Osteoporosis 2019

Nottinghamshire County Fracture Liaison Service

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Nottinghamshire County Fracture Liaison Service

Nottingham

- UK Population 65 million
- Nottingham 685,000 (1%)
- Bottom 20% Deprivation
- 1 Castle

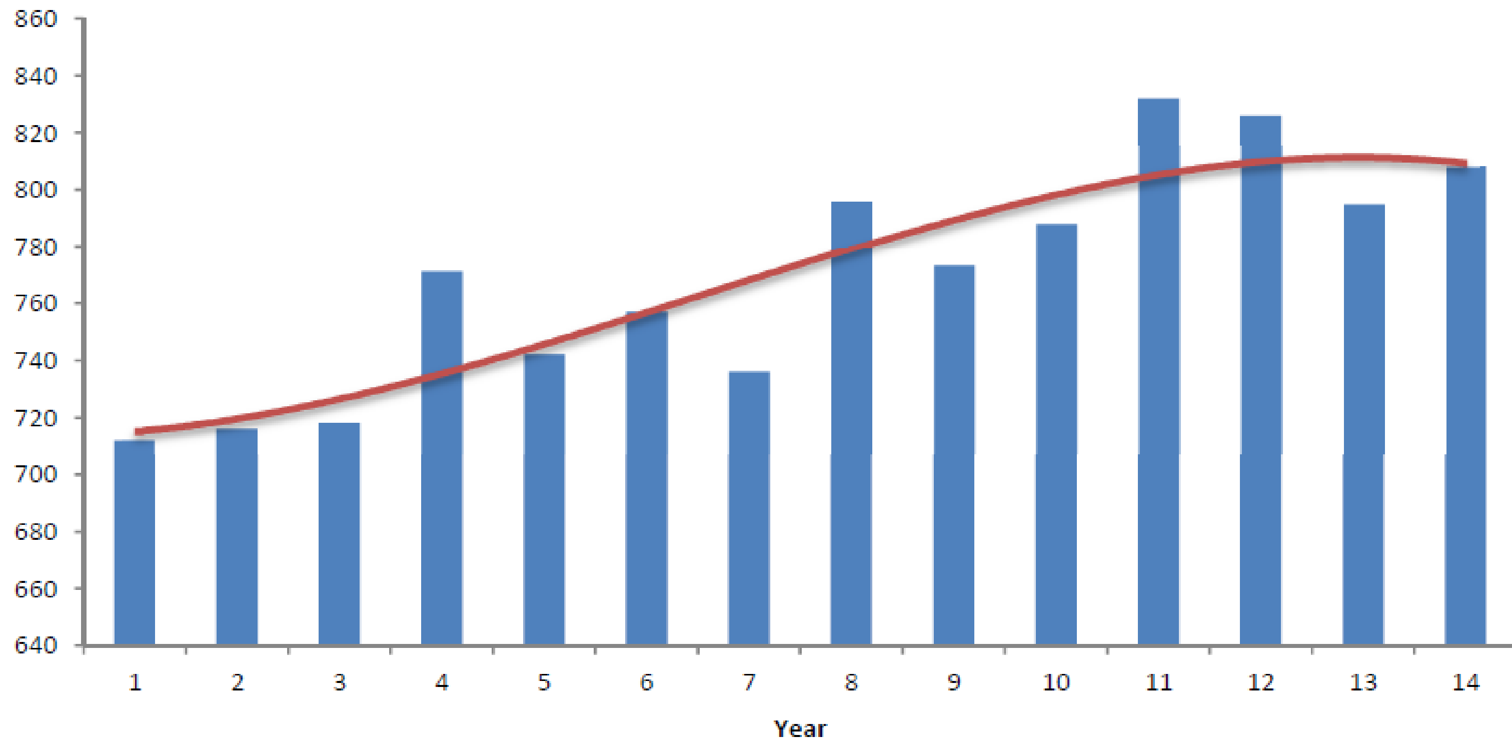
Fracture Population Catchment

Fracture Clinic and Hip 685,000

Regional Spine Service 3.5 Million

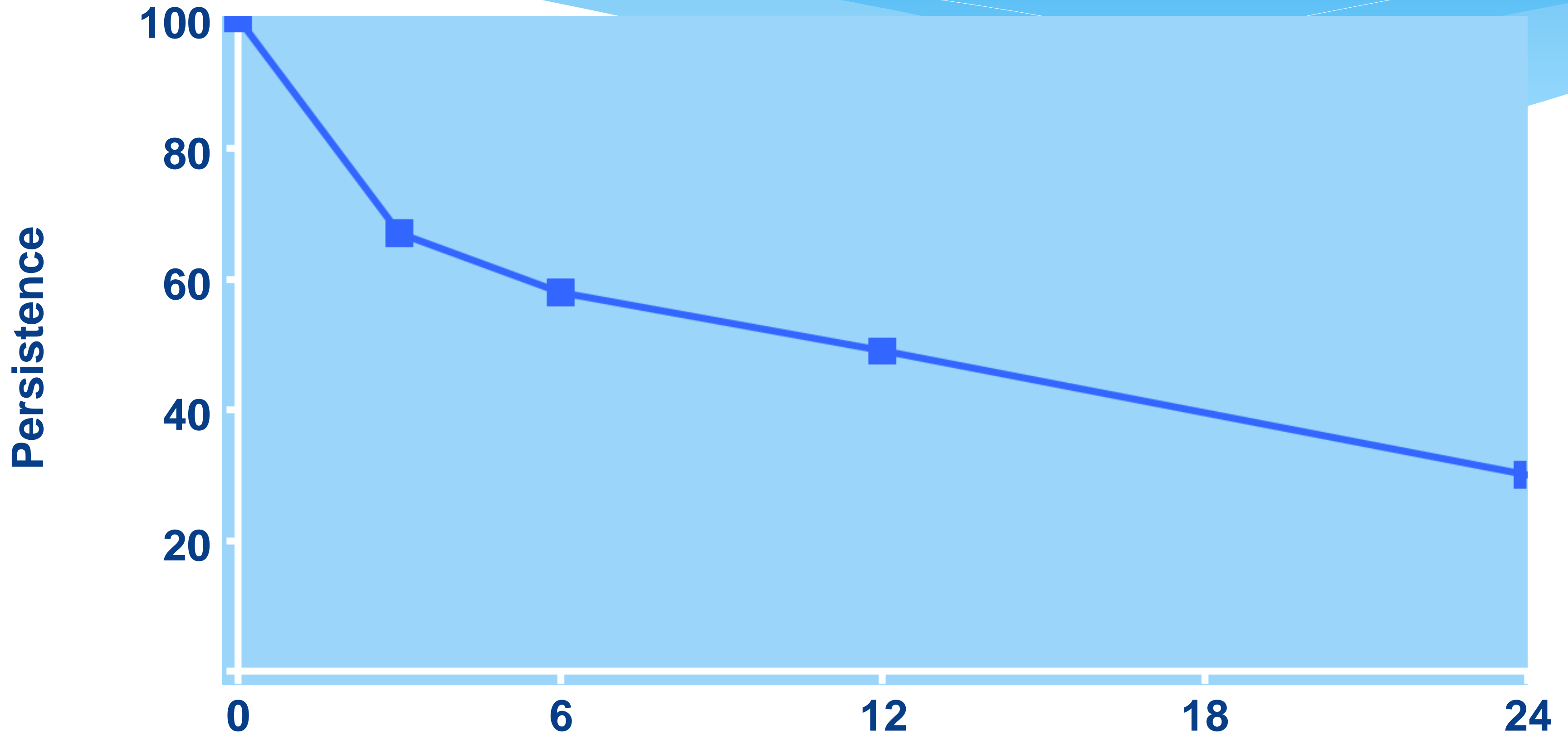
Major Trauma Centre 4 Million

Hip Fracture Incidence



Moran et al, Audit Data 2014

Persistence with Bisphosphonates



Lombas C, et al. J Bone Miner Res 2001;16(Suppl. 1):S529 (Abstract M406)

Kaplan–Meier Estimates of Persistence in Oral Bisphosphonates and Strontium ranelate

		Persistence (%)		
		6 months	1 year	3 years
Overall		**44**	**32**	**16**
Daily	Alendronate	27	18	6
	Etidronate	35	21	8
	Risedronate	38	26	10
	Strontium	30	20	9
Weekly	Alendronate	53	41	25
	Risedronate	53	41	20
Monthly	Ibandronate	57	46	32
Stable*		49	37	21
Switch†		40	28	11

GPRD 1995-2008

Persistence and Fracture

Meta-analysis of 17 studies

- No treatment benefit observed for compliance defined as <50%
- As compliance increased, fracture rates decreased exponentially
- For individuals with <20%, 80% increase in fracture risk compared with >90%

Siris et al Am J Med 2009

Improved Compliance

- 2011 Sept-1st successful infusion
- 2012 March -Successful 10 patient pilot
- 2015 June : Appointment of FLS Community Nurse to Deliver ZA (A-MS)
- 2016 Dec-Generic ZA (£6.61 Dr Reddy)
- 2016 Countywide coverage

What do we do?

We are a Specialist community nursing service transcending primary/secondary care barriers via an innovative ‘Virtual Clinic’, delivering consistent, individualised high-quality care at the heart of the community.

What do we do?

- The Service is designed to identify, assess and manage those who have sustained a low trauma fragility fracture with the aim of reducing risk of further fractures, especially neck of femur fracture, which have significant impact on morbidity and mortality of patients as well as high financial cost.
- In addition, the service is also designed to identify, assess and manage those at risk as a primary prevention*. (*Rushcliffe CCG only)
- IV Zoledronic acid a first treatment choice for secondary prevention

Who are we?

Primary care team:

* Rebecca Barbary – Clinical Nurse Specialist Lead
* Helen Barnes – Deputy Sister
* Kerry Gamble – IV Infusion Nurse
* Marjory Vasquez – IV Infusion Nurse
* Jackie Buxton – Service co-ordinator
* Dr Ann-Marie Stewart – Lead GP

Secondary care team:

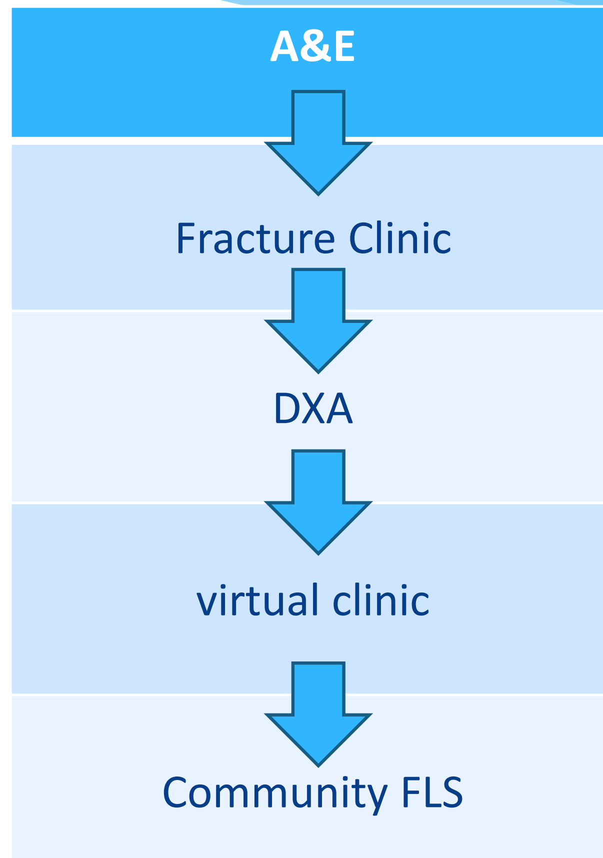
* Professor Opinder Sahota- Consultant Physician at QMC
* Lindsey Marshall – Osteoporosis Nurse Lead at QMC

Service coverage

The 2015 pilot was launched in Rushcliffe CCG with a population of c 147,000

In 2016, the service was rolled out to West CCG and NNE CCG with a total population of c.460,000.

It starts in secondary care…



Review route

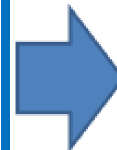
NOTTINGHAMSHIRE COUNTY FRACTURE LIAISON SERVICE

REFERRAL CRITERIA

- Aged 50+ with a fragility and can be referred by:
  # clinic, spinal, orthopaedics, HCOP, rheumatology, endocrinology, GP
- <50 yrs with major risk factors (Rushcliffe CCG only)
- Non-concordance (Rushcliffe CCG only)

REFERRAL ROUTES

- NUH Clinic referrals
- Direct to service GP referrals (email, letter, phone, fax)
- Direct to service AHP referrals
- Patient self-referrers
- Systematic case finding



SPECIALIST NURSE-LED TEAM:

Patient added to service database – GP / Patient notified of referral (if NUH)

Investigation (bloods, PMH, FH, DEXA, #HX, secondary risk factors etc)

Virtual Clinic Review : management plan

Nurse intervention (including IV Zoledronic Acid, Lifestyle, supplementation, exercise)

All referred patients remain within the service for systematic review +/- investigation / treatment as required

CNS LEAD : Rebecca Barbary : ruccg.nottscountyfls@nhs.net

Secondary care referral

Dear Dr XX

RE: MRS A

This lady recently attended for a bone density scan which confirmed moderate osteoporosis at the spine with a T-score of -2.8 and lower normal at the hip with a T-score of -1.3 at the femoral neck and -1.8 at the total hip. Compared to her most recent scan in 2015, she has lost just under 16% in BMD at the spine and just under 6% at the total hip.

Therefore, in view of her significant bone loss, it may be reasonable to switch her over to IV ZOL treatment.
By copy of this letter to our community osteoporosis team, I would kindly ask them to review Mrs A accordingly.

Yours Sincerely,
Consultant Physician

Primary care referral

= Section information pop-up – hold mouse pointer over for information
Blue underlined text is a hyperlink to other resources   Red text – hold mouse pointer over for information

NHS

Please attach the completed document using the e-Referrals service :

Nottinghamshire County Fracture Liaison Service

1 - PATIENT DEMOGRAPHIC DETAILS	PATIENT MOBILITY & COMMUNICATION
Title: Mr / SURNAME: Xxtestpatientkbow	Mobility: No mobility issues recorded
FIRST NAME: Cfs-Donotuse	Transport required : Y☐ N☐
Date of Birth: 25 Nov 1961 / Age: 56 / Gender: M	Language: 02 Mar 2015, Main spoken language Patois
NHS number: 999 038 1356	Interpreter required?: Y☐ N☐ No interpreter details recorded
Contact Details: Please check these are up to date Preferred telephone: 07706 257457	Communication / Capacity issues: 21 12 17, Difficulty communicating
	Carer status: 17 04 17, Has a carer, TEST Carer Details
Address: c/o HSCIC TEST DATA MANAGER, Solution Assurance, 1 Trevelyan Sq., Boar Lane, West Yorkshire, LS1 6AE	Ethnicity: 08 06 17, Black Guyana
	Accessible Information Standards: Requires deafblind block alphabet interpreter : 21 12 17; Requires written information in large font : 01 05 18; Requires information in contracted (Grade 2) Braille : 01 05 18
1a – PRACTICE INFORMATION (For AHP referring please also provide your contact information if different from below)	
Referring GP/AHP :	Date of Referral: 10 Jul 2018
Practice Address: Embankment Primary Care Centre, 50-60 Wilford Lane, West Bridgford, Nottingham NG2 7SD	
Telephone: 0115 883 2626	Fax: 0115 981 0424

SECTION 2: REFERRAL DETAILS - referrer to complete parts 1-4 below

Referral information

1 – Tick Urgency   Urgent ☐   Routine ☐

2 – Referral Details

Reason for referral:

3 - Clinical details – type or task (box will expand to fit – unprotect form to type in white area)

Please Include:
FRAX advice?
Previous Fracture, Site and date?
Last DEXA date?
Family history of osteoporosis?
Ever been on steroids? If yes, how many steroid prescriptions in the last 12 months?

4 – Risk Factors to Bone Health

Type 1 Diabetes		Osteogenesis imperfecta		Untreated longstanding hyperparathyroidism		Hypogonadism		Malabsorption & chronic liver disease	
Type 2 Diabetes		Rheumatoid Arthritis		Thyroid Problems		Parathyroid problems		Coeliac disease	
Dementia		Heart Problems		Liver disease		Kidney Disease		Blood clots	
Stroke (CVA/TIA)		Crohn's/UC		Stomach/ Bowel Surgery		Eating disorders		Alcohol units per week	
Cancer		Smoker							

3 - PAST MEDICAL HISTORY

Please delete either problem entries or summary entries on this form depending on which system your practice uses:

Nottinghamshire County
Fracture Liaison Service

***Referral form** for patients who have sustained a fracture*
Please send completed forms to:
Sister Rebecca Barbary

Telephone: (Direct Dial : 01949 822808)
Email : ruccg.nottscountyfls@nhs.net
Fax: 01949 21283 (EBMC Office)
Base: East Bridgford Medical Centre, 2 Butt Lane, East Bridgford, Notts NG13 8NY
Admin Support: Jackie Buxton, East Bridgford Medical Centre (01949-20216).

Patient Details

Hosp No.		NHS No.	
Surname		Forename(s)	
Previous Surname		Title	
Date of birth		Contact details:	
		Home No.	
Address		Mobile No.	
Post code		Work No.	

Referrer Details

Referring clinician		Date of referral	
GP practice address GP Telephone		Date of consultation	

Communication needs				
Fracture site:				
Fracture date:				
Details of previous fractures:				
DEXA in last three years?	Yes ☐		No ☐	
Have / Did either parents or close family members break a hip?	Yes ☐		No ☐	
Have / Do either parents or close family members have osteoporosis?	Yes ☐		No ☐	
Ever been on steroids for? **If yes, how many steroid prescriptions in the last 12 months?**	Yes ☐		No ☐	

Nottinghamshire County
Fracture Liaison Service

Any past medical history conditions that may affect bone health?

Type I Diabetes ☐	Osteogenesis Imperfecta ☐	Untreated longstanding hyperthyroidism ☐	Hypogonadism ☐	Malabsorption & chronic liver disease ☐
Type 2 Diabetes ☐	Rheumatoid Arthritis ☐	Thyroid problems ☐	Parathyroid problems ☐	Coeliac Disease ☐
Dementia/ Alzheimer's ☐	Heart problems ☐	Liver disease ☐	Kidney disease ☐	Blood clots ☐
Stroke (CVA/TIA) ☐	Crohn's/ UC ☐	Stomach/ Bowel Surgery ☐	Eating disorders ☐	Alcohol dependency ☐
Cancer ☐				

Weight:	Height:	BMI:	Weight loss ☐	Other (please give details):

Any other risk factors / information the FLS should be aware of:

Current Medication

Drug name	Dose	Start Date

Investigations

* Risk factors
* Medications
* Previous fractures
* Previous scans and XR
* Existing secondary care consultant

Virtual clinic – secondary ref.

From: Consultant
Sent:
To: Nurse Specialist
Cc: other consultant previously involved with pt's care
Subject: Pt XX

Thks,
Switch to iv zol.
Bw
Consultant

From: Nurse Specialist
Sent:
To: Consultant
Subject: Pt XX

Dear Consultant,

Clinic letter ref: 75 yr pt sustained a # radius following a simple fall (tripped on a carpet at home), recently attended DXA confirming osteoporosis at the spine and osteopenia at the hip. 16% loss at the spine and just over 6% at the total hip in BMD. **For review? switch to IV ZOL.**
PMH: # humerus (2005- fell in the garden), #radius (2018- tripped at home), hypertension, T2DM.
Meds: Adcal- D3, metformin, Ramipril.

Weight: 60kg

Sodium	142
Potassium	3.9
Urea	4.4
Creatinine	54 (Cockcroft: 75)
ALK PHOS	97
ALT	12
Bilirubin	5
Albumin	40
Calcium	2.29
CTX	0.89
eGFR	80
PTH	75
TSH	2.0
Vit D	53
AST	28
total protein	70
Myeloma/Coeliac	Negative (No paraprotein detected)

BMD : Date

Spine T-Score	-2.6
NOF T-Score	-2.8
Total Hip T-Score	-2.0
Any vertebral #s, either chronic or acute?	Nil # identified
Trend Analysis (if any) - % loss or gain at each of the above sites	Compared to 2015 scan; Lumbar spine: - 16% Femur, neck, left:-4.0% Femur, total, left: -5.9%
? NOGG guidance on the report	FRAX & NOGG: - nil

KR,
Nurse

Virtual clinic –GP ref.

From: Consultant
Sent:
To: Nurse Specialist
Cc: other consultant previously involved with pt's care
Subject: RE:

Thks,
Switch to iv zol.
Bw
Consultant

From: Nurse Specialist
Sent:
To: Consultant
Subject: Pt XX

Dear Consultant,

GP ref: 79 yr Pt was put on DEXA pathway in 2010 following a low trauma radial #, DEXA confirmed osteoporosis, she was under Dr XX (HCOP Bone consultant) at this time, Oral bisphosphonates commenced 2010-2016 and then a drugs holiday from 2016-date. Recent DEXA report now available **? tx plan.**
PMH: ulcerative colitis, # radius (2010), osteoporosis (2010), menopause at 40 years, migraine, raynauds syndrome.
Meds: ferrous sulfate, propanolol, sumatriptan.

Weight: 55.7kg

Sodium	142
Potassium	3.9
Urea	4.4
Creatinine	91 (45-84) (Cockcroft: 51)
ALK PHOS	97
ALT	12
Bilirubin	5
Albumin	40
Calcium	2.35
CTX	0.56
eGFR	60
PTH	117 (18.0-80.0) Above range
TSH	2.0
Vit D	61
AST	28
total protein	70
Myeloma/Coeliac	Negative (No paraprotein detected)

BMD : Date

Spine T-Score NOF T-Score	-3.1 -2.4
Total Hip T-Score	-2.0
Any vertebral #s, either chronic or acute?	No
Trend Analysis (if any) - % loss or gain at each of the above sites	Spine -5.6% NOF -8.7% HIP -9.0%
? NOGG guidance on the report	Decrease in BMD at all sites compared to previous scan

KR,
Nurse

Information

* Patients letters
* Virtual clinic
* Patient consultation: face to face or via telephone (Information packs)
* Consultation with patient includes: reason for referral, side effects, consent, supplementation, diet and exercise with the patient.
* GP updated

Intervention

* An appointment is issued with the patient and therapeutic agent initiated, patients have the opportunity to discuss any concerns.
* A patient survey is given to the patient and follow-up process explained.
* GP letter sent with update and advice.

Administration chart

Prescription and Administration chart for IV Zoledronic Acid

for the Treatment or Osteoporosis

Patient Name	
Date of Birth	
Practice Name	
Address	

This chart is to be used **ONLY** to allow the supply and administration of IV Zoledronic acid by a trained Fracture Liaison nurse following the written advice of a secondary care specialist.	
Name of secondary care specialist ______________________________	
Date of written advice	______________________

Medication Information

Prescription detail		Administration detail			
Medication	Administration	Product detail		2nd check	Administration notes
Zoledronic acid 5mg in 100ml IV infusion	Infuse over at least 15 minutes	Manufacturer			
		Batch number			
		Expiry			
0.9% sodium chloride IV solution 50ml	Post infusion flush to clear IV line of Zoledronic acid	Manufacturer			
		Batch number			
		Expiry date			

Observations

Observation	Result before infusion	Result after infusion
Temperature (°C)		
Blood pressure (mmHg)		
Pulse (bpm)		

Paracetamol is often recommended to be taken for three days, starting one day before the infusion to help with flu-like symptoms as a result of the infusion. **GPs should complete the following**
Can the patient take paracetamol? **YES** ◯ **NO** ◯
Does the patient have a paracetamol containing product on their repeat medication list? **YES** ◯ **NO** ◯

Post Infusion information (tick box if actioned)

Post infusion information given to the patient including leaflet		Patient informed as to who to contact with concerns or if there is a possible reaction to the infusion	
Advice regarding paracetamol given i.e. not needed/ from GP supply/ OTC		Form scanned into clinical record and IV Zoledronic acid entered to the medication section	
Additional Notes **PLEASE NOTE THAT ALL ORIGINAL INFUSION DOCUMENTATION/RECORD OF CLINICAL EVENT HAVE BEEN PASSED TO SURGERY STAFF FOR SCANNING TO SystmOne /EMIS; COPY DOCUMENTATION HELD ON FLS RECORDS**			

GP signature		Nurse signature	
GP name		Nurse name	
Date		Administration date	

Adherence and Follow-up

* For patients that decline IV Zoledronic acid treatment and decide oral bisphosphonates or nil treatment, a 4 and 12 month Follow-ups will be initiated.
* Patients that receive IV Zoledronic acid, Follow-up will be initiated at 16 months.
* Declined DXA

Outcomes and impact

Recent Evaluation data	
PATIENT SATISFACTION AUDIT	**99.8% satisfaction & would recommend** ***(audit: 2015-2018)***
475 HOME INFUSIONS; & avoiding clinic visits ***(audit: 2015-2018)***	**SAVINGS**

Plans for a robust audit in 2020

Outcomes and impact

What's next…

* The service was an initial pilot covering Rushcliffe CCG only. Following the success of the Rushcliffe pilot in 2016, the service was rolled out to cover Nottingham West and Nottingham North and North East. In addition to secondary prevention Rushcliffe CCG extended the service to primary prevention of fragility fracture.
* The Service has commenced denosumab as treatment within the community recently. We are currently awaiting our service contract to be renewed.
* Amalgamation of the Nottinghamshire CCGs to become the Greater Nottinghamshire Commissioning Group from 2020.

Any Questions?...