# Cheat Sheet for Quality Tools

## Brainstorming with ‘post it notes’

**Brainstorming**
1. Participants write (in silence, to cut through the authority gradient) on ‘post it notes’ all the reasons / causes they can think of, that contribute to the problem:
   - one idea per ‘post it note’
   - use as many ‘post it notes’ as needed
   - ideas need to be specific (phrases) e.g. “Education” although a good idea, is not specific enough. It needs to be “education not available to staff”, “education not available to patients”, “materials provided for education inadequate” etc.

2. Stick the ‘post it notes’ on a flat surface (eg: wall or table)

## Brainstorm using Five Whys

The 5 Whys is a technique to find the root cause of a problem

### The Five Whys

**PROBLEM:** Why was the Washington Monument deteriorating?

- Because of the strong chemicals needed to clean it
- Because there were lots of pigeon poop on the monument
- Because there were lots of spiders at the monument
- Because the lights were turned on at dusk

**SOLUTION:** Turn the lights on later to stop the chain of causes

## Affinity Diagram

The Affinity Diagram process follows brain storming. After brainstorming the ‘post it notes’ are in no particular order. The team needs to sort them into categories.

1. Team members silently begin to read and then arrange the ‘post it notes’ into categories (similar care processes, themes or pathways).
2. A main category HEADING is assigned at the end of this process.
3. Re-read all the ‘post it notes’ & remove any double ups.
4. Take a photo of the Affinity Diagram (so information is not lost)

## Cause & Effect Diagram

The information in the Affinity Diagram is then used to make a Cause & Effect (C&E) Diagram (on butchers paper). A C&E Diagram is a graphical display of an organised list of possible causes or factors, focused on one problem/effect.

1. Count the number of ‘category’ headings from Affinity Diagram and then sketch out (on butchers paper) a basic skeleton (bones) of the C&E Diagram (the number of headings equals the number of bones).
2. On the right hand side write the ‘Problem’ (Effect) ie: the specific problem you are trying to solve ie: ‘Poor Pain Management’.
3. Document each ‘Category’ Heading from the Affinity Diagram at the end of each bone.
4. Then document relevant causes (sub-categories) from that ‘Category’ down each bone.

For more explanation please watch this video: [https://www.youtube.com/watch?v=zhkHG3O3kwE](https://www.youtube.com/watch?v=zhkHG3O3kwE)
Multi Voting
(1 vote per person, per ‘post it note’)

The removed ‘post it notes’ must not be thrown away but kept to one side for review later to ensure that a really important issue was not inadvertently discarded.

Multi Voting (consensus method for prioritizing issues)
1) Each participant chooses their own symbol to vote with: e.g. a star, square, triangle, circle or their initials. This is so they can recognize where they have voted.
2) On the Affinity Diagram: Read all ‘post it notes’ and check all double ups are removed.
3) Count the number of ‘post it notes’. Record the total.
   • The idea is to remove half of the original ‘post it notes’
   • e.g. If there are 42 ‘post it notes’ the first time around, you want to end up with 21 ‘post it notes’ for the next round of voting.
3) To achieve this, participants must vote on the ‘post it notes’ by reviewing all but voting on half by placing their own symbol (in the top right corner) on the notes they feel contribute most to the problem (e.g. review all 42 but vote (place their symbol) on the 21 most important).
   • The voting demonstrates what individual participants perceive contributes most to the problem (from their own perspective).
4) At the end of the voting, the votes (symbols) on each ‘post it note’ are counted.
   • ‘Post it notes’ with 0, 1 or 2 votes (symbols) are discarded (keep them – just in case).
   • Final round: The remaining ‘post it notes’ would then be counted, again the 0, 1 and 2’s are discarded and the participants keep half of the remaining ‘post it notes’ for Weighted Voting.

Weighted Voting

1) Count the number of ‘post it notes’. Record the total.
2) # Votes = half the total: In this round if there are 20 ‘post it notes’ left, then each participant would have 10 votes each (half the total) to distribute amongst the ‘post it notes’.
3) The number of votes (use ‘strokes’ this time and place in bottom left corner) in this round can be allocated to the most important issue that each participant feels is the main contributor/s to the problem.
   • i.e.: Participant can place all their votes on one ‘post it note’ or spread amongst the ‘post it notes’.
4) The ‘post it note’ with the most votes (strokes) is deemed the most important issue contributing to the problem.
   • The ‘post it’ with the 2nd most votes is perceived as the 2nd most important contributor etc
   • Remove ‘post it notes’ with no votes
5) The remaining ‘post it notes’ are ready to build the Pareto Chart.

Source: NSW Health GEM Workstar – CPI module. For feedback regarding this document please contact Wendy Jamieson at the CEC wendy.jamieson@health.nsw.gov.au – Version Date: 10th May, 2016