MURIA Conference Workshop - Quality Indicators in the Ambulatory Care Setting (3 hours)

The following will be covered in the workshop.

1. Review what is meant by quality indicators
    a. Definitions
    b. Characteristics of a quality indicator
    c. Framework for assessing quality
2. Discussion about the options for their development
    a. Outcomes desired
    b. Sources of data available to create the indicator
    c. Sources of evidence (e.g. existing indicators, guidelines, warnings)
3. Panning/sifting/reviewing process
    a. Check of quality using S. Campbell's framework
    b. Constructing indicators focusing on the impact of the denominator
4. Discussion about the implementation
    a. How would the indicator be made known?
    b. Could it be reported / measured locally?
    c. Would it be reported locally the same way as it's measured remotely? (e.g. antibiotic use audit in practices but total antibiotic use measured nationally)
5. Discussion about evaluation and measuring success
    a. Trend analysis accounting for changes in variation
    b. Segmented regression of interrupted times series data for definitive analysis of outcome
6. Discussion about retiring indicators
    a. Risk of removing
    b. Place of balancing measures

Three presentations

1. Quality Prescribing Indicators development and other considerations (defining quality indicators and framework to assess quality)
2. Developing Quality Prescribing Indicators Scotland's experience (process used in Scotland to develop indicators)
3. Quality Prescribing Indicators Scotland's experience (outcome analysis for selected indicators)

Additional resources

1. List of indicators
    a. WHO
    b. Scotland NTIs (including historical)
2. Worksheets to
    a. Map out sources of data for quality indicators
    b. Check the quality of the indicator (quality indicator assessment framework)

Indicators

WHO prescribing indicator	Reference value
Average number of medicines per encounter	<2
Percentage of medicines prescribed by generic name	100 %
Percentage of encounters with an antibiotic prescribed	<30 %
Percentage of encounters with an injection prescribed	<20 %
Percentage of medicines prescribed from an essential medicines list or formulary	100 %

WHO. How to investigate drug use in health facilities: Selected drug use indicators. Available at URL: http://apps.who.int/medicinedocs/en/d/Js2289e/

Scotland National Therapeutic Indicators

Quality Indicators

Therapeutic Topic	Indicator	Indicator Group
Analgesics (gabapentanoids)	**Gabapentanoids:** number of people prescribed > 1 DDD per day of gabapentanoid as a percentage of all people prescribed a gabapentanoids (6 months)	**CNS - analgesic**
Analgesics (gabapentanoids)	**Gabapentanoids:** number of people prescribed more than the maximal recommended dose (>2 DDDs) per day of gabapentanoid as a percentage of all people prescribed a gabapentanoids (6 months)	**CNS - analgesic**
Analgesics (gabapentanoids)	**Gabapentinoids:** number of people prescribed a gabapentanoid at an average daily dose equivalent to >4800mg gabapentin over the previous 6 months as a percentage of all people prescribed a gabapentanoid	**Polypharmacy**
Analgesics (opioids)	**Opioid analgesics:** number of people prescribed average daily dose of opioid equivalent to ≥ 120mg per day of morphine as a percentage of all people prescribed step 2 and strong opioids	**CNS - analgesic**
Analgesics (opioids)	**Opioid analgesics:** number of people prescribed strong opioids (including tramadol preparations) long term (>2 years) as a percentage of all people prescribed strong opioids	**CNS - analgesic**
Antibiotics (repeated courses)	**Antibiotics:** number of people prescribed > 4 prescriptions for antibiotics per annum as a percentage of all people prescribed antibiotics	**Polypharmacy**
Antibiotics (UTI)	**Antibiotics:** number of 3-day course of acute UTI antibiotics prescribed to women as a percentage of all acute UTI antibiotic courses prescribed to women	**Polypharmacy**

Quality Indicators

Therapeutic Topic	Indicator	Indicator Group
Anticoagulants	**Oral anticoagulant:** number of people prescribed an antiplatelet also prescribed an oral anticoagulant but without gastroprotection as percentage of all people prescribed an oral anticoagulant	**Cardiovascular**
Anti-diabetic Drugs	**Polypharmacy in Diabetes:** number of people prescribed three or more categories of diabetes medication as a percentage of all people prescribed an anti-diabetic drug	**Polypharmacy**
Anti-diabetic Drugs	**Sulfonylureas:** number of people aged ≥ 75 years prescribed sulfonylureas as a percentage of all people aged ≥ 75 years prescribed an anti-diabetic drugs	**Polypharmacy**
Antimuscarinics / Anticholinergics	**Falls, Fractures and Delirium:** number of people aged ≥75 years dispensed > 10 items of strong or very strong anticholinergics per annum as a percentage of all people aged ≥75 years	**Polypharmacy**
Antipsychotics	**Antipsychotics:** number of people aged ≥75 years prescribed an antipsychotic as a percentage of all people aged ≥75 years	**Polypharmacy**
Blood Glucose Testing	**Blood Glucose Test Strips:** number of people prescribed blood glucose test strips who are not prescribed treatments for diabetes (insulins and/or antidiabetic drugs) or are only prescribed metformin as a percentage of all people prescribed blood glucose test strips	**Endocrine**
Blood Glucose Testing	**Blood Glucose Test Strips:** number of people prescribed insulin not prescribed blood glucose test strips as a percentage of people prescribed insulin	**Endocrine**
Hypnotics and Anxiolytics	**Hypnotics and Anxiolytics** diazepam 2mg tablets as a percentage of all diazepam tablets (items)	**CNS - psychotropic**
Inhaled Bronchodilators	**Poor Asthma Control:** number of people prescribed more than 12 short-acting beta-agonist (SABA) inhalers per annum as a percentage of all people prescribed SABAs	**Polypharmacy**
Inhaled Corticosteroids	**High strength corticosteroid inhalers** prescribed to children (aged > 12 years) as a percentage of all children prescribed inhaled corticosteroids	**Respiratory**
Inhaled Corticosteroids	**Inhaled Corticosteroids:** number of people prescribed >14 inhaled corticosteroid inhalers	**Respiratory**

Quality Indicators

Therapeutic Topic	Indicator	Indicator Group
	per annum as a % of all people prescribed inhaled corticosteroid inhalers	
Insulin	**Long-acting insulin analogues** (detemir and glargine) as a % of all intermediate and long-acting insulins (excluding biphasic insulins) (DDDs)	**Endocrine**
Long term steroid	**Falls, Fractures and Delirium:** number of people prescribed a long term oral steroid without co-prescription of a bone protecting agent as a percentage of all people prescribed a long term oral steroid	**Polypharmacy**
Methotrexate	**Bone Marrow Suppression:** number of people prescribed methotrexate without co-prescription of folic acid as a percentage of all people prescribed methotrexate	**Polypharmacy**
Mucolytics	**Mucolytics:** number of people prescribed mucolytics long term (> 2 years) per 1,000 LS	**Respiratory**
Non-steroidal Anti-inflammatory Drugs	**NSAID** prescribing to people aged ≥65 years prescribed an antiplatelet without gastroprotection as a percentage of all people aged ≥65 years	**Musculoskeletal**
Non-steroidal Anti-inflammatory Drugs	**NSAID** prescribing to people aged ≥75 years without gastroprotection as a percentage of all people aged ≥75 years	**Musculoskeletal**
Non-steroidal Anti-inflammatory Drugs	**NSAID** prescription to people prescribed an oral anticoagulant without gastroprotection as a percentage of all people prescribed an oral anticoagulant	**Musculoskeletal**
Non-steroidal Anti-inflammatory Drugs	**NSAID:** number of people aged ≥65 years co-prescribed a NSAID and an ACE inhibitor/angiotensin receptor blocker and a diuretic as a percentage of all people aged ≥65 years prescribed an ACE inhibitor/angiotensin receptor blocker and a diuretic	**Musculoskeletal**
Regulatory Warnings	**Valproate:** females aged 13 to up to 45 prescribed valproate as a % of all females dispensed valproate	**MHRA warning**

LS = list size, the number of people registered to the GP practice

Process Indicators

Therapeutic Topic	Indicator	Indicator Group
Analgesics (gabapentanoids)	**Gabapentanoids:** pregabalin and gabapentin cost per 1,000 LS per day	**CNS - analgesic**
Analgesics (gabapentanoids)	**Gabapentanoids:** pregabalin and gabapentin DDDs per 1,000 LS per day	**CNS - analgesic**
Analgesics (gabapentanoids)	**Gabapentin:** as a % of gabapentanoids (DDDs)	**CNS - analgesic**
Analgesics (opioids)	**Dihydrocodeine:** DDDs per 1,000 LS per day	**CNS - analgesic**
Analgesics (opioids)	**Opioid analgesics:** Morphine as a percentage of all morphine, oxycodone, fentanyl, tapentadol, and hydromorphine prescribed (DDDs)	**CNS - analgesic**
Analgesics (opioids)	**Opioid analgesics:** Step 2 Opioids (other than strong opioids) DDDs per 1,000 LS per day	**CNS - analgesic**
Analgesics (opioids)	**Opioid analgesics:** strong opioids (including tramadol preparations) DDDs per 1,000 LS per day	**CNS - analgesic**
Analgesics (opioids)	**Strong opioids:** DDDs per 1,000 LS per day	**CNS - analgesic**
Analgesics (opioids)	**Tramadol:** DDDs/1000 LS LS	**CNS - analgesic**
Antibiotics	**Antibiotics:** total antibiotic script items per 1,000 LS per day	**Infection**
Antibiotics (4C)	**Antibiotics:** 4C antibiotics script items per 1,000 LS per 100 days	**Infection**
Antibiotics (4C)	**Total cephalosporin antibiotics:** items per 1,000 LS per 100 days	**Infection**
Antibiotics (4C)	**Total co-amoxiclav antibiotic:** items per 1,000 LS per 100 days	**Infection**
Antibiotics (4C)	**Total fluoroquinolone antibiotics:** items per 1,000 LS per 100 days	**Infection**
Antibiotics (UTI)	**Antibiotics:** UTI antibiotics (trimethoprim/nitrofurantoin) script items per 1,000 LS per day	**Infection**
Anticoagulants	**DOACs:** (dabigatran, apixaban and rivaroxaban) items prescribed as a % of all items prescribed in BNF 2.8.2	**Cardiovascular**
Antidiabetic drugs	**Antidiabetic Drugs:** number of people prescribed metformin as percentage of all people prescribed an anti-diabetic drug	**Endocrine**
Antidiabetic drugs	**Established antidiabetic drugs:** (metformin & sulfonylureas) as percentage of all anti-diabetic drugs (DDDs)	**Endocrine**

Process Indicators

Therapeutic Topic	Indicator	Indicator Group
Antimicrobial Wound Products	**Antimicrobial Wound Products:** antimicrobial wound products as percentage of total wound products (items)	**Wounds**
Blood Glucose Testing	**Blood Glucose Test Strips**: average cost per day of blood glucose test strips per patient prescribed antidiabetic drugs and/or insulins	**Endocrine**
Dipyridamole	**Dipyridamole:** DDDs per 1,000 LS per day	**Cardiovascular**
Ezetimibe	**Ezetimibe:** as a percentage of ezetimibe and all statins (DDDs)	**Cardiovascular**
High Strength Inhaled Corticosteroids	**High Strength Corticosteroid Inhalers:** High Strength Corticosteroid Inhalers as a percentage of all corticosteroid inhalers (items)	**Respiratory**
Hypnotics and Anxiolytics	**Hypnotics and Anxiolytics:** hypnotics and anxiolytics DDDs per 1,000 LS per day	**CNS - psychotropic**
New Medicines (under surveillance)	**Black triangle meds** as a percentageof all medicines (items)	**Medicines Under Surveillance**
Non-steroidal Anti-inflammatory Drugs	**NSAIDs including Cox-2 inhibitors:** Ibuprofen and naproxen as a percentage of all NSAIDs (DDDs)	**Musculoskeletal**
Non-steroidal Anti-inflammatory Drugs	**NSAIDs including Cox-2 inhibitors:** NSAIDs (including COX-2 inhibitors) DDDs per 1,000 LS per day	**Musculoskeletal**
Proton Pump Inhibitors	**High strength PPIs** as a % of all PPIs (DDDs)	**Gastrointestinal**
Proton Pump Inhibitors	**Proton Pump Inhibitors:** proton pump inhibitors DDDs per 1,000 LS per day	**Gastrointestinal**
Quinine	**Quinine:** DDDs per 1,000 LS per day	**Musculoskeletal**
Statins	**Simvastatin, atorvastatin & pravastatin:** as a percentage of all statins (DDDs)	**Cardiovascular**
Topical Anaesthetic	**Lidocaine:** lidocaine plasters GIC per 1,000 LS	**CNS - analgesic**

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Worksheet 1

Mapping Out Sources of Data

1. **Describe all the different ways that medicines are supplied to patients in the ambulatory care setting.**
   Start with the most common/frequent and/or with the supply process for medicines you are particularly interested in (e.g. antibiotics).
   Consider the location of where medicines are supplied, whether supplied directly, via a prescription or sold.
   Consider the definition of a medicine.

2. **Keeping in mind the supply process describe how and where is the supply of a medicine recorded.**
   The same supply may be recorded more than once in different settings.
   The supply of the same medicine may be recorded for some people but not for others.

3. **Can you access any of the records of supplied medicines?**
   If you can describe how and consider how frequently the data is updated and whether there are any time delays between the supply and the data being available.

4. **For the data you can access describe the variables that are available.** (e.g. medicine name, quantity, cost, dose, prescriber, patient, location of prescribing, location of dispensing)
   Consider whether DDDs can be calculated from the data you have if they are not available.

5. **Can the data be linked with other information to make it more useful?** (e.g. population figures, medicine classifications)

Worksheet 2

Indicator Assessment

*Indicator **name or short description**:*
*Please describe the **numerator**. What is being measured, how is it being measured (e.g. prescription count, cost, DDDs, patient count) and when (e.g. over what time period)? :*
*Prescribing Indicators are either reported as a rate of prescribing or as a % and therefore require a denominator. The denominator is key in ensuring the indicator or measure meaningfully reflects the prescribing issue been reviewed and addressed. Please describe the **denominator** providing the equivalent what, how and when details requested for the numerator. Provide your rationale for choosing this as the denominator :*
*If this indicator is **already being used** do you have any evidence how effective it can be in altering prescribing behaviours? Does the indictor make sense to prescribers?*

Worksheet 2 (continued)

Assessment of Quality	***Indicator name or short description:***
Clear: clearly defined aspect of quality of care	
Valid: Measures what was intended	
Acceptable: to those being assessed and the assessors.	
Consequences: desired outcomes set a priori	
Unintended negative consequences: minimised & implementation issues known	

Attributable: achievement of the aspect of care defined by an indicator should be largely under the control of those being assessed.	
Evidence base: underpinned by guidelines etc	
Feasible: valid and reliable consistent data are available and collectable.	
Reliable: minimal measurement error, reproducible findings	
Sensitive to change: has the capacity to detect changes in quality of care, to discriminate between and within subject.	
Predictive value: has the capacity to predict quality of care outcomes.	
Relevance: be in an area where there's a recognized gap between actual and potential performance	