considerations.

... if they offer to do a discount [in fees] ... it might mean that people perhaps are happier not to send their kids (P4, 28, not in paid work)

... ideally you'd ... not have to pay at all, but if that wasn't possible then a proportion [refund] would be better than nothing (P7, 26, full-time work)

As well as a financial incentive to keep unwell children at home, there was a suggestion that being able to have flexibility with nursery provision would also be beneficial for some.

Say he was ill on the Monday and he was totally better by the Friday, but he doesn't normally go on a Friday ... I think some way of accessing other sessions ... would be an incentive to people (P8, 34, not in paid work)

There was an acknowledgement however that this was not a universal solution, because of scheduling of work and other activities throughout the week.

If you're a person that had work Monday-Wednesday and the children were in nursery Monday-Wednesday what are they [nursery] going to offer that isn't a day when you're at home? (P3, 42, part-time work)

Several parents discussed the sickness policy of their current or previous nursery and the stringency of the regulations affecting their decisions. This was often in particular reference to the use of paracetamol-based medication, usually to reduce the child's temperature.

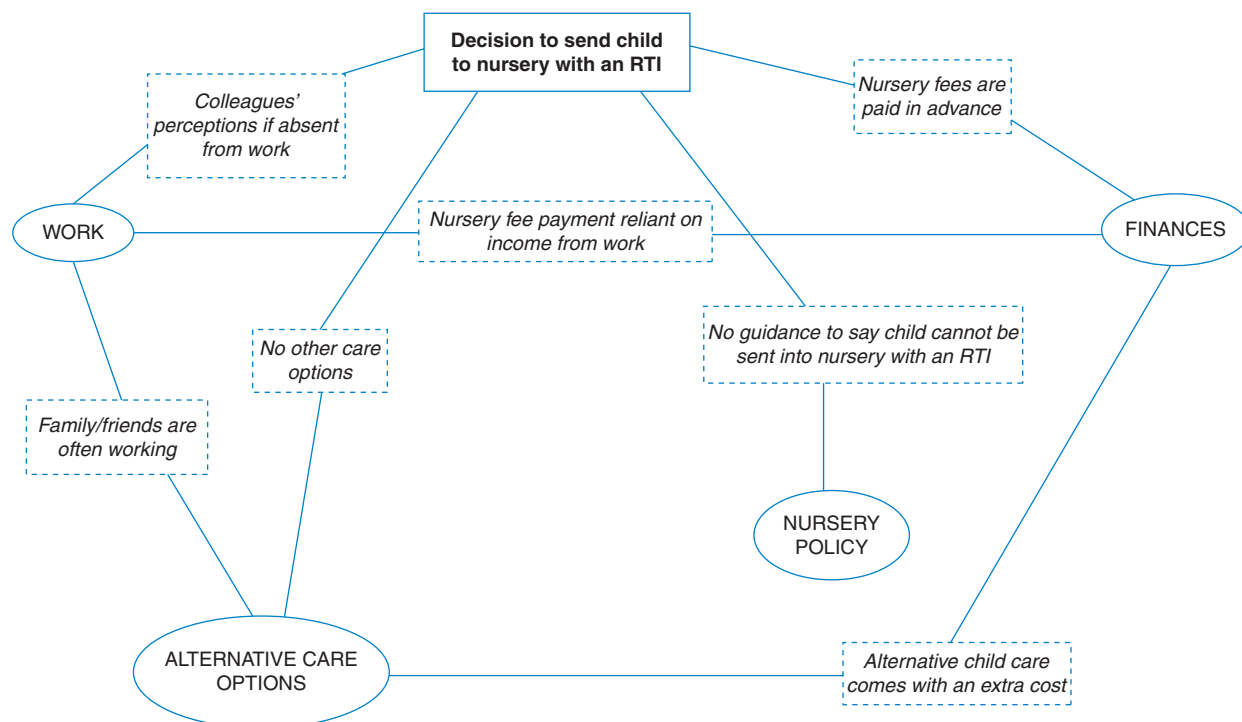


Fig. 1 Pressures affecting patients' decision to send children with RTIs to nursery.

... you mustn't send them with a temperature ... I'm sorry that just isn't realistic ... they [nursery] know the realities, that is why we send them, get the foot in the door, and then they're [child] in there and they've [nursery] got to manage it ... they don't take their temperature to come in anyway, if you give them Calpol [proprietary antipyretic] and they walk in [to nursery] they won't have a temperature - it is a bit sneaky (P3, 42 part-time work)

... they're pretty strict about it, if your child is ill enough to have been given Calpol, they're not allowed in. (P2, 39, part-time self-employed work)

Parents sometimes felt that a policy restricting access if the child had been given medication for this purpose was unnecessary and many stated (as illustrated above) that they had not been honest with the nursery if medication had been given. However, for others this was a policy that they abided by and what ultimately dictated the decision about whether to send their child in or not.

So I kind of take what they accept as how I define whether they go in or not ... [my view] matches what my nursery has got as their sort of guidelines. (P21, 29, part-time work)

Discussion

Main findings of the study

Parents taking part in this study report that nursery attendance decision-making is based on a combination of illness perceptions and external factors.

Parents considered respiratory symptoms to be different from other common childhood infections in terms of severity and the subsequent need for nursery exclusion. Contagious illnesses, such as gastroenteritis and chicken pox, were reported to require exclusion, but despite recognizing their transmissibility, respiratory illnesses including coughs and colds were not.

Nursery exclusion policies were reported to be vaguer regarding RTIs than other illnesses such as gastroenteritis. However, decisions were not only based on nursery policies, there was also an inter-relationship with parent factors. These were often practical difficulties that arise when children are unwell, including: financial penalties, work absences and difficulties finding alternative care (Fig. 1).

Parents identified potential modifiable nursery policy factors that could affect their decision-making including: fee reimbursement for non-attendance, flexibility with sessions and clearer specification of sickness policy entry criteria. These factors could reduce both the likelihood of parents sending their children to nursery when unwell and the subsequent spread of infectious illnesses. It appears that because

respiratory illnesses are perceived by parents to have less serious implications/consequences, external factors may play a significant role in decision-making.

What is already known on this topic

Previous work has considered parents' decision-making in relation to health service use for their pre-school-aged children, finding that knowledge regarding the symptoms for which consultations and antibiotics are required/appropriate is often misconceived.¹⁰ There is also evidence to suggest that children's RTIs are the most common cause for antibiotic prescriptions.¹¹ Research suggests that parents consult their GP for reassurance of their child's health, to appease their day care provider (to gain re-admittance following a period of illness exclusion) and in some cases with an expectation of receiving treatment.¹² Prior to our study and to our knowledge, there was little understanding of why parents send unwell children to day care.

Research has been conducted in the USA exploring the use of day care centres that operate exclusively for the care of mildly unwell children who have been temporarily excluded from regular day care settings.¹³ These centres could ease the difficulty and anxiety of working parents when children are mildly unwell, but still capable of being cared for away from the home. However, these settings have received criticism both in terms of the potential for children to contract further illnesses and also from parents regarding the unfamiliar carers and settings.¹²

What this study adds and limitations of the work

To our knowledge, this is the first study to investigate parents' decision-making in the context of sending unwell children to nursery. The use of qualitative methods to investigate the complex paradigm of decision-making has allowed us to elicit the important issues from parents' perspectives with minimal imposition of preconceived ideas. We selected interview participants from a range of geographical areas in the research location, allowing the views of a broad demographic of respondents to be heard.

However, we acknowledge that our maximum variation sample cannot be representative of the general parent population, and our study under-represented single parent families. Furthermore, illness perceptions may be affected by cultural beliefs,¹⁴ and we were unable to recruit non-white British and other ethnic minority parents. We cannot say therefore whether our findings extrapolate more widely.

Conclusions

This research has demonstrated that parents find the decision to send unwell children to nursery difficult. They are troubled

by the competing responsibility of the workplace and the needs of their unwell child. Parents state that nursery policies are often not clear on the existence or timescales for exclusions relating to RTIs, and there are modifiable day care factors that could alter parent decisions.

This study found that nursery illness exclusion criteria could be clearer, particularly regarding RTIs. Further research is needed to establish the stability of our findings in other ethnic groups. As well as this, to quantify the features and the impact of modifiable nursery policies on parent decision-making and also to establish the net benefits/harms in reducing RTI transmission in nurseries.

Health economic modelling could establish the cost-effectiveness of local authorities and employers providing greater support for the home care of unwell children through reduced health service provider costs.

Ethical approval

The study protocol and materials were reviewed and approved by the Faculty of Medicine and Dentistry Committee for Ethics at the University of Bristol, UK (reference number: 111235, approval received: 21/06/2012).

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