APPENDIX 1: Topic Guides for interviews with the healthcare team and patients

Nurse/GP Topic Guide v2.

Experience of using the system

- how they use it/ find it?
- day to day management
- problems/concerns
- technical issues?
- clinical issues?
- organisational issues?

Impact on how BP managed by care team

- has it changed management of BP
- communication with care team
- changes to medication
- adherence to treatment regime
- impact of feedback
- workload
- re-organisation

Impact on how BP managed by patients

- how they use it
- changes in way they see /manage their condition
- anxiety / reassurance/ control/passive/active/self-care
- impact of feedback on
- medicalisation (e.g. some patients found the monitoring made them focus too much on being ill, and not enough on being well)

Implications for use in practice

Patient Topic Guide + Prompts v.2

Non-monitored and Monitored Groups

Experience of the screening process

own monitor?
impact?

How they manage their BP / feel about managing it

day to day management
do they comply or not with advice and if so why / why not
anxiety
adherence to regime/lifestyle and drug ttmnt
sense of control
have they changed the way they see /manage their condition/if so why

Experience of managing BP with monitor/ without monitor

technical
clinical
personal (anxiety; reassurance)
organisational

What advice given

what did they think of advice given
other factors in lifestyle that might affect this
what were they told by GP or nurse / what did they understand? do they see it differently?
do they feel that suggestions are not appropriate for them? Why?

Have views of/ approaches to management changed since first diagnosis / if so why

information/advice
readings
opportunities to change
other factors – e.g. life events, illness, GP advice

How they feel about it / want to deal with it

impact on lifestyle
sense of control / anxiety/ reassurance
inconvenience

Additional Themes for Monitored group

Describe how they use it in practice
Experience of how nurse/doctor has used it
Perceived impact?
onQoL?
on seeking help?
on care
onself care/self management?
facilitate passive or active control
on understanding of BP
on communication with care team
on appointments.
Perceived benefits
Perceived problems
Which groups would benefit from it in particular?

Appendix 2 Themes/subthemes

The thematic headings are derived from the indicator codes.

Overarching Theme	**Themes/subthemes :patient interviews** The frequency of occurrence of codes is given as a number *Coded to more than 1 theme	**Themes/ subthemes: Nurses and doctors** The frequency of occurrence of codes is given as a number, in brackets the number of interviews in which it occurred, and an indication of how many of these were with a nurse or a GP.	**Themes/ subthemes: Discussion group**
The patient experience	**Diagnosis** **(**Routine check up / out of the blue 4,Diagnosis in relation to other study 1) **Perceptions of causes / triggers for high bp** **(**Stress/work stress 4**,** Weight/lack of exercise 2**,** Genetics1**,** Smoking 2) **Experience of care** (Positive perception of usual care 5, Advice (helpful/vague/negative/excessive) 6, Organisation of medication 3*) (also coded as more rapid organisation of medication in using the system) **Impact (of diagnosis) on self care/ lifestyle 26** (Carried on as usual/ BP checks/ medication 12,Trigger for Change In Lifestyle 7(Starting to/trying to make changes 5,impact on work prospects motivate change2,medication routine 3,complies with medication/ self monitors due to fear of stroke 4)**,**Barriers to lifestyle changes 3 **(**Other conditions 1, Hard to find the motivation 1, Knowing what but not how 1)) **Greater awareness 24** (Greater awareness/ greater acceptance of problem 4*,Readings prompt /challenge/ reinforce change 3*,Basis for understanding own patterns/ causes in own lifestyle 8*,Awareness of variation in context	**Concerns about medication/ putting off taking action 8 (1GP3N)** **Patient compliance** (Barriers (to compliance)13 (2GP7N), General lack of compliance in patients 3(1GP 2N),Other issues a priority 1N,lack of Motivation 1(1N),Compliance tails off 1N,General (Work, Holiday) 3(1GP2N)) **Readings/monitoring help patient buy in to treatment 12 (3GP4N)** **Positive patient experience 7(2gp2n) (**Patient Perception of Better Service 2(2GP),They like it/like being monitored 3(1gp1N,)They USE it 1(1GP),They avoid unnecessary visits to GP 2(1GP1N),Good outcomes for patients 1(1N)) **Readings prompt/empower patients to take a more active role 14(3gp3n)** **Readings can provide reinforcement (1N)** **Readings /reminders can generate anxiety 9(1GP3N)**	**Perceptions of tele monitoring (**For self (IT not reqd),For others (IT reqd.)) **Telemonitoring as incentive (**Somebody watching, Motivating in sense that data is being looked at, Sense of obligation, Enhances compliance, Poor TM compliance can be flag for non-compliance in other areas (medic.),Example of compliance that led to control, and subsequent reduction in drugs) **T.monitoring as evidence (**Evidence facilitates meaningful conversation and dialogue)

	5,Variation between home/surgery 3, Interest in variation 1) **Readings can be reassuring and/or intrusive & anxiety provoking 6** **(**Sometimes worrying 4) **Readings as evidence /empower patients 4**		
Using the telemonitoring system	**Training** (sufficient 2, more needed 3) **Usability** (Generally straightforward to use 9,Setting up an easy routine with set time& place 4,Usability for older patients/ dexterity/ familiarity with IT 2,Communication/reminder issues 5 **(**Messaging error1,messages can be alarming, not encouraging 3,messages could be more encouraging/less negative 1)Cuff 5 **(**Fine/no problem 3,Query tightness 1**,** cuff reinflation 1),Mobile phone straightforward (exc. for minor issues) 5(Switching on and off 1,Easy and interesting 1,Transmission failure 2,Signal failure 1) **24 hour monitoring intrusive uncomfortable 3** **Difficulty understanding readings 1** **STANDARD VS.INDIVIDUAL MODELS 4** (Need for individual benchmark 1,Need to consider variation over time 3)	**Initial workload getting to grips with system 8(2GP4N)** (Messy & Time-consuming 3(1GP;3N),Initially anxious about it 2(1GP;1N), Aligning monitoring process with other clinical processes / Lack of data interoperability with other clinical systems 3 (2GP 1N)) **Rethinking data management process 4(2GP2N)** **Usability/Technical/ training issues** (Ease of use 8(2GP3N), Easy for most people 6(1GP2N), Harder for some older, and or anxious patients 2(1gp1n), Mobile monitoring kit 9(1gp3n)(Calibration 1(1N),Charging(PATIENT) 5(2N), Transmission Problems (Unknown Unknowns) 1GP) Website 11(3gp3n) (Monitoring screen 2(1gp1n),Lack of intuitive graphs diagrams for use in surgery context 1GP,Icons 1GP,Limited use/awareness of options 1N,Time constraints limited use 2(1N1GP)) Messaging can create anxiety 4(1gp3n)) **Dealing with technical problems 10(3gp4n) (**No problems/few problems /quickly sorted 7(2GP3N),Supportive IT help 2N**,** Learning by doing1N) **Set up and training 6(1GP4N) (**Set up and training positive 2(1GP),Potential of sharing training/setup info with nurses & patients 4(4N)) **Better evidence 6(1gp3n)**(More accurate understanding (e,g, white coat hypertension) 2(2N),Better detection 2(1GP1N), Better evidence for understanding and treating individuals 2(2N), Faster control of bp to target	

		13(2GP2N)More intensive treatment 5(2GP3N),Faster cycling through barriers to treatment 2(2GP),More successful focus on reaching target 8(2GP2N)) **Tension between standard and individual ltargets 14** (Target very tight /cost benefit issues)11(3GP3N,)Standard vs individual approaches to cv risk 3(1GP1N))	
Adjusting to new responsibilities and new ways od working	**Rethinking roles/relationships in shared care 9** (Rethinking patient role/responsibility in shared care 3, More effective gp: patient relationship 1, Changing patient:nurse (or gp) roles: 4, Changing nurse:gp roles 1) **Supports different models of self care 14(**Changes made to lifestyle (standard) 7,Changing lifestyle (alternative) 3,More awareness/knowing what is happening 1,Saves time on appointments 2,Control 1) **Views of use** 7***(** would be best for monitoring For a period of instability 1,would prefer Automatic monitoring1, Delighted to continue – will miss it 2, Interesting – but interest tailing off 1, Mixed Feelings 1,Reassurance 2)	**Increased frequency of contact with patients 8(4GP4N)** (More communication 1N, More frequent contact /better relationship 2(1GP 1N), More frequent contact /worse relationship (2GP), More frequency but not more time-consuming (1N), No Impact (1GP)) **Appropriateness of monitoring for different groups. 15(4GP4N)** (Patients who will use it 'sensibly' not obsessively 1 (1N),Proactive/educated patients 1(1GP,)Anyone who wants it/can benefit from it 5(3GP1N,)Uncontrolled hypertensives 1(1GP),Type 2 diabetics 1(1GP),Motivated groups 2(1GP1N),Not patients with complex conditions/other conditions 1(1N),Not elderly/with cognitive, mobility/anxiety problems 2(1GP1N), Need flexibility to exclude/alter who participates (1GP),Don't Know (1GP). **Increasing empowerment or dependence? 5(1GP4N)** (Self monitoring not self management (Increasing Dependence) 2(2N), Using reminders to prompt/manipulate patient compliance 2(2N), Balancing reminders against intrusion 1(1GP)) **Enabling factors 7(1GP3N)** (Having a routine 2N,Feel Someone Checking Up (1GP),Being made to feel Special (1GP),Unknown 4(1GP1N)) **Rethinking roles and processes in shared care 31 (**Lack of clarity of/ commitment to roles 4(2N), Reconfiguring roles of GPs and nurses	**T. Monitoring as reducing need to attend surgery** (Bridges barriers to visiting GP (distance, work, parking, travel),Benefit is not having to go to surgery,Some patients don't got to surgery anyway) **T.monitoring as streamlining the process** (Speed /currency of patient data sharing, T. Monitoring as a Means of Overcoming Misconceptions and Selective Reporting, T.Monitoring as Cheap in Comparison with Cost of Treatment/Other systems) **Perceived benefits of t.monitoring** (Positive experiences from most patients) **Perceived problems with t.monitoring** (Some patients complained they were not contacted, Perceived lack of Integration of services, Only niggles, Continuity of care, Impact on workload (Phoning; lack of ring-fenced time), Lack of clarity on roles) **Reconfiguring roles / workload** (Telephoning time-consuming,Different way of working, Dedicated time needs to be set aside, Some nurses pro-actively asked for ring fenced time, In some practices it wasn't integrated, making it difficult to manage)

		12(4N),Role of gp(compliance/ non-compliance with protocol) 8(3N),Role of nurse (negotiating ring fenced time for monitoring) 3(2N)) **Nurse:patient roles (communication) 7(2GP4N)** (Clarifying communication roles/ responsibilities 5(GPfoc.4N),Developing a shared understanding of readings 1(1N)) **Rethinking communication processes 8(3GP2N)** (Benefits of email-based communication 4(1GP1N),Constraints of phone communication 1(1N),Risks of phone communication 1 (1GP)) **Impact on/factors in workload 46** (Workload / anxiety following up patients who don't respond16(5GP6N), Finding time as a key barrier 7(6N1GP), Workload impacted by patient numbers/ stage/ compliance 6(2GP 6N), Workload impacted by practice work (flu/busy spells/bloods) 3(1GP2N), Workload impacted by need to download + document readings 2(1GP1N), Workload impacted by lack of clarity /compliance with role 4(4N), No impact (1GP), We forgot about it (1GP)) **Scalability issues 4 (1GP2N)** **Administrative problems of patients moving to other practices (1N)**	**Reconfiguring roles/ communicating new roles clearly** (Patients unclear who to contact/who does what -nurse or GP,Patients need to be advised what new roles are,Roles could be made clear by a surgery 'menu,'Protocols agreed/integrated in policy/ not always agreed/ integrated in practice **Reconfiguring roles/gp& nurse care role** Nurse prescribing would take pressure off GPS/be quicker, Nurse prescribing (instead of GP) implies need for patient culture shift, Doctors taking broader picture (not ticking boxes), Doctors more likely to discuss balance of risks with patients,Literature from Royal Pharm. Soc. In 1990's on GP and patient negotiation) **Impact on practice**(Varied across surgeries,Changed practice in some surgeries,Benefits dependent on practice, managementImpact on medical inertia) **Annotation /eannotation as a basis for understanding/ explaining/ discussing** (Patients often annotate on paper to identify causes, Diary linked to mobile phone is an annotation option for some, Annotation provides basis for explanation to self, Annotation provides basis for discussion with GP) **Optimal use of tm** (Most useful in first few weeks/months to achieve BP control)Workload and use both tail off after first few weeks/months **Lessons learned from the study (care process;data process)**

			Business models **Concerns re service implementation /using nhs24/at scale**(Fear of phoning NHS 24 in case end up in hospital , as not usual care team,Lack of continuity of care staff militates against use (Also an issue in large practices),Lack of integrated services limits usability (eg call service to pharmacy services),May be successful if shared with the patient record
The study	**Overall perception of service/study 23** **Useful/helpful/ worthwhile/interesting 9** **Delighted to continue – will miss it2** **Interesting – but interest tailing off 1** **recruitment: too much literature 2**	**Good study 5(2gp3n)** **Hits nurses/team were great 2 (2n)** **A window on the future 2(2gp)** **Non-monitored patients disappointed 1n**	**Trial design** **T.monitoringvs home monitoring** **Queries about added value of tm** **Reconfiguring care_paradigm shift** (Two separate systems running uncomfortably in parallel, Slow transition)