

Preventing VTE in Hospitals Improvement Collaborative Measurement Guide



- 1. Get a list (census) of your patient population**
 - a. What sub-group of adult in-patients are you looking at?
E.g. all medical/ all surgical/ all post-partum, acute medical unit etc
 - b. Define admission time, e.g. time medical/surgical team complete admission assessment and decide patient is to be admitted, time elective patient is defined as an in-patient on iPIMS system etc
 - c. Admitted in previous 7 days (if taking a weekly sample) or 14 days (if taking a fortnightly sample), admission greater than 24 hours. You may limit to patients who are still in-patients if it is very challenging to pull records for discharged patients.

- 2. Select a random sample of patients from identified population (instructions overleaf)**
 - a. Simple random sample - Excel
 - b. Simple random sample - list that cannot be pulled into Excel
 - c. Systematic sample

- 3. For each patient, find the time point that is 24 hours after medical / surgical admission. For information available at that time, using the data collection sheet and your guidelines;**
 - a. Carry out VTE risk assessment using hospital guidelines
 - b. Carry out bleeding risk assessment using hospital guidelines
 - c. Check body weight
 - d. Check renal function
 - e. Check whether there were any contra-indications to compression stockings
 - f. Determine whether thromboprophylaxis was indicated, if LMWH, which drug and dose were indicated, and whether compression stockings are indicated
 - g. Determine what thromboprophylaxis was prescribed and/or given at the time
 - h. Determine if LMWH/heparin was appropriate or not and which category
 - i. Determine if mechanical prophylaxis was appropriate or not and which category
 - j. Determine if there is evidence that risk assessment was completed (form or other)

4. Enter to Excel workbook. NB The first worksheet on the spreadsheet is locked and must not be changed, other than to enter data in the pre-defined fields. If you want to collect additional data, analyse differently etc, open a new worksheet, copy the data from the standard worksheet to your worksheet and add columns, analyse etc as you wish.

How to select a random sample of patients

A) In Excel

- i. Add 2 extra columns before start of your Excel file.

- ii. Beside the first patient data, enter =RAND() in column A.
- iii. Select bottom right corner (so that + is the pointer), drag down the length of your data.
- iv. Copy all of the randomised numbers in column A.
- v. Paste Special as values into column B.
- vi. Column A will continue to change as you manipulate data (as it is a formula), column B won't as it is values.
- vii. Select all data by clicking the corner box to the left of A and above 1.
- viii. Sort by column B, ascending.
- ix. The first 5 (weekly sampling) or 10 (fortnightly) are your random sample. You will probably identify more than this, in case you are unable to get data for some of those patients. E.g. patient #8 is in surgery when you go to do data collection and you need to complete data collection today, so you collect data for patients 1-7, 9-10 and patient 11 on your randomisation.

B) If you have a list that cannot be pulled into Excel

- i. Number the list
- ii. Go to www.randomizer.org, the website for Research Randomizer
- iii. Scroll down to Generate Numbers
- iv. How many sets? 1
- v. How many numbers per set? 15 (if trying to collect 10 per fortnight); 8 (if trying to collect 5 per fortnight). Randomise more than you are likely to need in case you can't get data for some of the randomised patients
- vi. Number range? 1 to x. x is the highest number on your list
- vii. Do you wish each number in a set to remain unique? Yes
- viii. Do you wish to sort the numbers that are generated? Yes – least to greatest
- ix. How do you wish to view your random numbers? Place markers off
- x. Scroll down, click Randomize Now!
- xi. You get your list of numbers. Print or download
- xii. On your list, highlight randomized patients and their number
- xiii. Do data collection for the first numbers first (i.e. if can get data for 1-10, stop there; if you can't, continue with number 11 etc)

C) Systematic Sample (paper or Excel)

The systematic sample is an approximation to the simple random sample. Every n^{th} patient is chosen.

- i. Determine sample size and population size. $n = \text{sample size} / \text{population size}$
- ii. Choose a random number, r , between 1 and n
- iii. The r^{th} patient on the patient population list will be the first person in the sample
- iv. Determine every n^{th} patient thereafter until all n patients have been selected for the sample

Example:

- i. If there are 50 patients on a population list and a sample size of 10 is required then $n=5$.
- ii. A random number, r , between 1 and 5 is chosen by, for example, picking a number out of a hat or asking the person next to you or using Excel etc
- iii. Should $r=3$, the first patient to be included in the sample is the 3rd person on the list
- iv. Determine every 5th patient thereafter until the 3rd, 8th, 13th, 18th, 23th, 28th, 33rd, 38th, 43rd and 48th patients have been selected for the sample.