Creating a dataset using administration data to identify specific processes impacting the client experience

Finn Sigglekow, Research Advisor, ACC, New Zealand

PREVENTION. CARE. RECOVERY.
Te Kaporeihana Āwhina Hunga Whara

In New Zealand over 11,000 clients are surveyed each year about their experience and satisfaction with the way ACC handled their claim. While surveys can identify where some of the issues are, they are limited by the level of detail on the services the client received, the processes they went through and if/where there were any delays. To solve this, a new method was developed to create a dataset from multiple administration and survey datasets. This 'customer experience' dataset is intended for detailed analysis into how process impacts on client experience.

Aim - Develop a dataset that:

- has administration data in a detailed format that can be used for advanced analysis
- links administration data with survey results
- does not contain any client identifiable information.

Part 1: Turning administration data into a single process dataset for analysis

Step 1: Create a timeline of a claim from multiple administration datasets

Contact Dataset

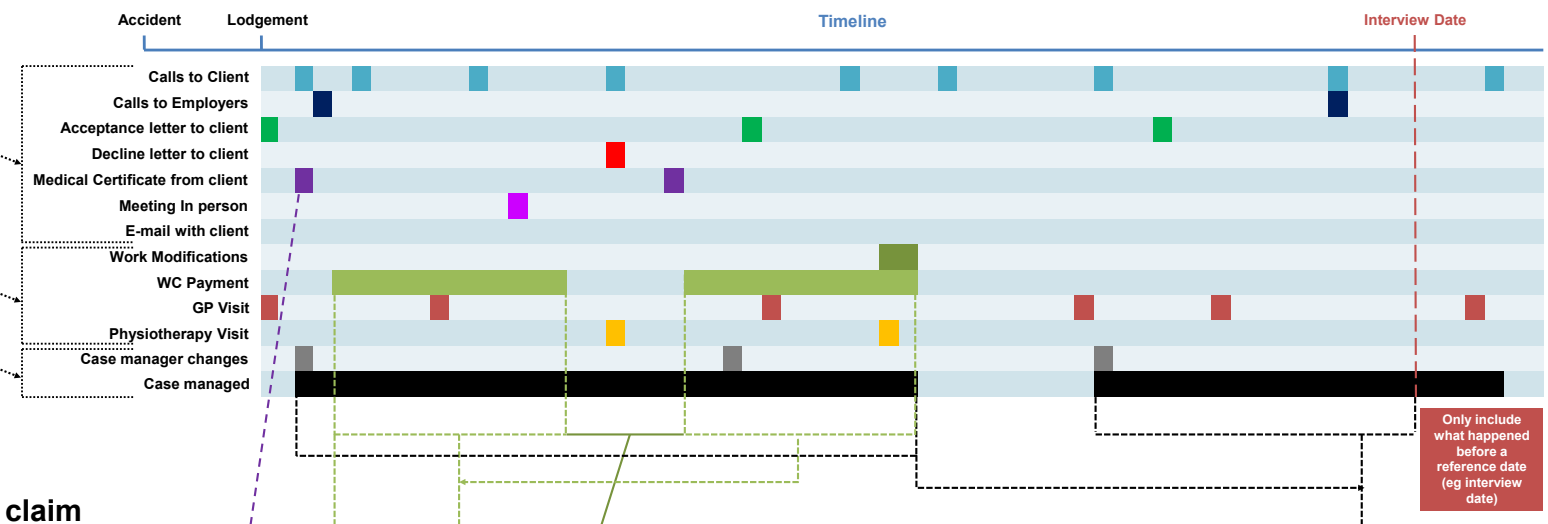
Date	Type of Contact	Direction	Contact with	Contact with Case Manager	Reason
30/12/2014	Letter	Outgoing	Client	Yes	Accept
3/1/2015	Document	Incoming	Client	-	Medical Certificate
3/1/2015	Phone Call	Outgoing	Client	Yes	
4/1/2015	Phone Call	Outgoing	Employer	Yes	
6/1/2015	Phone Call	Outgoing	Client	Yes	
12/1/2015	Phone Call	Outgoing	Client	Yes	

Payment Dataset

Date of service	Service Type	Date of Payment
30/12/2014	GP Visit	30/12/2014
3/1/2015 – 14/1/2015	Weekly Compensation Payment	3/1/2015
8/1/2015	GP Visit	
17/1/2015	Physiotherapist Visit	
21/1/2015 - 1/2/2015	Weekly Compensation Payment	21/1/2015
25/1/2015	GP Visit	25/1/2015

Management Dataset

Date of change	Assigned to
1/1/2015	Case Manager 1
23/1/2015	Case Manager 2
1/2/2015	Close Claim



Step 2: Convert timeline into single row per claim

Each row represents a claim. Over 1,800 variables created. Variables include counts, dates and calculated durations. Also include information on demographics and injury.

Claim ID	Date of First Medical Certificate	Date first WC payment	WC Duration (days)	Gap in WC	Acceptance letters to client	Decline letters to client	Number of calls to client	Number of GP visits	Number of physiotherapy visits	Duration claim managed	Number of case managers
001	1/1/2015	3/1/2015	24	1	3	1	8	5	2	49	3

Part 2: Link survey dataset to new process dataset

Step 1: Sample and interviews

ACC provides a survey sample to a third party research company which surveys a random group of clients. Research company provides full sample back to ACC (not including survey responses) with interview dates and dummy interview dates for those not surveyed. This is so ACC will not know who has been surveyed.

Sample

Claim ID
001
002
003
004
005
006
007
008
009

Not all clients surveyed

Dummy interview dates for clients not surveyed so ACC will not know who has been surveyed.

Research company randomly surveys some clients

Claim ID	Interview Date	Survey Dataset
002	2/3/2015	Satisfied
004	4/3/2015	Very Satisfied
005	4/3/2015	Dissatisfied
009	5/3/2015	Satisfied

Claim ID	Interview Date
001	2/3/2015
002	2/3/2015
003	3/3/2015
004	4/3/2015
005	4/3/2015
006	4/3/2015
007	5/3/2015
008	5/3/2015
009	5/3/2015

Step 2: Set up process dataset

ACC sets up process dataset from administration data (using procedure in Part 1) for the claims in the sample using either the interview date or dummy interview date as the reference date. As they are both in the same column, ACC does not know if the date is an actual interview date or a dummy interview date.

Process Dataset
9
12
4
41
0
11
11

ACC sets up dataset using sample

Claim ID	Interview Date	Process Dataset
001	2/3/2015	9
002	2/3/2015	12
003	3/3/2015	4
004	4/3/2015	41
005	4/3/2015	0
006	4/3/2015	11
007	5/3/2015	11
008	5/3/2015	29
009	5/3/2015	9

Step 3: Link and clean dataset

ACC provides new dataset back to research company which:

- links process dataset with survey dataset
- removes clients who were not surveyed
- removes any identifiable information (eg claim ID).

Research company then provides the final dataset of survey responses and admin dataset back to ACC for analysis.

Research company attaches survey responses, removes clients not surveyed and identifiable information

Clients not surveyed

Remove identifiable information

Final 'Customer Experience' Dataset

Survey Dataset	Process Dataset
Satisfied	12
Very Satisfied	41
Dissatisfied	0
Satisfied	9

Example of how customer experience dataset can be used

Survey Question

Q. What if anything, could ACC do to improve the way your claim is being handled?

"Probably just a bit more communication, more communication because I've been receiving calls from other people and they can't get hold of my case manager."

"Maybe more contact from the case manager, a phone call is probably better than a letter."

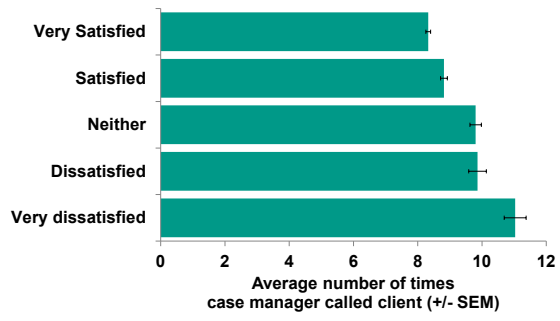
"Maybe like a check up to see how you are going maybe a bit more regularly."

"Maybe touch base with me a little more often and just call me and see how everything is going every couple of weeks."

"Just more regular follow ups and just letting me know that they are there."

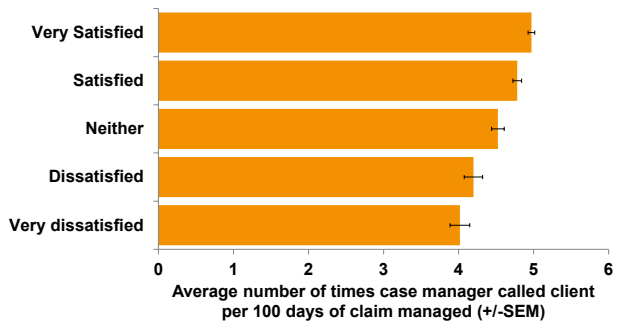
Does the number of times a client is called impact overall client satisfaction?

Q. Overall, how satisfied were you with your experience with ACC? (n=22,793)



The number of phone calls to the client from case manager impacts client satisfaction but not in the way expected from the qualitative results. However, as the number of phone calls increases with the length of time the claim is managed, and as the longer a claim is managed is correlated with lower satisfaction with ACC, need to account for length of time a claim managed.

Q. Overall, how satisfied were you with your experience with ACC? (n=22,793)



Average number of phone calls per 100 days claim managed is positively correlated with client satisfaction. This supports the qualitative results. However, further analysis and modelling is required while controlling for other factors that impact client experience, eg number of phone calls from client, declined entitlements, delays in setting up payments, number of case managers.

The 'Customer Experience' dataset is used to link the client experience to specific processes or services. It also provides valuable information from both the client and business perspective to facilitate and improve the quality of claims processing and, ultimately, the client experience.

It can also support and add to the qualitative information received by quantifying the specific administration process.

The dataset is now used by an advanced data analytics team within ACC to further understand the drivers of trust and satisfaction. This includes looking at whether the introduction of a new process impacts overall client experience while controlling for other factors on the claim.