

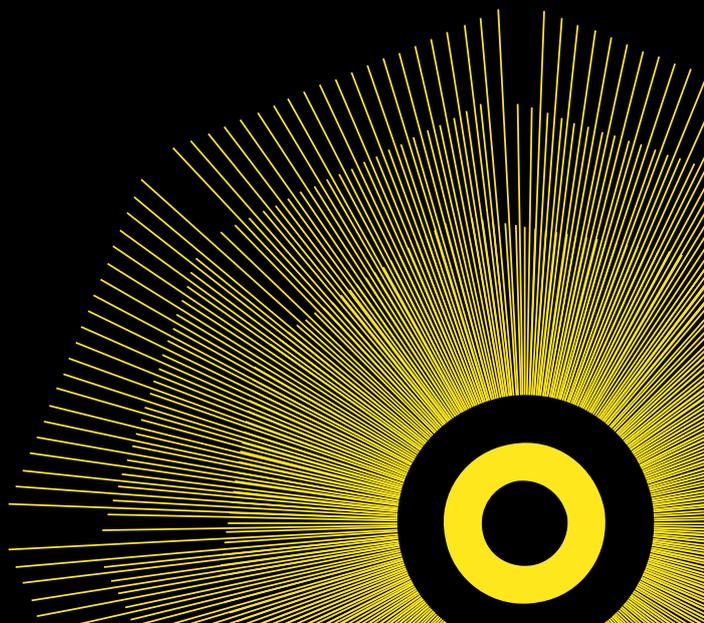
Shine 2012 final report

A clinico-ethical framework for
multidisciplinary review of medication in
nursing homes

Northumbria Healthcare NHS Foundation Trust

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The Health Foundation
Tel 020 7257 8000
www.health.org.uk



Part 1. Abstract

Project title: A clinico-ethical framework for multidisciplinary review of medication in nursing homes

Lead organisation: Northumbria Healthcare NHS Foundation Trust

Partner organisation: Age UK North Tyneside

Lead Clinician: Dr Wasim Baqir

“To describe the Shine project I would say it was the best thing ever that ever that came into a care home. It looks at the individual and encourages them to feel part of any decisions”

Care home manager

Medicines use in care homes has been identified as an area of concern by a recent Health Foundation and Age UK report (‘Making Care Safer’):

- Excess medicines (sometimes inappropriate)
- Lack of structured review of medicines
- Communication issues: many residents were unaware of what treatment they are on
- Long medication rounds and timing of rounds not resident-centred

Whilst there are clear guidelines for starting medicines; there is less guidance for stopping medicines. The issues can be summarised as:

- Prescribers face a number of ethical, legal and professional challenges when considering stopping medicines.
- Residents are usually not involved in decisions about medicines prescribed to them.

Our project proposes an innovative care home medication review service where residents and their families are involved in decisions about medicines. The project objectives are to undertake detailed care home medication reviews, questioning the appropriateness of prescribing and ensuring that all medicines prescribed have a clear and documented indication, are safe and clinically beneficial.

Clinical pharmacists undertook structured reviews in 20 care homes across North Tyneside using the resident’s clinical (primary care) and care home notes. The findings from the reviews were discussed within a multidisciplinary team (MDT). This project tested efficient ways of

running a MDT and concluded that the core members needed to be the pharmacist and the care home nurse. Four models of general practitioner (GP) involvement (from no GP to GP attending the MDT), and two models of resident involvement (after and during the MDT) were tested. Psychiatry of old age services (POAS) consultant and nurses had originally attended the MDT but it proved to be more efficient if they were referred patients who needed their support; 13% (58 patients) were referred via one of three pathways; advice only, existing patient follow up and new patient referral.

The final agreed outcomes (e.g. stop or start medicine) were documented in the resident's clinical notes by the pharmacist. All residents were monitored for adverse events following the intervention.

Resident involvement was a key part of this project and we developed a four level patient involvement framework as not all residents had the capacity to be involved in decisions about medicines:

1. Resident fully involved
2. Resident's family
3. Letter to resident's family
4. Advocacy

We showed 16% of residents had the capacity and wanted to be involved in decisions, with 39% having family members represent them. Letters were sent to 40% of residents' families as they did not or could not become involved in the review. For a minority of residents (4.5%) advocacy was required.

Qualitative data from the care homes suggests a demand and need for a project like this with care home staff raising concerns about the complexities of ordering large number of medicines, long and stressful medication rounds, lack of review and lack of resident and family involvement.

We reviewed 422 residents and made 1346 interventions, the majority of which were to stop medicines; 704 medicines (19.5%) from 3,602 medicines were stopped. The main reasons for stopping medicines were no current indication or residents' request to stop medicine. In 46 cases, medicines were stopped because of risk of harm to the patient. The net annualised savings (it was assumed that the patient would have taken the medicine for at least another year had it not been stopped) against the medicines budget were £77,703 or £184 per person reviewed. The cost of delivering the intervention was £32,670

(pharmacist, GP, POAS and care home nurse time) for 422 patients; for every £1 invested, £2.38 could be released from the medicines budget.

The most cost effective model was where there was no GP involvement, releasing £3.53 for £1 invested, compared to £2.54 for full GP involvement. The model where the GP was consulted after the MDT was the least efficient, releasing only £1.30 for every £1 invested. Efficiency was also improved in the medicines administration process after the review where, on average 1 hour of nursing time per day was released from the medicines round and reinvested into patient care. A downward trend in the number of medicines returned to community pharmacies for destruction was also seen.

In summary our Shine 2012 has shown that structured reviews where residents or their representatives are involved can improve quality and reduce costs.

Part 2. Quality impact: outcomes

Reviews were undertaken at 12 main care homes (fully reviewed) and 8 additional care homes (partially reviewed). The majority (n=15) were mixed nursing and residential homes, with 3 being residential and 2 nursing only.

Quantitative data were collected prospectively and entered onto our database at the end of each care home review. Our primary data sources were GP records, data collection forms (completed at the MDT), care home records (medicine administration record (MAR) and nursing notes. In some cases we requested hospital notes and POAS records. Having access to the MAR and medication lists from GP practices gave us an accurate picture of what medicines were being prescribed and administered to the resident. Changes resulting from the review are documented in triplicate: GP clinical notes, care home and our database. Data on medicines rounds pre- and post-Shine was collected from 8 care homes. Medicines waste data was collected from the community pharmacy supplying the homes; these data were date and quantity returned.

422 patients were reviewed from February 2013 to January 2014 across 20 care homes, working with 16 general practices. See Table 1 for project demographics. 1346 interventions were made in 382 residents (90.5%), with only 9.5% of residents not requiring any intervention (Figure 1). Most common intervention was to stop medicines (n=704 medicines) in 298 patients (70.6%). On average, 1.7 medicines were stopped for every resident reviewed (range 0 to 9 medicines; SD 1.7): 17.4% reduction in medicines prescribed (Table 2). Main reasons for stopping medicines were no current indication (57%) and resident not wanting to take the medicine after risks and benefits were explained (17%). Forty-one medicines (6%) were stopped because of safety concerns.

A patient involvement framework was developed so that all residents could be involved in decisions. Of the 382 residents needing an intervention, 352 were asked to be involved in decisions; 30 patients had other interventions (e.g. blood pressure monitoring) which did not require a shared decision about medicine management. Fifty-seven residents (16%) were fully involved in decisions about medicines (Figure 3). Families were involved for 137 residents (39%) and letters were sent to families of 141 (40%) residents. None of the interventions outlined in the letters were challenged by the families. Advocacy was needed for 16 (4.5%) residents.

“He explained things in layman terms. Pharmacist couldn’t tell us to take her (mum) off the medication but he told us the pros and the cons and it was our decision and at least we were able to make an informed decision from the information from the pharmacist”

Daughter of resident

The time taken to administer medicines was collected pre- and post-Shine review at eight similarly sized care homes. On average, 56.7 minutes per day or 6.6 hours per week of nursing was redirected from administration to resident care (Table 3).

Stopping, changing and starting medicines is not without risk; all residents were followed up. Furthermore, care home staff were encouraged to monitor for, and report, any adverse events. Nine patients (2.1%) experienced 9 adverse events (Table 4). All events were reversible and did not result in harm to the patient.

Resident, families, care home staff and professional views

Main themes from interviews with residents and families were perceptions of over prescribing, lack of understanding of the review process and having no involvement in decisions about medicines. Appendix 3 describes the methods, numbers and detail of themes and additional first person narrative feedback.

Shine reviews and the opportunity to be involved were valued by families. Care home staff highlighted medication administration rounds and lack of regular structured review as big concerns. Main benefits from the Shine reviews were seen to be resident involvement and reduction in medicines burden. GPs acknowledged they don't routinely involve patients in decisions and time was a barrier to detailed reviews. They felt Shine reviews improved relationships between themselves, patients and care homes and that involving patients was a positive move. GPs and care home staff valued the contribution of the pharmacist in the review process. Pharmacists and psychiatry of old age consultants valued the role that patients could play in their own health.

"As a manager I feel special to have been chosen for this project. I think it is beneficial and forward thinking to be involved in the research of medication for the elderly; this is often overlooked and not to the forefront either. I told anyone that would listen that we were part of the Shine project with pride"
Care home manager

"The project has encouraged me to change my way of thinking about medicines and has also allowed me to understand the importance of involving the patient/ relatives/ carer in medication-related decisions"
Clinical Pharmacist

"When we had the meeting with the pharmacist, what came to light was that she (mum) had not had a review for a long time. The amount of medication she was taken off after the meeting was incredible"
Daughter of resident

"Our drugs round had decreased by approximately 20%. It is less stressful for residents as they are not taking as much medication and are more compliant as they were part of the review process"
Care home nurse

Tables and Figures

Table 1 Project Demographics

N care homes	20 homes
N main care homes (patients)	12 (365)
N additional care homes (patients)	8 (57)
Nursing:Residential:Mixed	2:3:15
N general practices	16
Average n patients per main care home	30.4 patients
N patients reviewed	422 residents
Age	Ave 85.5y; Range 56y to 104y; StDev 7.9y
Sex	328 (77.7%) Female

Figure 1 Interventions made by the Shine MDT

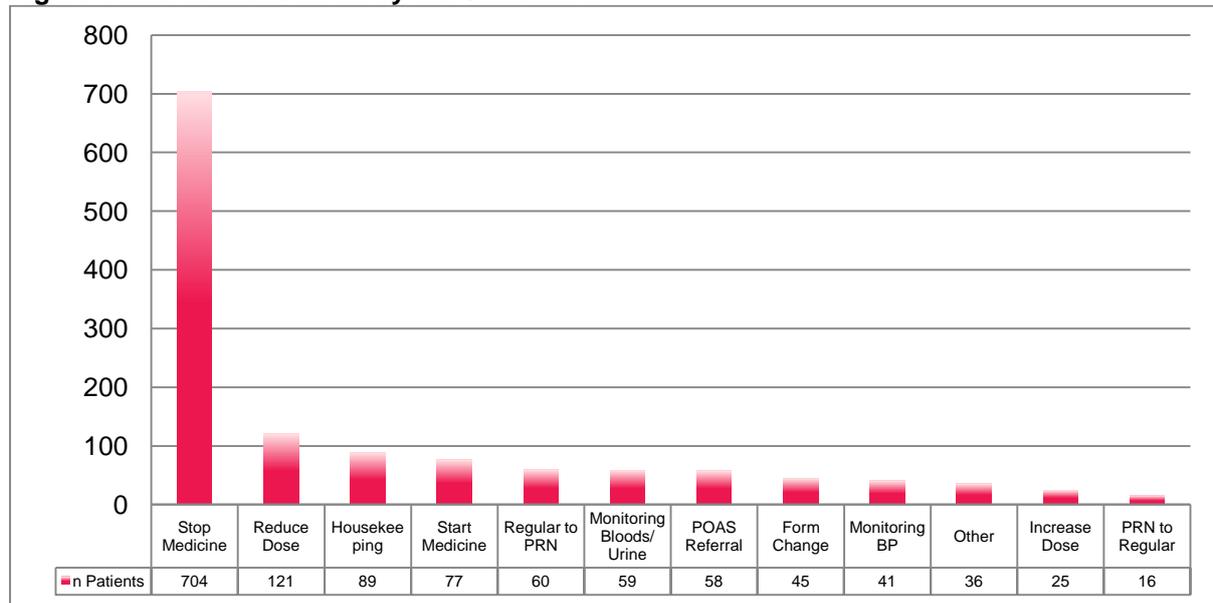


Table 2 Medicines Stopped Summary

N medicines stopped	704	17.4% reduction in medicines burden
N patients with medicine stopped	298 (70.6%)	
N medicines stopped per review	1.7 medicines stopped for every resident reviewed Range 0 to 9; SD 1.7	
Prior to reviews	3602 medicines Ave 8.6 medicines per resident SD 3.7 Range 0 to 24 per resident	
After reviews	2975 medicines Ave 7.1 medicines per resident SD 3.5 Range 0 to 21	

Figure 2 Reasons why medicines were stopped

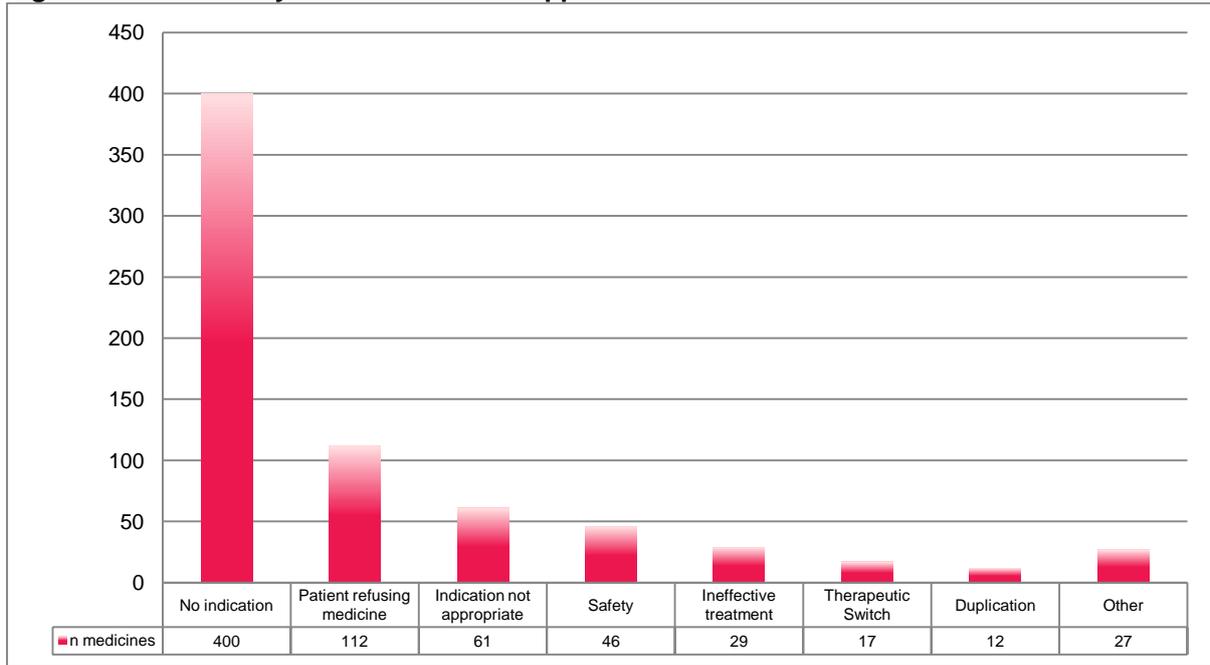


Figure 3 Patient Involvement Framework

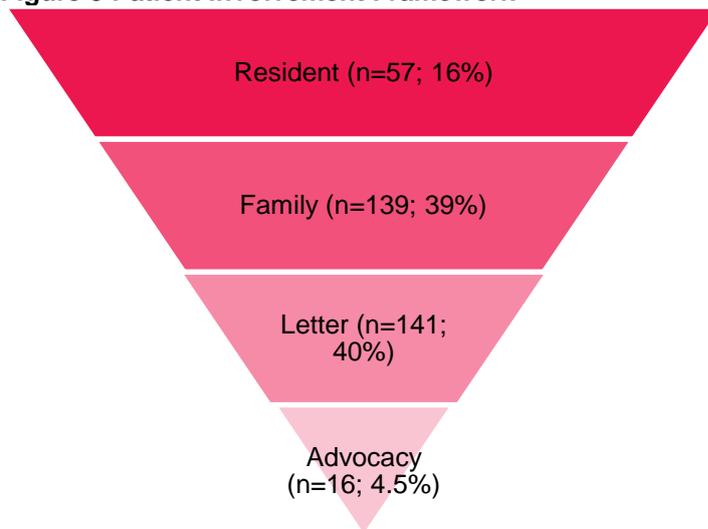


Table 3 Medicines administration round times (minutes)

Home	Morning Drug Round - Before	Morning Drug Round - After	Lunch Drug Round - Before	Lunch Drug Round - After	Evening Drug Round - Before	Evening Drug Round - After	Time Saved per day	Time Saved per Week
1	120	100	60	60	120	90	50	350
2	150	80	100	60	120	90	140	980
3	45	45	45	30	45	45	15	105
4	45	35	45	35	45	35	30	210
5	120	90	100	80	100	60	90	630
6	90	75	75	50	90	60	70	490
7	60	45	45	45	60	45	30	210
8	90	75	60	50	90	75	40	280
9	60	45	45	45	90	60	45	315
Total	780	590	575	455	760	560	510	3570
Ave	86.7	65.6	63.9	50.6	84.4	62.2	56.7 ~1 hour	396.7 6.6 hours

Table 4 Adverse events

Code	Event	Possible Cause	Action
44	BP increased to 158/80) from normal	Stopping bendroflumethiazide	Monitor but leave off amlodipine
92	Blood sugars rising	Stopping metformin	Increase insulin
99	GI - heartburn	Stopped omeprazole 6 months ago	Start lansoprazole
103	weepy and tearful	Stopping citalopram	Restarted
108	Swelling legs	Stopping Furosemide	Restarted but lower dose
109	UTI	Stopped prophylaxis trimethoprim	treated and restarted prophylaxis
137	Mood declined	Reducing mirtazapine	Increase dose
333	Twitching	Primidone reduced	Increase primidone back to normal dose
378	BP increased to 170/90 from normal	Amlodipine stopped because of leg swelling	Started another hypertensive

Part 3. Cost impact

The primary costs stem from delivering the service; and savings are associated with prescribing, changing and stopping medicines. Through several learning cycles we developed four models of working with general practitioners (GPs); a detailed breakdown of the economic aspects of each model is presented.

Service Delivery

The personnel involved in delivering our Shine project were the pharmacist, care home nurse, the GP, psychiatry of old age service (POAS) team (consultant and nurses) and the resident and/or their family or advocate. Figure 4 shows the process and models of service delivery (see Part 5 for further details). The average amount of clinical time for each professional involved in the MDT was recorded for each part of the process.

Pharmacist support

The cost of the pharmacist support was based on a NHS Agenda for Change band 8a clinical pharmacist (£60,000 p.a.). Pharmacists spent on average 67.7 minutes per patient for the whole process. This equates to a cost of £21,413 for pharmacists reviewing 422 patients. The actual amount of pharmacist time used in the project was higher due to non-clinical tasks (e.g. data collection) that would not be part of a commissioned service.

GP support

We did not ask for funding for GP support but recognise that it needs to be costed for a commissioned service. GPs spent on average 5.5 minutes per patient reviewed. At £221 per hour^[1], GP support cost £8,619. If GPs had been fully involved in the MDT for all 422 patients then the cost of GP support would have been £38,862.

Care home nurses

The cost of care home nurses is not met by the NHS but we have included their time for completeness. Care home nurses were only involved in the MDT and spent on average 10 minutes per patient. We understand that they may have undertaken other tasks (e.g. post-clinic monitoring) but these times were difficult to record or estimate. The cost of care home nursing support for the MDT was £1,998

POAS support

Early learning suggested that POAS being involved in the MDT was inefficient (see part 4). In our model, POAS support for the project is a modification of the existing referral and advice system that exists between primary care professionals and the POAS team. The Shine review process is a continuation of the existing mechanism with pharmacists performing the requests for input.

The cost of POAS support was provided by Northumbria Healthcare NHS Foundation Trust and not part of the Shine costs. 53 of the 422 residents (13%) required POAS input as follows:

- 9 POAS referrals for new POAS residents (2.1% of residents reviewed) would cost primary care £1140.^[1]

- 14 POAS referrals for existing POAS residents (3.3% of residents) would have no associated cost.
- 32 requests for POAS advice (7.6% of residents). Currently Northumbria Healthcare do not charge for telephone advice to GPs so there is no additional cost.

Financial Saving

We have data on savings made from changing, stopping or starting medicines during the reviews. The savings are annualised i.e. the assumption is made the resident will have remained on these medicines for one year from the review. Drug costs were taken from the Drug Tariff™ at the time of the review; we understand that drug prices may change over the course of the year but for the purposes of this calculation have assumed no change.

In the 422 residents reviewed, costs added owing to changing and starting medicines were £4,138 p.a. and costs saved owing to changing or stopping medicines were £81,840 p.a., resulting in a net saving of £77,702 or £184 for every resident reviewed (Figure 5).

Health economic evaluation of GP involvement

We had hoped for all reviews to have a GP at the MDT. However, we quickly learned that different general medical practices offered varying levels of GP support. We recognised and developed four models of GP involvement. Figure 4 (Part 3) shows the full review process.

- Model 0 – No involvement of the GP. Practice was happy for the pharmacist to lead the process. Interventions were recorded in the general practice electronic notes and GPs were given a chance to challenge the interventions. No interventions were challenged. In this model there were occasional situations where the pharmacist and GP discussed an intervention. Because of the ad hoc nature of these infrequent interactions, they were not costed into this analysis.
- Model 1 – the preferred model where the GP attends the MDT and decisions are jointly made with the care home nurse and pharmacist.
- Model 2 – all interventions were discussed after the pharmacist review and prior to the MDT.
- Model 3 – all interventions were discussed with the GP following the MDT but prior to resident involvement.

For this evaluation we used the total number of interventions made and number of interventions where medicines were stopped as a marker for quality. We also factored in the net savings from changing, stopping or starting medicines. Table 5 summarises the data.

Model 2 data should be interpreted with caution as only 21 patients were reviewed using this model. The number of interventions and medicines stopped were the lowest in Model 3. Models 0 and 1 had similar number of interventions and medicines stopped. The savings against the medicines budget were greatest for Model 1 (£234) and considerably lower for Model 3 (£101). In terms of service delivery, the cheapest intervention was Model 0 with no GP (£58 per resident) with full GP involvement costing the most (£92 per resident). Moving from Model 0 to

Model 1 would result in a 0.3 intervention per patient increase but would cost £34 per patient. Model 3 resulted in the least savings and fewest interventions.

For every £1 spent on service delivery (pharmacist, GP, care home nurse, POAS), the greatest savings are for Model 0 (£3.53 per patient) and the least for Model 3 (£1.30 per patient).

Medicines Waste

Limited data on medicines returned for destruction from the pharmacy supplying four care homes showed a downwards trend in medicines waste. There are data for one care home (CH1) 8 months post-review suggesting that reduction in waste is being sustained. Further data will be needed to validate this finding and whether this reduction in waste is sustained across all homes. Figures 6a and 6b show the number of packs and quantity (number of doses) returned in the month prior to the review and months post-review.

“I’ve seen a big reduction in the waste coming back from the care homes recently”

Community Pharmacy Technician

Confidence in measures

All medicines costs were calculated using the most recent Drug Tariff™ price to ensure accuracy. Savings figures make an assumption of 1 year of life expectancy. A 2011 study commissioned by BUPA highlighted that residents in their sample had only a 55% chance of surviving the first year after admission.^[2] However as the average length of stay was 801 days, and the overall savings from stopped medicines would continue for the life of that resident, we deemed the use of annualised savings to be reasonable. The data for pharmacist time and referrals to POAS have been obtained from the Trust finance department. Costs of GP hourly rates and referrals to POAS have been estimated from the PSSRU (Personal Social Services Research Unit) report from 2012.^[1] Data on medicines waste was not validated and further work is needed to ensure any impact on waste is replicated and sustained.

References

[1] Curtis L. Unit costs of Health and Social Care 2012. <http://www.pssru.ac.uk/project-pages/unit-costs/2012/> (last accessed 12th July 2013)

[2] Forder, J and Fernandez, J-L (2011) Length of stay in care homes, Report commissioned by BUPA Care Services, PSSRU Discussion Paper 2769, Canterbury: PSSRU

Tables and Figures

Figure 4 Models of service delivery

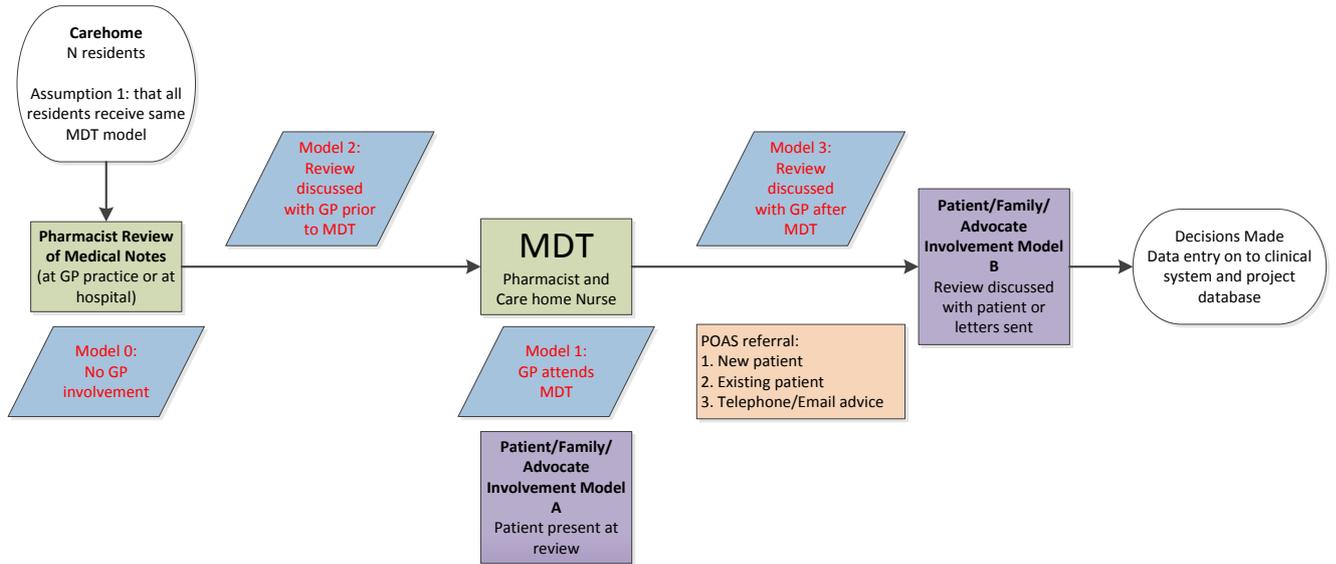


Figure 5 Costs of medicines changed, stopped and started

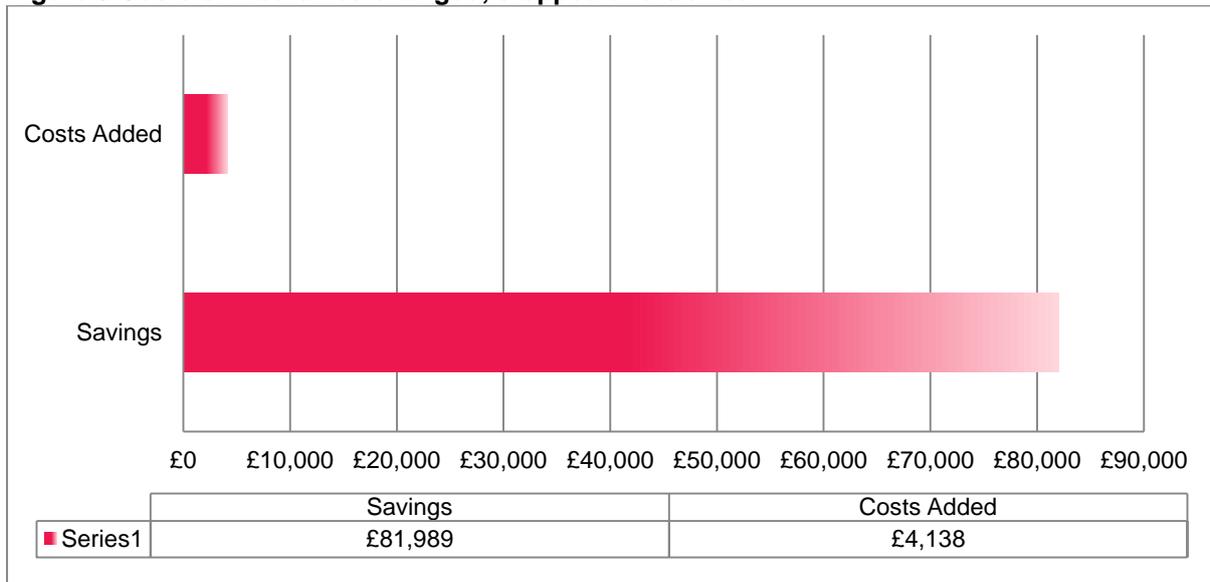


Table 5 Health economic evaluation

Models	0	1	2 ¹	3	Totals
n patients	115	160	21	126	422
Outputs					
Interventions	371	559	79	337	1346
Medicines stopped	198	307	51	148	704
Intervention/patient	3.2	3.5	3.8	2.7	3.2
Medicine stopped/patient	1.7	1.9	2.4	1.2	1.7
Net Saving (medicines)	£23,462.45	£37,414.27	£4,277.91	£12,697.23	£77,851.86
Net saving/patient	£204.02	£233.84	£203.71	£100.77	£184.48
Cost of delivering service²					
Pharmacist	£5,842.50	£7,867.50	£1,102.50	£6,600.00	£21,412.50
GP	£0.00	£5,930.17	£386.75	£2,302.08	£8,619.00
Care home Nurse	£325.83	£456.17	£59.50	£357.00	£1,198.50
POAS	£480.00	£480.00	£0.00	£480.00	£1,440.00
Total cost	£6,648.33	£14,733.83	£1,548.75	£9,739.08	£32,670.00
Cost per patient	£57.81	£92.09	£73.75	£77.29	£77.42
Summary					
For every £1 invested...	£3.53 saved	£2.54 saved	£2.76 saved	£1.30 saved	£2.38 saved

¹Only 21 patients in one home

²See part 3 for reference costs

Figure 6a Number of packs returned for destruction

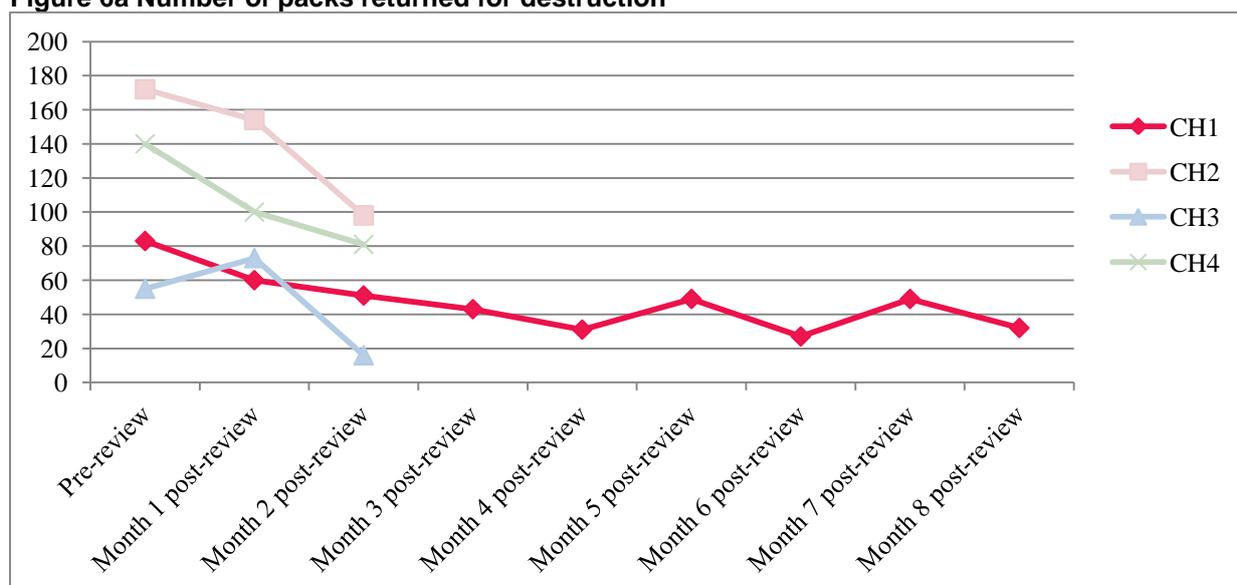
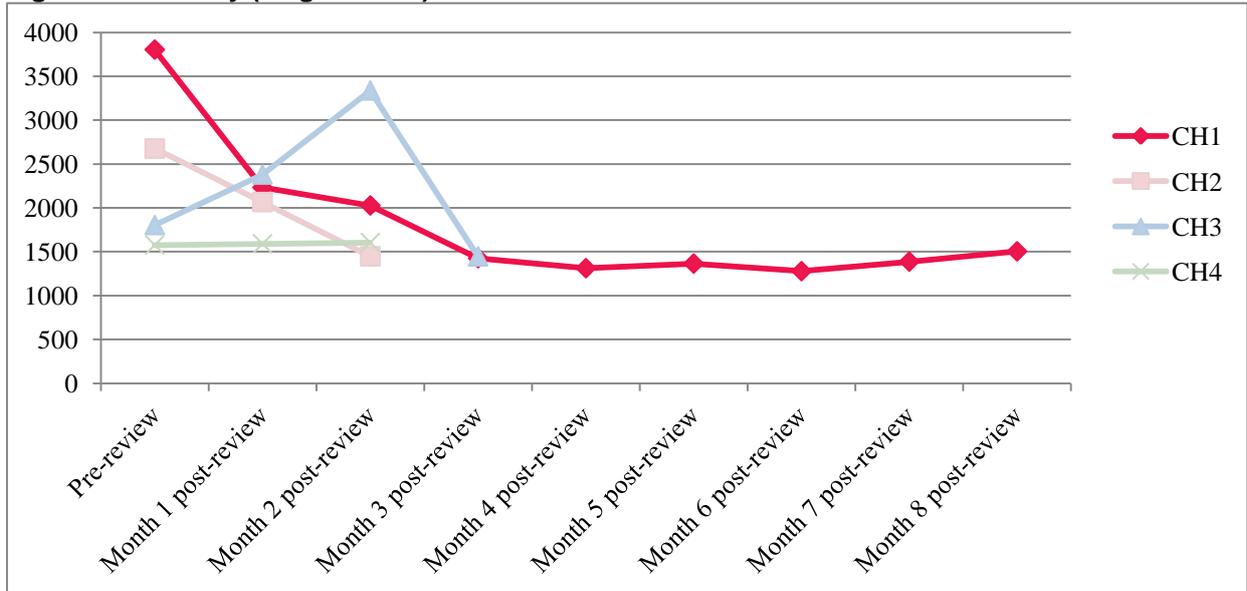


Figure 6b Quantity (single doses) returned for destruction



Part 4: Learning from your project

The aims and objectives set out in 2012 have been met. Our success has mainly been due to the excellent relationships our clinical and support team have made with the key stakeholders. Much of our success is put down to a targeted communications strategy ensuring maximum exposure of our project. Having a wide steering group ensured that all relevant professionals and patients were represented.

Furthermore, having the right team was also important. Our clinical pharmacists were experienced prescribers who were working at the cutting edge of clinical pharmacy, in many cases making autonomous decisions. The psychiatry consultant and team were fully dedicated to the project and had built in capacity to manage the additional workload that the project generated. Care home nurses and general practices were supportive and allowed full access to medical records.

A key measure of success was involvement of care home residents in decisions about medicines. We can report that in every patient where a decision had to be made, the resident or a representative were involved or had the opportunity to be involved (Part 2).

We assumed full capacity for all residents and only involved their families or other advocates if they lacked the capacity to make decisions. In cases where residents' families didn't wish to be involved, we wrote to them in lay language explaining the interventions. Shared decision making doesn't happen in care homes very often; our project alerted health professionals to the benefits of involving residents in decisions about medicines.

In one of the care homes later in the project we started to invite residents and their families to the MDT (n=13). This further added to the efficiency of the clinic and allowed residents/families to ask questions during the review.

"I think involving the family is a really good idea.....it is a positive thing to try and involve them"
General Practitioner

General Practitioner Support

Individual medical practices work differently with regard to care home reviews and we learned that our model of having the GP at the MDT would not work across all the practices we were planning to work with. Through consultation with lead GPs and practice managers we identified four models of GP involvement (described in Part 3: Cost Impact). One of the key concerns practices had was the capacity to release GPs to attend the MDT. However, our differential analysis of the models showed that GP involvement in the MDT resulted in the greatest interventions. Pharmacists reported that this was the best model in that shared decisions about treatment could be agreed using the expertise of the GP, pharmacist, care home nurse and the patient. Models 2 and 3 where GPs were involved before or after the MDT proved to be inefficient.

Psychiatry Support

The Psychiatry of Old Age Services team were initially involved in the MDT stage. After a review of the processes following the first couple of reviews it was decided that this was inefficient and a three level pathway for referring patients to the POAS team was developed:

- **Advice Only:** POAS consultant or nurses were contacted (telephone, face to face or email) for advice and the advice was acted upon by the pharmacist without further involvement of the POAS team.
- **Existing patients:** patients already under the care of the POAS team were highlighted to the team if there were concerns around medicines where urgent action was needed.
- **New patients:** patients who were not currently under the care of the POAS team but needed review.

Fifty-five patients (13%) were referred to POAS using one of three pathways: advice only (32 residents), existing patient (14 residents) and new referrals (9 residents).

"It is good that the facts show how successful the project has been, but we also know in terms of the human reactions. both of residents in care homes and also of staff and family, that the project to optimise medication has been well received and appreciated"

Psychiatry of Old Age Consultant

Part 5. Plans for sustainability and spread

We have successfully shown an economic benefit to structured medication reviews where residents are involved in decisions. We also understand that the benefits seen by this project will be short-lived if a service akin the Shine project is not maintained. We further believe that our process can be upscaled and used to improve care for care home residents across the United Kingdom.

The process that we have developed is also applicable to elderly patients who are not in care homes (e.g. sheltered housing or in their own homes) who have similar problems with inappropriate prescribing and lack of involvement.

Our dissemination plans are outlined in Table 6

Activities to date

We have been proactively promoting our project since December 2012. Some key highlights:

- In February 2012, Professor Hughes presented the project at a meeting of the North Tyneside CCGs Patient Forum.
- Working with the charity Care Alliance, Wasim Baqir, Aileen Beatty, Julian Hughes and Jo Mackintosh ran a 'knowledge café' with staff from care homes in North Tyneside.
- We have been keeping GPs and other interested parties updated of our progress with coverage in the Trust's newsletter and social media (Facebook and Twitter).
- We presented the Shine project at the RPS conference in September 2013, which is the UK's national Pharmacy conference.
- A report with early results (October 2013) was uploaded onto the Royal Pharmaceutical Society's Map of Evidence, a national repository of pharmacy quality improvement projects, audit and practice research.
<http://www.rpharms.com/support/map-of-evidence.asp>
- We were runners up in the Health Services Journal Efficiency Awards (September 2013)
- We won the national patient experience awards (PENN) (February 2014)
- We have been shortlisted for the Pharmacy Congress 2014 Awards; 'best innovation'. Results in April 2014.

Pharmacy Evidence Base

There is limited evidence for interventions led by pharmacists despite there being general acknowledgement that involving pharmacists in the medicines pathway improves care for patients and reduces costs. This project, once published will add to this evidence base and can potentially be an enabler for other pharmacy teams to commission related services for patients.

Table 6 Dissemination plans

Activity	Proposed timeline
Business case to North Tyneside Clinical Commissioning Group (CCG) to commission a service based on the Shine project model and learning	Business case submitted December 2013; awaiting decision
Submission to North Tyneside CCG and North East Commissioning Support Service QIPP programme	Submitted January 2014; awaiting decision
Discussions with neighbouring CCGs are already underway. We plan to share our learning with all 11 CCGs in the North East.	April to June 2014
Discussions with individual general medical practices. All GP practices will be emailed a copy of this report with a covering letter outlining how they can work with Northumbria to implement a service based on our learning.	Two practices have already started this service. Reports mailed out by end of April 2013
Submission to Health Foundation 'Widening Impact' funding call to disseminate the project locally and nationally. Work streams include: <ol style="list-style-type: none"> 1. Promotional video summary of the project 2. Showcase event in June 2014 3. Promotional leaflet and e-leaflet 4. Publication of clinical case studies from Shine project 	Submitted February 2014; awaiting decision
Northumbria GP Event: 'Excellence Through Collaboration' The Shine team will have a stand at this event offering practices or groups of GPs the opportunity to discuss commissioning a care home service for their patients.	Place confirmed at event on 20 th March 2014. Promotional information to be planned and printed prior to this
Register project with Royal Pharmaceutical Society Innovators' Forum. The forum's remit is to take local innovation and spread nationally through existing pharmacy structures (e.g. Pharmacy English Board).	The forum met in February 2014 and the project was presented there. Further details on how this project and others are spread nationally will come in due course
The findings of this project will be submitted to BMJ Quality and Safety for publication. Further publications on specific aspects of the project will also be considered for publication.	Paper planned in March 2014
Poster presentation at the International Forum on Quality and Safety in Healthcare, Paris	April 2014
Submission to the RPS Pharmaceutical Care Awards	Application opens March/April 2014
Patient Groups: Working with Age UK we plan disseminating our findings to key patient groups	May 2014
Care homes. Our findings will be sent to all care homes in North Tyneside and working with the Care Alliance we expect wider spread across the region	May 2014

Appendix 2: Resources from the project

Shared Decision Making Tools and Resources

We have used the following shared decision making tools and resources to help support residents and their families with decisions about starting, changing or stopping medicines.

- Cate's plots (happy faces): http://www.nntonline.net/visualrx/cates_plot/
- NHS Right Care: <http://www.rightcare.nhs.uk/index.php/shared-decision-making/>
- Health Foundation's MAGIC programme: <http://www.health.org.uk/areas-of-work/programmes/shared-decision-making/>
 - Dr Dave Thomson (Collingwood Surgery) kindly shared the tools developed locally for MAGIC
- Health Foundation Patient Centred Care: <http://www.health.org.uk/publications/implementing-shared-decision-making-in-the-uk/>
- The Kings Fund: <http://www.kingsfund.org.uk/publications/making-shared-decision-making-reality>
- STOPP/START toolkit supporting medication review: <http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf>
- UKMI/PrescQIPP Optimising Safe and Appropriate Medicines Use: <http://www.prescqipp.info/08-sa-meds-use/viewcategory/26>

Data collection

The data collection form was developed and rapidly tested; The final version 4 is shown Figure 7. Data from this proforma were entered into a locally developed database (MS Access).

Electronic versions (MS Word) of this form and the database are freely available from wasim.baqir@nhs.net.

Communications and media coverage

We have worked closely with the Trust's Communications team to develop a communications strategy for this project. The project has had coverage in the medical and conventional press.



FOR HEALTHCARE LEADERS
HSJ
HEALTH SERVICE JOURNAL

ALASTAIR MCLELLAN
NHS innovators get their due reward
HSJJOBS.COM

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Northumbria Healthcare launches care home medication project

30 JANUARY, 2013

PERFORMANCE: Northumbria Healthcare Foundation Trust has launched a team to review use of medication in care homes.

<http://www.hsj.co.uk/hsj-local/acute-trusts/northumbria-healthcare-nhs-foundation-trust/northumbria-healthcare-launches-care-home-medication-project/5054032.article#>



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Citation *The Pharmaceutical Journal* 2013;290:78

Pharmacy projects benefit from Health Foundation funding

Thu, 24/01/2013 - 10:40
By News team

Three multidisciplinary healthcare projects with core pharmacy involvement have won funding from The Health Foundation as part of its 2013-14 Shine programme.

Each project team will receive £75,000 and a package of support to develop and test their healthcare proposal over the next 15 months. They are among 30 teams to have been selected out of more than 250 applicants for a place on this year's Shine programme, which supports the testing of innovative ideas for improving patient safety and the quality of healthcare.

http://www.pjonline.com/news/pharmacy_projects_benefit_from_health_foundation_funding



The Journal

HOME NEWS SPORT CULTURE BUSINESS IN YOUR AREA BUY

Hot Topic: Regional Affairs - Education - Tourism - Transport - Crime

J » News » North East News

By Helen Rae | Comments | 25 Jan 2013 00:00

Region's care home residents feel better as pills cut

A NEW project has been launched to improve the way that elderly people living in care homes receive their medication.

<http://www.journallive.co.uk/north-east-news/todays-news/2013/01/25/region-s-care-home-residents-feel-better-as-pills-cut-61634-32679032/>

News Guardian
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LOCAL BUSINESS WINDOW ON WESTMINSTER NORTH EAST NEWS NATIONAL

Reduction of unnecessary medication

A PROJECT is helping ensure elderly people in care homes are taking the most effective combinations of medication.

And as part of the scheme by Northumbria Healthcare [NHS Foundation Trust](#), the residents are also being involved in decisions about their care.

A team of various healthcare professionals – including a psychiatry of old age consultant, a pharmacist, the local GP and care home nurses – will work with residents and their families to review medication and make joint decisions about any changes.

<http://www.newsguardian.co.uk/news/local/reduction-of-unnecessary-medication-1-5398945>

THE JOURNAL Friday, January 25, 2013

Care home residents feel better as pills cut

Project reviewed all prescriptions

Helen Rae Health Reporter
 0191 231 4249
 h.rae@nhs.uk

A NEW project has been launched to improve the way that elderly people living in care homes receive their medication.

Northumbria Healthcare NHS Foundation Trust is introducing a scheme, which will help make sure older people are taking the most effective combinations of drugs.

A team of professionals, including a psychiatry of old age consultant, a pharmacist (P) and nurses will work with care home residents and their families to review the medicines they are taking and make decisions about any changes.

The start is the first in the region to launch the scheme, and one of only 30 organisations nationally to be awarded funding by the Health Foundation as part of its Shine programme.

Walter Rapp, research and development pharmacist at Northumbria Healthcare NHS Foundation Trust, is leading the £25,000 project and believes it will boost patient care.

He said: "Many older people take a large number of medicines, often prescribed over a number of years.

"While these medicines may have been the most appropriate at the time they were initially prescribed, I saw first-hand how our residents improved as they were no longer on medication they didn't need."



The Journal, January 2013

Blog for the Health Foundation (October 2014)

Home > Blog (2) comments

Improving medicine prescribing in care homes

Wasim Baqir - 08 October 2013

★★★★★ (11 ratings)

Rate this blog post

Many older people take a large number of medicines, but those who use the services of care homes often have little say over what medications they are taking. Sometimes they're prescribed medicines that are no longer needed, or may even cause harm, and medicines are often prescribed without regular review.

At Northumbria Healthcare NHS Foundation Trust, we've been working on a project to develop a medication review process that allows patients in care homes, and their family or carers, to be fully involved in decisions about their medicines.

The project is being funded by the Health Foundation's [Shine programme](#). We wanted to use the funding to 'pump prime' our project – pilot data had already suggested that stopping unnecessary prescriptions could make significant savings from the drugs budget. Our idea was to start and then use the savings to sustain it

<http://www.health.org.uk/blog/improving-medicine-prescribing-in-care-homes/>

Communications with local stakeholders (e.g. CCGs, General Practice and care homes)

Locally, we have been keeping GPs and other interested parties updated of our progress with coverage in the Trust's newsletter, social media (LinkedIn, Facebook and Twitter).

Continuing to improve medicines management in care homes

April 15th 2013

A little while ago we launched a project to work with you to undertake a review of the medication of residents in care homes in North Tyneside.

The project involves a multidisciplinary team including psychiatry of old age consultants, pharmacists, the patient's own GP and care home nurses. They work with care home residents and their families to review the medication they are currently taking and make joint decisions about any changes.

This follows on from a pilot that we carried out with a local GP where we reviewed the medication of every resident in a North Tyneside care home, at the request of the home. The results were very successful, with a 30% decrease in prescriptions and residents livelier and eating and drinking more as they were no longer on unnecessary medication.

Since the launch we have identified 12 care homes to be involved in the project and those of you in practices linked to those homes should have now met with our project manager.

<http://gp.northumbria.nhs.uk/news/page/2#>

Shine project shortlisted for HSJ award



The Shine project, which aims to improve medicines management in care homes, has been shortlisted in the HSJ awards in the efficiency in medicines management category.

As you may know, the project involves reviewing the medication of residents in care homes in North Tyneside.

Trust's GP newsletter. July 2013

A clinico-ethical framework for multidisciplinary review of medication in nursing homes

Interim Results

Excess medicines (sometimes inappropriate)

Communication issues: most patients were unaware of what treatment they were on



Lack of structured review

Long medication rounds and timing not patient-centred

Progress to date

91 patients reviewed

- 300 interventions
- 62 patients (68%) ≥1 med stopped
- 28 patients (31%) referred to POAS

Service costs funded by Shine include Clinical Pharmacist support (0.5WTE; approx £32,000 p.a.). Other costs (e.g. POAS, GP time) to be determined

Annualised savings from stopping 142 & starting 16 medicines
£15,368
 £169 per patient reviewed

For every £1 of pharmacy resource...
 ...£6 was saved

Our objectives

Optimise medicines use in care home residents...
 ...ensuring that residents or their family are fully involved in any decisions about starting and stopping medicines

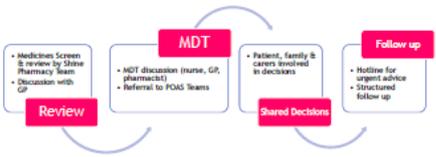
For every two patients reviewed...
 ...one had at least one medicine stopped



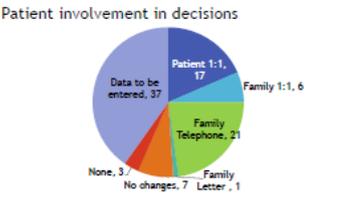
Qualitative data being collected from key stakeholders, patients and families

Having done the SHINE I think it is an excellent model. It really made me think, involving the family is a really good idea. I suspect a lot of them don't mind the changes you have made but it is very positive to have them involved. I think it helped to improve the relationships with the care home.

Methods



For every 5 medicines reviewed...
 ...one was stopped



Next steps

- Continue review; target 326 patients in 12 care homes
- Detailed qualitative data
- Commission service, post-Shine

Our Team

Wasim Baqir, Julian Hughes, Peter Derrington, Nisha Desai, Steven Barrett, Jo Mackintosh, Yvonne Storey, Joan Lowerson, Aileen Beatty, Richard Copeland, Jane Riddle, David Campbell, Annie Laverty, Sandra Gray.
 Contact: wasim.baqir@nhs.net | 07872326004051



Infographic sent out to GP practices and other key stakeholders in June 2013

Early success for SHINE project

Improving medicines management for older people

For the last eight months the pharmacy, Psychiatry of Old Age and patient experience services at the trust have been leading the way on a project that will help ensure older people living in care homes are taking the most effective combinations of medication and directly involving them in decisions about their care.

A team of various healthcare professionals including a psychiatry of old age consultant, a pharmacist, the local GP and care home nurses, work with care home residents and their families to review the medication they are currently taking and make joint decisions about any changes.

Wasim Baqir, research and development pharmacist at the trust is managing the project. He said: "Many older people take a large number of medicines, often prescribed over a number of years.

"While these medicines may have been the most appropriate at the time they were initially prescribed, without regular review they may end up taking medicines that they no longer need.

"This may be because their current condition means the medication isn't doing the job it used to.

"To date we have reviewed 160 patients and stopped almost 267 unnecessary and inappropriate medications saving almost £40,000. Residents and families have valued being involved in decisions and being given the information to support those decisions."

Families understood the importance of being involved as one commented:

"There is no point people being on things unnecessarily. You don't need to be on them - why be on them?"

GPs have fully supported the project and enjoyed being involved – they said:

"I thought the whole thing was really worth while and it helped improve relations with the care home."

"Having been involved I think SHINE is an excellent model. It really made me think, involving the family is a really good idea. I suspect a lot of them don't mind the changes you have made but it is very positive to have them involved.

"I also think it helped to improve the relationships with the care home."

We are the only trust in the region, and one of only 30 organisations nationally, to be awarded national funding by The Health Foundation as part of its SHINE programme.

This funding allows organisations to test innovative ideas which aim to improve the quality of healthcare.

For more information about the SHINE project contact Wasim on wasim.baqir@nhs.net

Steven Barrett, senior clinical pharmacist (right), reviewing medication with staff at the Chester Court Care Home in Bedlington.



Staff magazine Autumn 2013

Selected tweets from @NHCTPharmacy

Retweeted by Claire Riley and 2 others
Health Foundation @HealthFdn · Feb 5
 Congrats @NHCTPharmacy #THFShine project on @PENNAwards win! RT @NHCTPharmacy @NorthumbriaNHS @HealthFdn #THFShine pic.twitter.com/93ad6ami25



Home > News and events > Email newsletter

Retweeted by Northumbria Pharmacy
AKD Team @akdtraining · Feb 5
 Well done Northumbria Health Care in the personalisation category #winner #pennawards @junehamp pic.twitter.com/qJPaeQswr



Northumbria: focusing on the patient's perspective

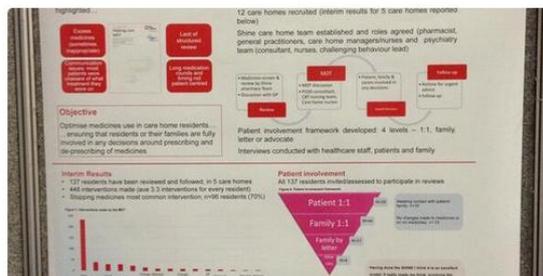
Jo Mackintosh is Service Improvement Project Lead in the patient experience team at Northumbria Healthcare NHS Foundation Trust. Following on from our [interview with Annie Lavery](#), the Trust's Director of Patient Experience, Jo tells us about her role in measuring patient experience and her involvement in [the Trust's Shine project](#), which is enabling frail older people to take part in decisions about their care.



Real-time insights to improve care

Much of what we do in the patient experience team at Northumbria is about giving wards a real-time snapshot of patient care. We really want to understand what care feels like for patients on our wards, so we ask them to tell us about their experiences. Service design and improvement has to be underpinned by real insights from patients – it's a key part of achieving and sustaining quality improvement.

Northumbria Pharmacy @NHCTPharmacy · Sep 9
 Presenting our exciting Shine project at the #RPSCONF #THFShine @HealthFdn @rpharms @NorthumbriaNHS pic.twitter.com/wquyZ0GZr



Northumbria Pharmacy @NHCTPharmacy · May 24
 Early data from our SHINE project suggests that 1 medicine can be safely stopped for every 3 we review in care homes #THFShine @HealthFdn

Northumbria Pharmacy @NHCTPharmacy · Sep 5
 Presenting our Shine care home project at the RPS Conference this weekend. @HealthFdn @NorthumbriaNHS #thfshine

Northumbria Pharmacy @NHCTPharmacy · Sep 25
 Go Team @NorthumbriaNHS on Table 31 @HSJ_Efficiency #HSJEfficiency pic.twitter.com/27UloQvstb



Retweeted by Peter Derrington and 3 others
Northumbria Pharmacy @NHCTPharmacy · 23 Jan 2013
 SHINEing with the @HealthFdn @NorthumbriaNHS #thfshine pic.twitter.com/yk103aW



Awards and Professional Recognition

Short listed for the HSJ Efficiency Awards. Wasim Baqir and Annie Lavery presented the project to the awards panel on 12th July 2013. Sadly we didn't win in September.



In February 2014 we were invited to the PENN patient experience awards in Birmingham (<http://www.patientexperienceawards.org/>) and won the 'Personalisation of Care Category'.



Academic Publications

Poster at the RPS conference in Birmingham (September 2013); abstract published in the International Journal of Pharmacy Practice (<http://onlinelibrary.wiley.com/doi/10.1111/ijpp.12064/abstract>).

Important notes: You **MUST** use this template. Do **NOT** enter author and affiliation on this form, you will be able to enter this information online when you submit the abstract. Do **NOT** write outside the boxes or alter this form by deleting parts of it (including this text). Please cut and paste abstract in the box below including tables. The abstract should consist of: **Focal Points, Introduction, Methods, Results, Discussion and References**. No more than two references may be cited and references must be typed in Times New Roman 9 point.

Title:

A clinico-ethical framework for multidisciplinary review of medication in nursing homes: a Health Foundation Shine project

Abstract: (Please refer to instructions to authors and example abstract)

Focal Points

- Can multidisciplinary team (MDT) reviews involving pharmacists reduce unnecessary prescribing in care homes?
- For every 3 to 4 medicines reviewed, one was stopped with only 6 minor adverse events reported
- Unnecessary or inappropriate medicines taken by care home residents can be safely stopped

RPS Conference Abstract

Satellite session at the Pharmacy Management Forum, London (November 2013)



The screenshot shows the website for the Pharmacy Management National Forum. The header includes the logo with the text "Pharmacy MANAGEMENT NATIONAL FORUM" and the tagline "Medicines Management to Medicines Optimisation: The Journey Continues". The date "12.11.2013 NOVOTEL LONDON WEST" is displayed below. A navigation menu contains links for HOME, DELEGATE, PROGRAMME (highlighted), AWARDS, INFORMATION, BLOG, CONTACT, TOOLKIT, and FORUM 2012. A sidebar on the left features a blue box with the text "SPONSORSHIP OPPORTUNITIES" and "Click here" with a mouse cursor icon. The main content area shows a breadcrumb trail: "Home > Programme > Satellite sessions > A clinico-ethical framework for multidisciplinary review of medication in nursing homes". Below the breadcrumb, the title "A clinico-ethical framework for multidisciplinary review of medication in nursing homes" is displayed.

Poster presentation at the International Forum on Safety and Quality in Healthcare, Paris (April 2014)



Poster on Page 32

A CLINICO-ETHICAL FRAMEWORK FOR MULTIDISCIPLINARY REVIEW OF MEDICATION IN NURSING HOMES

Authors:

Waelm Bagdi¹, Steven Bameff¹, Julian Hughes^{1,2}, Nisha Desai¹, Jane Riddle¹, Annie Laverly¹, Joanne Mackintosh¹, Peter Derrington¹, Richard Copeland¹, Aileen Beatty¹, Joan Lowerson¹, Yvonne Storey¹, David Campbell¹, John Connelly³
¹Northumbria Healthcare NHS Foundation Trust, ²Age UK North Tyne and ³Institute for Ageing and Health, Newcastle University, ⁴The Village Care Group

The challenge

Poor prescribing, lack of structured review and little resident involvement in care homes has been highlighted. (See Figure 1)

Objective

Optimise medicines use in care home residents whilst ensuring that residents or their families are fully involved in any decisions around prescribing and de-prescribing of medicines.

Our Innovation

To deliver a multidisciplinary team approach to medicines optimisation whilst ensuring that all residents or their family/careers were fully involved in decisions made about medicines. 14 care homes recruited. Care home teams established and roles agreed for pharmacist, general practitioners, care home managers/nurses and psychiatry team (consultant, nurses, challenging behaviour team).

The medicines optimisation process

See Figure 2.

Our Learning

Our results show that pharmacists working within a MDT can make a number of interventions to improve the quality and safety of prescribing for care home residents.

- 362 residents reviewed across 14 care homes.
- 945 interventions made.
- Most common intervention (54.1%) was 512 medicines stopped in 219 residents (61%).
- An average of 1.4 medicines stopped for every resident reviewed (range 0 to 9 medicines stopped) (see Figure 3).
- There was 15% reduction in medicines use over the course of the project in the 362 residents.
- Total saved from stopping medicines = £55,176.63 medicines started at the cost of £2,672, so a net saving of £52,504.
- Service costs (Pharmacy, GP and Psychiatry time) have been approximately £26,000.
- For every £1 invested, £2 can be saved from the medicines budget.

Resident Involvement

Resident involvement was not possible for all residents and some residents had no family; a resident involvement framework was developed.

280 residents have been mapped against this framework, with only 47 residents (17%) being able to be actively involved in decisions about their medicines. (See Figure 4)

Figure 1.



'Making Care Safer' report can be found at <https://www.health.org.uk/publications/making-care-safer>

Figure 2. The medicines optimisation process



Figure 3. Medicines taken by residents

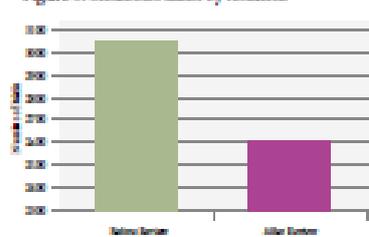
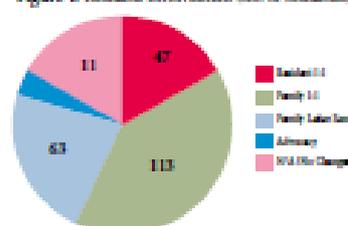


Figure 4. Resident involvement (no. of residents)



GP involved in a SHINE Care Home Review Comment

"Having done the SHINE I think it is an excellent model. It really made me think, involving the family in a really good idea. I imagine a lot of them don't want the changes you have made but it is very good to have them involved. I think it helped to improve the relationships with the care home."

Family Comments

"I think we should be notified if something was going to be stopped. [pharmacist] discussed about taking her off a Statin. Even... but at the minute I think she is happy and has really good quality of life, I don't think she should be taken off things without consulting the family with a good reason for her to be taken off them."

"There is no point people being on things unnecessarily. You don't need to be on them, why be on them."

Appendix 3: Evaluation of the Key Stakeholder Experience

This appendix has been added to share detailed qualitative data and information that have been previously summarised earlier in the report.

Methodology

The table below provides the details of the key stakeholders involved in the patient experience measurement, the numbers of those who participated and the methods that were adopted to collect the data:

Key Stakeholder	Method	Number
Resident	Observation	1
Family Members	Focus Group	10
Family Members	Face-to-face interview (post Shine)	5
Family Members	Telephone interview	1
Care Home Manager	Face-to-face interview (pre Shine)	11
Care Home Manager	Electronic questionnaire (post Shine)	2
Qualified Nursing Staff	Postal questionnaire (pre Shine)	13
Support Staff	Postal questionnaire	10

Key Findings

Main Themes: Resident

The resident had concerns relating to the number of tablets that she was taking.

1. ***“All these tablets I am taking, they are far too much”.***

The resident was keen to know if the pharmacist thought she was taking too many tablets.

1. ***“Am I getting too many tablets?”***

The resident had confidence and trust in the pharmacist’s opinions and decisions.

1. ***“I will do whatever you say, if you think I need more or less and I will take what you say I need. You tell the nurse here what I need to take”.***

Main Themes: Families

A lack of awareness and involvement in past of medication in general and medication reviews (pre Shine).

1. ***“Before she (mum) moved into the care home, I only found out about her medication more by accident, when for example to chemist would phone us to tell us they would be delivering at a certain time and slowly I found out she was a tablet Statin. Err..... she was on one tablet for her blood pressure and err.....there was a third one which I have forgotten. Nobody ever explained to me why the tablets were prescribed. In the sense of why one tablet rather than another”.***
2. ***“We assumed that she (mum) was on the right medication and it had been reviewed but obviously not”.***

3. ***“When we had the meeting with the pharmacist, what came to light was that she (mum) had not had a review for a long time. The amount of medication she was taken off after the meeting was incredible”.***
4. ***“I knew exactly what she (mum) was on till she went into hospital.....However, once she went into hospital, then onto the Kielder Unit and then into the care home I had absolutely no idea what she was on. I would assume that she would be on.....still the same, maybe taken off some and she might be on different ones”.***
5. ***“I would assume that her medication is being checked but I would not know for definite”.***

Generally families understood the purpose of the review.

1. ***“I do think that cost might be an issue. However, there might be a reason when they might not need to take the medication anymore; maybe it is dangerous for them now”.***
2. ***“There is no point people being on things unnecessarily. You don’t need to be on them, why be on them”.***
3. ***“It is a very positive process as well. The amount of money that must be wasted on medication that is not necessary as well, that would justify the project”.***
4. ***“I hope that the project is successful as it makes so much sense”.***

Feeling fully involved and better informed as a result in the Shine medication review process.

1. ***“It was enlightening when we came out (the meeting with the pharmacist). We felt really happy and reassured that she (mum) was in good hands”.***
2. ***“He explained things in layman terms. The pharmacist couldn’t tell us to take her (mum) off the medication but he told us the pros and the con’s and it was our decision and at least we were able to make an informed decision from the information from the pharmacist”.***
3. ***“I think we should be notified if something was going to be stopped. The pharmacist discussed about taking her off a Statin. Erm.... but at the minute I think she is happy and has really good quality of life, I don’t think she should be taken off things without consulting the family with a good reason for her to be taken off them”.***
4. ***“He went through it (medication) in detail and I found it very helpful. I was pleased to have the opportunity to talk to someone about it because I really knew very little about it. He was able to suggest things. One of the things that was suggested was the Statin was stopped because at her age and the reasons it was actually prescribed it was felt to be unnecessary and I agreed”.***
5. ***It was explained to me the pros and the cons and it was only suggested that it could be stopped and what did I think about it? I was drawn into it and it was a very helpful conversation”.***
6. ***“The Shine team spoke to me and asked me how I felt about the changes”.***
7. ***“You feel that people are taking the time to consider my mothers health”***
8. ***“Because there are so many things you are not sure about with elderly people and their medication and health condition. Anything that gives you an opportunity to talk to someone directly and get feedback and get confirmation or alternative suggestions, that is great as far as I am concerned”.***

Main Themes: Care Home Staff

The challenges posed by managing and administering the large volumes of medication in a care home setting.

1. ***“Time consuming ordering, checking, changing doses and prescriptions re: doctor’s instructions”.***
2. ***“Medication rounds can be stressful in the morning”.***

The relationship that residents with reduced capacity can have with their medication and the challenges that this poses for care home staff.

1. ***“Compliance, it can sometimes be quite time consuming, encouraging residents to take medication often two or three attempts”.***
2. ***“Residents would not possibly understand the implications etc. of side effects”.***

The varying levels of involvement that the residents families can have in respect of their medication.

1. ***“Some families who are involved in their relatives care sometimes ask what the medication is for etc.”***
2. ***“We have informal discussions with families beforehand and this may result in questions, again not all families have involvement with residents”.***

Care home staff attempt to involve families in issues such as changes to medication.

1. ***“I’d make sure the family had a good understanding of what has taken place in the review, offering reassurance and information as needed”.***
2. ***“Yes, we tell them if changes are made. Again if the family are not actively involved we don’t involve them”.***

The frequency of medication reviews pre Shine varied greatly across the homes involved in the project. The overall range was from 0 to 18 months, residents in 2 homes had not received a medication review that was prompted by the medical practice.

1. ***“Some of my residents have not received a medication review unless I have requested it”.***

Medication reviews are requested by care home staff and the reasons for these requests include a change of health status or behaviour for the resident, non-compliance or a new resident coming into the care home.

1. ***“Frequent refusal of medication may result in the request for a review”.***

Suggestions to improve their resident’s experience of medication and medication reviews included regular medication reviews prompted by the medical practice, forgetting the cost implications of liquid medication when a resident requires it, protected medication rounds and prevent wastage of drugs that have not been removed from repeat prescriptions.

1. ***“Protected medication rounds with no interruptions”.***
2. ***“Residents get medication in a form they can take comfortably”.***
3. ***“To regularly review to see if each medication is needed”.***

Being involved in the Shine project has been a positive experience for residents, care home staff and their families.

1. ***“As a manager I feel special to have been chosen for this project. I think it is beneficial and forward thinking to be involved in the research of medication for the elderly; this is often overlooked and not to the forefront either. I told anyone that would listen that we were part of the Shine project with pride”.***
2. ***“For our residents families it made them more aware and involved of what was being prescribed and why”.***
3. ***“Our drugs round had decreased by approximately 20%. It is less stressful for residents as they are not taking as much medication and are more compliant as they were part of the review process”.***
4. ***“To describe the Shine project I would say it was the best thing ever that ever that came into a care home. It looks at the individual and encourages them to feel part of any decisions”.***

Main Themes: GPs

The high numbers of patients, who lack capacity due to conditions such as dementia, have prevented the GP from having meaningful conversations with them about their medication. However, it was felt that generally older people are happy to take the medication that is prescribed to them irrespective of cognitive ability.

1. ***“They (residents) have pretty poor (awareness).....it depends on their level of capacity”.***
2. ***“They have the ability to spit it out or say I don’t want it but they would not be able to make an informed decision”.***
3. ***“I find a lot of older people.....not sure if it is a cultural thing. You say this is what you should be taking and they say ok. 1 or 2 will say why or I don’t like that. I think that it is something they have just done all their lives, they trust you”.***

Pre-SHINE medication reviews could be triggered by a numbers of issues e.g. current health status or after a stay in hospital.

1. ***“Generally we had a system based on their problem list. If they were hypertensive, they would get reviewed 6 monthly.....Dementia patients would be checked once a year as part of their dementia review. Other people it would just be dependant on what their problems were”.***

Pre-SHINE family involvement in medication reviews or medication in general was very limited.

1. ***“Some families will be quite switched on and know exactly what their family is on but I suspect the vast majority don’t and don’t have any input into the decisions whether the patient needs it or gets it and why they are getting it (medication)”.***
2. ***Very occasionally you get a call from the family member but that was very occasionally”.***

Medication reviews can take up a great deal of time, especially in care homes with a high number of beds and this can place a strain on a practice and does not facilitate family involvement.

1. ***“We didn’t do it that way first time round as we reckoned we just didn’t have the time or the back-up support”.***

The Shine project supported the involvement of families in the medication review process.

1. ***“I think involving the family is a really good idea.....it is a positive thing to try and involve them”.***

Shine helped to improve the relationship between the GP’s and the care homes.

1. ***“I thought the whole thing was really worth while and it helped improve relations with the care home”.***
2. ***I am sure the nursing home found it useful as they maybe understood better why people were on certain things. We were taking their opinions really seriously as to whether the resident really needed this (medication)”.***

The GPs benefited from the input of the pharmacist and other team members.

1. ***“It is just very helpful to have the pharmacists input and recognise interactions and things that maybe I don’t”.***
2. ***“We had the back up of Waz to help us out. If you haven’t got someone like that your average general practice just can’t do it. You just haven’t got the resources. He was the one that actually back checked and made sure the changes were implemented and what had happened because of said changes.....having that extra resource to have the full on discussion with the patient and their family”.***
3. ***“You can’t just say that because you have a pharmacist in your practice that they can do this ‘cause they can’t. Unless they have worked with a stop tool and understand how it works..... Waz has worked with Julian Hughes anyway. If you were going use to practice pharmacists you would have to up skill them”.***

Time is potentially a problem for Shine, as it was felt that the project did involve a lot of GP time.

1. ***“I missed 3 or 4 surgeries to do it and that is a lot of pressure of the rest of the guys, it cuts down the appointment availability”.***
2. ***“GP time to back it up is potentially a problem but it is a very valuable thing”.***

SHINE aims to find out if there is a good reason for patients taking the medication they are on.

“They are trying to rationalise prescribing in a really sensible way, does someone of 90 need a Statinwell no”.

Personal Perspective from clinical pharmacist

Prior to commencing the Shine project, I was apprehensive about undertaking medication reviews in a care home setting and dealing with GPs, as I wasn't sure whether they would welcome my recommendations with regards to medication changes, or if they would dismiss them.

One of the first homes I did was quite a challenge due to the limited time available from the nursing staff and GP, so it became a rather convoluted process, with a lot of toing and froing. It did not hamper the quality of the medication reviews, but was rather frustrating. I felt that the relationships between the healthcare professionals involved were not developed to a team approach.

One of my later homes however, provided a much more positive experience. The GP and care home staff were all very involved and we were able to have discussions about each patient and it felt like we were all there with the same aim of improving the care of patients by optimising their medication.

The project has encouraged me to change my way of thinking about medicines and has also allowed me to understand the importance of involving the patient/relatives/carer in medication-related decisions. I think the latter is often underestimated by healthcare professionals, but some of the discussions I have had with patients and their relatives have given me greater insight into how they feel. I would encourage all pharmacists and other healthcare professionals to involve patients or their carers in any decisions with regards to stopping/starting/changing medication, as it allows them an opportunity to express any concerns and also enables us to gain valuable information about the patient, especially their beliefs/behaviours which may prevent us from changing any of the medication.

It has been very rewarding being part of this project and seeing the difference we have made to patient care, not only by optimising their medication, but also hearing that these changes have enabled the care home to invest more time with the residents, which is adding to their quality of care.

Comment by Professor Julian C Hughes MA MB ChB PhD FRCPsych Consultant in Psychiatry of Old Age and Honorary Professor of Philosophy of Ageing

Taking part in the SHINE project being run at Northumbria Healthcare NHS Foundation Trust has been a really interesting, exciting and worthwhile thing for us to do. This is for a host of reasons.

First, the whole conception of the project seemed eminently sensible. On the basis of clinical experience we know that older people are frequently on numerous tablets and, indeed, they often complain about this. The polypharmacy which is so common is also confirmed in the research literature. Everyone seems to know that it is a problem, but no-one seems to do very much about it. And yet we know that all medications have side effects and interactions. So, it seemed like a very good idea from the start.

Secondly, it has then been very gratifying and exciting to see the results. It is good that the facts show how successful the project has been, but we also know in terms of the human reactions, both of residents in care homes and also of staff and family, that the project to optimize medication has been well received and appreciated.

Thirdly, there is a great movement towards increasing the reality of shared decision-making. We could say that it is a basic human right that people should be as involved as possible in decisions that are being made about them. In this way we show respect for autonomy. But it is also a way of acknowledging that decisions are likely to be better when all those involved have put their heads together. There is still the challenge of trying to involve as much as possible people who might have cognitive impairment or dementia. This has remained a challenge, but it is certainly worthwhile trying and, if we cannot work directly with the person with dementia, then it is absolutely appropriate to involve their family or close friends who can then contribute to decisions about what would be in the person's best interests. Taking this broad approach is completely in line with some of the recommendations of the report from the Nuffield Council on Bioethics entitled "Dementia: ethical issues", which was published in 2009.

Finally, it was a joy to experience the teamwork involved in this project. It is excellent that general practice, pharmacy, psychiatry of old age, the care homes themselves, as well as the residents and their families, have all been able to contribute to the process of thinking what will be best for people. We have demonstrated that working together brings good results, but it also requires careful co-ordination. The pharmacists involved in this project have provided that co-ordination in an exemplary manner.

All in all, therefore, it would be a massive shame if the benefits of this interdisciplinary work could not persist in the future with appropriate funding.

For further information on our Shine project or advice on setting up a similar service, contact wasim.baqir@nhs.net

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