#### Supplemental Material 1 - 3D Clinician Training materials

#### Session A

- 1. Reflect on problems for patients and practice staff in the current management of multimorbidity
- 2. Identify strategies for improved management of multimorbidity in general practice
- 3. Consider how to elicit patients' priorities and why this matters
- 4. Consider strategies for identifying patients with depression
- 5. Understand in broad terms the strategies used in the 3D intervention to investigate improving the management of multimorbidty

What		Task	How
Introductions	Make sure everyone in the group knows each other and understands each person's role	Pre-course questionnaire Introduction those attending and learning objectives Session A	Name labels Slide or laminate of learning objectives
3D overview	Ensure everyone understands the premise of 3D	Explain the inclusion criteria for the 3D study and show the practice's summary data	Slide or laminate of inclusion/exclusion criteria and practice specific results
Case Study	Get the staff to think about multimorbidity (MM) in a more real way. Try and get them to think about specific patients and how these things relate to them. Discussions about practice-centered problems	<ul> <li>Individually think of "a typical multimorbidity (MM) patient"</li> <li>Then ask the group to consider these questions: <ol> <li>What conditions do they have?</li> <li>How would this lady be managed in your practice currently in terms of regular reviews of her long term conditions? (How many recalls per year, how many consultations, how many different people would be involved?)</li> <li>In your practice and more widely in General Practice what problems are there around management of multi-morbidity?</li> </ol> </li> </ul>	<ul> <li>Fill in blank case study form</li> <li>If group is small, as small group discussion; if larger group then split mixed Dr/Nurse groups</li> <li>Questions can be on slide or laminate</li> <li>Flip chart / new slide of problems multi-morbidity</li> </ul>

Patient centered care	What does patient centered care mean in practice? How could they adopt a more patient centered approach into their consultations?	Return to their case studies and complete the reverse of the case study sheet. Feedback answers to group. Followed by discussion about patient centred care: What is it that makes patient centred care particularly relevant to patients with MM? How could you improve patient centred care in your practice? What are the challenges to delivering patient centred care?	Questions can be on slide or laminate If group is small, as small group discussion; if larger group then split mixed Dr/Nurse groups
Core components of 3D	Introduce the key aspects of 3D	Highlight the core parts of the study which we will go on and discuss in more detail	Slide or laminate
Continuity of care	Understand why continuity of care is important	Discuss typical usage of primary care by patients with MM Ask how practices can improve this / advantages of seeing same GP	
Co-ordinated reviews		Explain how the 3D reviews are organised	
Dimensions of health & agenda setting	Consider how to find out about patient priorities and concerns and understand why this is important.	What do we mean by dimensions of health? Return to the case study patients and think about how as clinicians we can best elicit patient concerns. Discussion about how can we encourage patient to talk about the things that are really bothering them? Produce examples of questions that you could use What barriers and bias is there in agenda setting? Introduce pre-letter	All members to come up with questions they use/could use to elicit this, share with person next to them, and then share more widely with bigger group. Highlight good examples Backed up with slide of helpful questions (this could be expanded and regionally personalized with ideas from each session) When thinking about barriers in agenda setting consider communication agenda setting Reminding about priming the patients

Depression	Consider different strategies for identifying depression. Understand why we are using the PHQ9.	Discuss the case study PHQ-9 results. What further questions would you like to ask to elicit whether this patient has depression? In the context of the case study so far, do you think this patient has depression? What further information would you require?	Slide showing a completed PHQ9 Some people are concerned regards to PHQ-9? Do you have any concerns in its use? What would you do if someone ticked 'having suicidal thoughts every day'
Drugs	Introduce final key component	Introduce polypharmacy but explain this will be covered in more details in next session	
Review of 3D	Summarise 3D and reviews	Re-emphasise the importance of being patient centred and what this means	
3D reviews	Appreciate how to set-up 3D reviews and what is covered when	Explain what needs to be done (as a minimum) at each appointment and what they need to give to the patient	
Post-it Note reflection on 3D	Feedback from staff about 3D and to be comfortable with the 3D study model	Ask group what are their individual thoughts on the 3D intervention, and invite them to write them on a post-it note over coffee: what are the good ideas, another for considering potential challenges with 3D model Address concerns raised Identify any common themes? Highlight positive aspects that fit the 3D model	Anonymous post-it notes Feedback from facilitator
3D intervention		Diagram showing how the different components all fit together	
Evaluation Form		Evaluation form to fill out	
Next session; Homework		Explain what will happen in the next session, and endeavour to answer any questions. Homework: Look at their case patient and see how many and what types of drugs they are taking.	Could discuss GP champion element

#### **3D Overview**

### **Learning Objectives**

- Reflect on problems for patients and practice staff in the current management of multimorbidity
- Identify strategies for improved management of multimorbidity in general practice
- Consider how to elicit patients' priorities and why this matters
- Consider strategies for identifying patients with depression
- Understand in broad terms the strategies used in the 3D intervention to investigate improving the management of multimorbidity

### 3D criteria

#### Inclusion criteria

- Aged 18+ yrs
- 3 or more LTC from QOF list

#### Exclusion criteria

- Life expectancy less than 1 year
- Known to be leaving the area within 1 year
- High suicidal risk

- CVD: coronary heart disease, hypertension, heart failure, peripheral arterial disease, chronic kidney disease
- 2. Stroke
- 3. Diabetes
- 4. COPD or asthma
- 5. Epilepsy
- 6. Atrial fibrillation
- Severe mental health problems (eg. Schizophrenia, psychotic illnesses)
- 8. Depression
- 9. Dementia
- 10.Learning disability
- 11.Rheumatoid arthritis

#### **Case Study**

TASK 1: Think about a patient you have with multimorbidity and complete the following form:

Age:\_\_\_\_\_ Gender:\_\_\_\_\_

Diagnoses:	Additional information

#### How are their reviews done currently?

Condition	Clinic	Who with	Appt length	Frequency	Bloods

#### Other considerations

Medication reviews & monitoring:

Past history (e.g. smoking, BMI):

Clinical concerns:

Do you operate named/usual GP/nurse system?

Do they often make you run late?

Other factors (e.g. when last seen, how often they attend, length of appt, frailty, access/ease of getting to practice etc):

### Multimorbidity in general practice

#### Discussion:

# What practice-based problems are there in managing your patient?

Possible prompts could be: High care users Frequent visits: primary and secondary care Frequent hospital admissions Poor continuity of care Multiple specialties involved Lack evidence in applying guidelines Polypharmacy Length of consultation Duplication of care, poorly co-ordinated

#### TASK 2: Return to your case patient, please now complete the following questions

How does it feel to be a user of your service?

How does it feel to be this patient?

If you were this patient what would you be most concerned about?

How do your medical conditions affect your life or wellbeing?

Quotes we received from patients:

- 'Doctors only want to deal with one thing at a time, but my conditions are inter-related.'
- 'It is unlikely to get an early enough appointment with my regular GP, which means that I hop between all the GP's in the practise with none of them really knowing my case.'

#### **Patient Centred Care**

### Patient perspective

- What is it that makes patient centred care particularly relevant to patients with MM?
- How could you improve patient centred care in your practice?
- What are the challenges to delivering patient centred care?

Some key elements could include:

Asking patient first what they want to talk about

Listening carefully

What is important to them – re outcomes

Enough time

Knowing key information about the patient before they come in, so patient doesn't to explain everything again

Understanding what approach the patient wants - active / passive

Quotes about how conditions affect patient wellbeing:

- 'There are so many things I can't physically do any more. Sometimes it's hard to keep a positive outlook on life.'
- 'When I get tired, I get irritable! So I have to watch out for that. Then some days my joints are more sore than others, which means I have to use transport instead of walking.'
- 'Differently from day to day, but generally they are depleting my health and destroying my life. Well-being is not meaningful at this time.'

#### Core components of 3D

### Core components of 3D

- Improve continuity and coordinating care
- Start by identifying the patient's priorities
- Hones in on <u>D</u>imensions of health / quality of life
- Systematic attention to identifying Depression
- Simplifying Drug regimes, with advice from a pharmacist
- Checking medication adherence
- Agreeing explicit goals and a plan which is shared with the patient

### **Continuity of care**

	Continuity of care			
• How m	uch time d	o clinician	s spend w	ith MM
patient	ts compared	d with pati	ients with	out MM
		No MM	With MM	
	Nurse (N)	1.5	4.8	
	GP (N)	3.7	10.4	
	Total (N)	5.2	15.2	
		No MM	With MM	
	Nurse (mins/yr)	12.9	46.6	
	GP (mins/yr)	31.5	92.7	
	Total (mins/yr)	44.4	139.3	
How can practices improve the continuity of care?				

### Continuity of care

Some examples:

- Receptionists understanding importance of patient seeing usual GP
- Embargo one slot per GP per week for complicated patients that can be released if not used
- Try and put these patients towards the end of session to reduce possibility of causing you to run late

#### **Co-ordinated reviews**



#### Dimensions of health & agenda setting



- Identifying patient's priorities, seeking an integrated understanding of the whole person, including their emotional needs and life issues
- This involves thinking about health more broadly
- TASK: Imagine your example patient how can we best elicit your patient's concerns

### The patient's agenda

Example questions:

- 'I understand you have numerous health issues and deal with these well, what would you like my help with?'
- · 'With your health as it is, what causes you most difficulty?'
- · What did you want to talk about today?
- · What's going on in your life?
- · How do you feel about it?
- · What about (situation) troubles you the most?
- · How shall we take this forward?

Importance of non-verbal Communication Does your patient do most of the talking?

### Patient agenda

- Acknowledge that patients may want to discuss other concerns
  - e.g. dog died, desire for holiday
- Important to validate concerns
- Recognise health not just about symptoms
- Patients primed to think early about their concerns with prompt in review invitation letter

#### Depression

TASK:

What does this score mean?



- Patients with MM are more likely to experience depression
- The template includes a section to enter the patient's PHQ9 score and their suicidal thoughts score.
- This can be used as a starting point for discussion
- · Nurses are not expected to diagnose depression

# **Depression task**

#### Patient Health Questionnaire (PHQ-9)

Over the last two weeks, how often have you been bothered by any of the following problems?

- Little interest or pleasure in doing things? Several days
- Feeling down, depressed, or hopeless? Several days
- Trouble falling or staying asleep, or sleeping too much? Nearly every day
- Feeling tired or having little energy? Nearly every day
- Poor appetite or overeating? More than half the days
   Feeling bad about yourself or that you are a failure or have
- let yourself or your family down? Several days Trouble concentrating on things, such as reading the
- newspaper or watching television? More than half the days
   Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual? More than half the days
- Thoughts that you would be better off dead, or of hurting yourself in some way? Not at all
- Total =15 /27

In this PHQ-9 the results may not be down to depression, but may be the result of other symptoms related to chronic diseases (such as pain) – nonetheless they need to be discussed

#### Drugs

### Drugs

- A pharmacist will also be looking at each patient's drugs history and they can add any recommendations to their part of the template. These are some of the prompts they are being asked to use:
  - Potential dosage changes
  - Potential frequency changes
  - Potential alternatives
  - Stopping certain medications completely
  - Any missing medications
- · This will be covered in more detail in the next session

#### **Summarise 3D reviews**



### **3D Review assessments**

- 1<sup>st</sup> review appointment
  - Patient's agenda
  - Collect information and arrange tests
  - Copy of agenda given to patient, forms basis of discussion in second review
- 2<sup>nd</sup> review appointment
  - Review of medications
  - Goal setting
  - 3D health plan given to patient

The 3D review assessments are actually pairs of appointments, first with named nurse then with the named GP about a week later.

The reviews take place every 6 months replacing and consolidating what would take place in each of the disease specific clinics.

The role of the nurse appt is to collect information using a computerised template (which we are developing as part of the intervention)

An output from the template is then given to the patient which forms the agenda for their meeting with their named GP

The GP reviews the results of the nurse appt along with a pharmacist review of the patient medications (from records)

Develop a care plan with the patient, which they can take away to follow

Exactly who does what can be flexible as long at the same things are covered. If the practice wants to get the patient to have the bloods taken by an HCA (preferably at the same visit as the first consultation for the patient's convenience) that is ok.

If the practice has a very experienced nurse who can make clinical decisions and care plans across a range of conditions, and they want the nurse to do the second consultation that's ok



### Homework

- Have a look at the MM patient you have been using today (or someone similar).
  - How many medications are they currently taking?
  - How often do they attend?

#### Session B

- 1. Be familiar with the use of the 3D template
- 2. Consider the issues around medication adherence and how best to discuss them with patients
- 3. Using the case study, consider how best to create a health plan with a multimorbid patient
- 4. Appreciate the next steps in implementation of 3D

Time	What	Learning outcome	Task	How
Min	Introduction		Introductions, Recap briefly Session A, and re-introduce the case patients	Slides
Min	Medication Adherence	Awareness of barriers to medication adherence and a better understanding of how best to discuss this with patients	How can patients be encouraged to openly discuss their medications? Using the case study – what problems do you think MM patients might have with medication adherence?	Discuss in pairs or small groups Questions can be on slide or laminate
Min	Goal setting	Be comfortable setting goals with patients which are achievable	Introduce goal setting, then discuss what makes a good goal and what are the roles of the clinician and the patient	Consider slide pitfalls in goal settings
Min	Health plan	Be able to create a health plan for a 3D patient	Create a health plan, including goals. Reflect back to considering patient's priorities, and the questions you came up with, and how this might feed into a health plan.	As a group discuss and create a health plan. What did you find easy/difficult about the process? Show example health plan
Min	Template	Be comfortable using and navigating through the 3D template.	Introduce the template, go through the general health questions, QOF sections, pharmacist comments, medication adherence, bloods and other	Open the template in Emis for a consented patient (try not to pick an overly complicated one to start with, maybe have one in reserve to look at after)
Min	New case patient	Be comfortable going through the different steps for a MM patient	Go through new case patient (general history and some clinical data). Generate patient agenda, identify any clinical concerns, think about the 3Ds, finally produce a health plan for the new patient	In pairs 'role play' patient (adopting the case study patient) and doctor/nurse, and together create a health plan.

				Add agenda and health plan items to dummy patient and print the associated documents
Min	Post-it notes task	Understand how the 3D template works, where to find all the information and how it can be implemented	Get feedback specifically about using the 3D template, implementing 3D in a consultation	Anonymous post-it notes Followed up with feedback from facilitator
Min	Evaluation		Evaluation form to fill out	
Min	Next steps		Explain next steps for practice, one on one clinician training/run through of template, receptionists training, setting up appointments	Confirm GP champion if haven't already

#### **Clinician training part 2**

# Learning Objectives

- Consider the issues around medication adherence and how best to discuss them with patients
- Be familiar with the use of the 3D template
- Using the case study, consider how best to create a health plan with a multimorbid patient
- Appreciate the next steps in implementation of 3D



Think about the multimorbidity patient you used in the previous tasks. How many medications are they currently taking?

#### **Medication Adherence**

### Drugs

- Average patient with multimorbidity take 12 different drugs (2 in patients without MM)
- There are many problems associated with polypharmacy
- Increased number of drugs is associated with poorer medication adherence

### Drugs

As part of the 3D review you should:

- Review recommendations made by the pharmacist
- Do a complete medication review
- The aim is to try and simplify drug regimes (where possible)

### **Medications task**

- How can we encourage patients to openly discuss their medications?
- What problems do you think patients with multimorbidity might have with medication adherence?
- · How could patients' drugs be simplified?
  - Potential dosage changes
  - Potential frequency changes
  - Potential alternatives
  - Stopping certain medications completely
  - Any missing medications

#### Some examples are:

"don't be embarrassed if you don't want tablets" ...

Try empower patients that it's their tablets...

Are there any of these tablets you don't like taking?

How are you getting on with your tablets/are there any problems with tablets? Do you want me to change your tablets?

### Medication adherence

- Normalizing problems with meds
- "What problems are you having with your medications?"
- "Do you know why you are taking each of your medications?"
- Remember to ask about OTC medications and herbal/alternative preparations, borrowing from friend/grandmother

Questions on the template:

- "When people are on lots of medications they sometimes forget to take them all. Does this happen to you?"
- "Some people miss out a dose of their prescribed medications to adjust it to suit their own needs: how often do you do this?"
- "Are there any drugs that you don't take or don't like?"

# Simplifying medications

- · Common examples of simplifying :
  - Can drugs be moved to once daily?
  - Unnecessary or ineffective
  - Low clinical value (e.g. bisphosphonates in primary prevention, statins in low risk patients)
  - Anticholinergic effects in elderly

### **Goal setting**



# **Goal Setting**

- "Is there anything you would like to do to improve your health?"
- Activity/duration/timing/specify frequency/location/express confidence
- Can use a scale to ask patients on a scale of 1 to 10 how achievable an action plan is

# **Goal Setting**

- Important to consider this from patients point of view as well as from a clinician perspective.
- TASK:
- What are some examples of goals patients may wish to focus on and what are some that clinicians may wish to focus on?
- How would you prioritise these goals?

### Goal setting

What approach should a health professional take that would help you to set goals for the management of your health?

- 'GP's need to be more open minded in their approach and focus on listening to understand the problem. They need to be individualistic, rather than prescriptive and over-bound by regulations.'
- 'Ask me what I want to achieve and be honest about what's achievable.'

### Pitfalls with goal setting

- Patient-centred not paper-centred: something the patient wants, not something they are told they should do
- Incomplete and incorrect agenda are common in consultations
- Unrealistic doctor/patient expectations
- Unattainable action plans (low chance of success)
- Need to be: specific, measurable, achievable, relevant and time-bound action plans, defined with concrete steps

#### **Health Plan**

### Task: writing a health plan

- Individually create a 3D health plan for a typical case study patient
- Think about what the patient might have identified as their priorities
  - how achievable are these goals currently?
  - What could be the first steps towards achieving these goals?
- Try to approach this from both the patient and the clinician perspective

Also discuss the practical aspects of this – how would they do this in a consultation. How do they normally work? With PC, entering data later?

#### 3D case study patient

### 1<sup>st</sup> review appointment

- We have given you some information about Mrs Williams including her past history and some clinical data.
- Mrs Williams has just arrived for her first 3D appointment.

#### TASK: IN PAIRS PUTTING YOURSELF IN MRS JONES' SHOES COME UP WITH HER CONCERNS

Please read through the background information provided about Mrs Williams:

You are Mrs. Ruth Williams, 69 years old

You have stopped smoking after being diagnosed with 'smoking-related lung problems' in 2013, and are proud of this. However, after stopping smoking you gained more weight. You are aware you are overweight and embarrassed it. You have tried unsuccessfully to lose weight before, and don't want to try and fail again.

You know that you and your husband have 'a sweet tooth' and like biscuits in morning and afternoon. You feel your diet is otherwise 'good', with lots of fruit and vegetables. You drink alcohol 'occasionally', perhaps 1-2 glasses of wine a night.

You walk with a stick because of the knee pain, and feel unable to exercise or walk any distance because of the pains.

You have found yourself getting increasingly breathless over the last 6 months. Together with your knee pain this is preventing you from doing a number of activities and you now struggle to visit your daughter and granddaughter.

Your main concern is the pain in both knees. It is especially bad after walking and on bad days can wake you at night. You feel you need pain relief but unsure how useful the current ones are. You know the doctor said you shouldn't take ibuprofen (though can't remember why), but sometimes you feel you have to, as this does help. You find the co-codamol constipating, and frequently take that senna, that you've bought from the chemist.

# At this stage try and identify how many problems the patient has raised and enter them in the table below

Problem 1
What the patient can do
What the doctor can do
When we should review this
Problem 2
What the patient can do
What the doctor can do
When we should review this
Problem 3
What the patient can do
What the doctor can do
When we should review this
Problem 4
What the patient can do
What the doctor can do
When we should review this

At the end of the first appointment you should have:



### 2<sup>nd</sup> review appointment

 TASK – putting yourself into Mrs Williams' shoes and the doctor create a health plan

You are the named doctor/nurse for Mrs. Williams,

Though you haven't seen her often, she was last seen by a GP 6 months ago. You also see in the notes that a GP colleague had reviewed her medication 3 months ago (but there are no consultation notes, and no changes were made).

You are aware from her written priorities that her main concerns are: 1. Breathlessness, 2. Knee pain, 3. Weight

You are also concerned about her raised blood pressure of 158/94. You note she has considerable difficulty walking and there is slight swelling of her ankles. Her spirometry results indicate some deterioration. All blood results are within the normal range.

She scored 15/27 on the PHQ9 which may indicate possible moderate depression.

#### Patient Health Questionnaire (PHQ-9) Mrs. Williams

Over the last two weeks, how often have you been bothered by any of the following problems?

Little interest or pleasure in doing things?	Several days
Feeling down, depressed, or hopeless?	Several days
Trouble falling or staying asleep, or sleeping too much?	Nearly every day
Feeling tired or having little energy?	Nearly every day
Poor appetite or overeating?	More than half the days
Feeling bad about yourself - or that you are a failure or have let yourself or your family down?	Several days
Trouble concentrating on things, such as reading the newspaper or watching television?	More than half the days
Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?	More than half the days
Thoughts that you would be better off dead, or of hurting yourself in some way?	Not at all
Total =15 /27	Moderate depression

Depression Severity: 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe, 20-27 severe.

#### Asking about depression:

PHQ-9 could suggest moderate depression. This may prompt doctor to explore the issues more thoroughly. In point of fact she doesn't have depression. Most of her problems relate to her knee pain. She wakes frequently at night due to the pain, and is taking her full dose of co-codamol, despite it causing constipation and making her feel woozy (hence the trouble concentrating).

She recognises her appetite has increased since stopping smoking 2 years ago, and knows she's overweight, but 'I can't exercise due to the knee pain'.

Incorporating the additional information above complete this table for Mrs Williams

Problem 1
What the patient can do
What the doctor can do
When we should review this
Problem 2
What the patient can do
What the doctor can do
When we should review this
Problem 3
What the patient can do
What the doctor can do
When we should review this
Problem 4
What the patient can do
What the doctor can do
When we should review this

# 2<sup>nd</sup> review appointment

- Review pharmacist comments
- Medication adherence / review of medications
- Are there any clinical problems that need addressing?
- What are the 'problems' to be added to the health plan?
  - How might you work with the patient to tackle these?
- Print a copy of the health plan for the patient

Example plan:

Problem 1	Increased breathlessness
What the patient can do	Take inhalers regularly for 1 month
What the doctor can do	Review in 1 month time. If no improvement then try different treatment for COPD. Arrange Chest XRay?
When we should review this	1 month
Problem 2	Overweight
What the patient can do	Keep a food diary for 1 week and attend the practice regularly to be weighed. Bring her husband along to the next appointment to discuss losing weight together
What the doctor can do	Refer to WW. Review with patient after food diary complete to set realistic goals, for example cutting out the biscuits with her cup of tea.
When we should review this	6 months
Problem 3	Increased BP
What the patient can do	Stick to weight loss plan as described above
What the doctor can do	Adjust medication to help bring it back under control
When we should review this	2 months
Problem 4	Knee pain
What the patient can do	Take pain killers and maintain as much exercise as possible. Walk to the shop every day to buy the newspaper
What the doctor can do	XR. Start / adjust pain meds. Refer to physio
When we should review this	After the XR