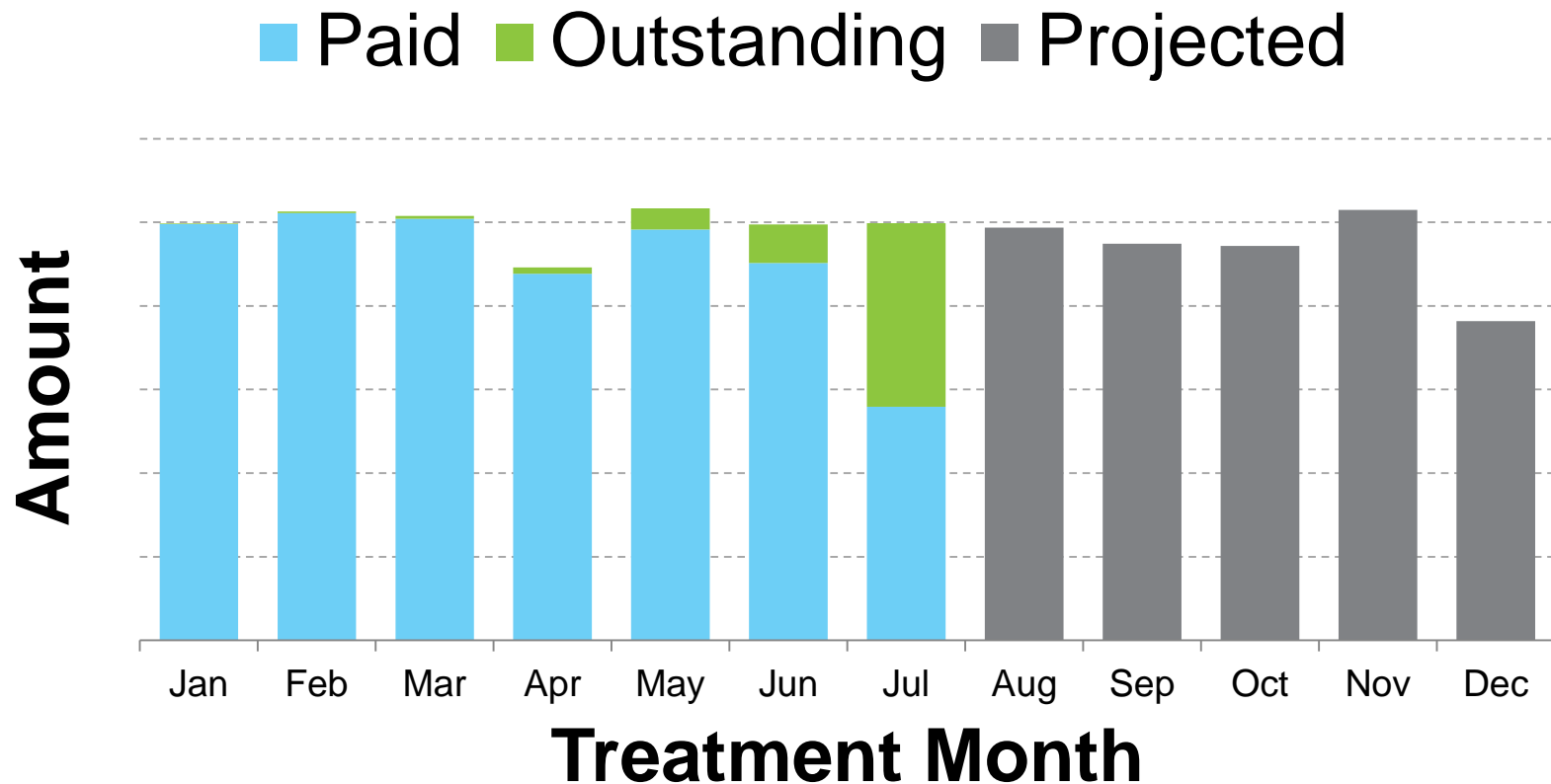


Hospital IBNR Estimations

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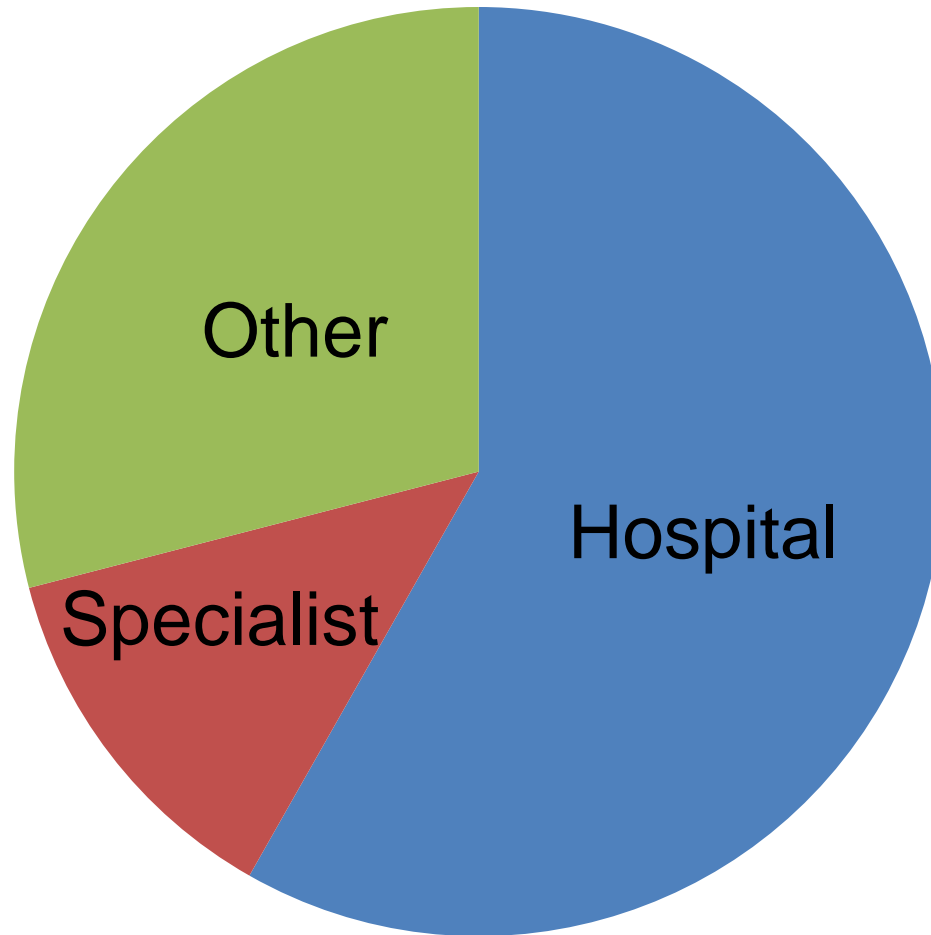
Do we care about outstanding claims?



Do we care about outstanding claims?

- Outstanding claims usually range between 4% and 6.5% of the total for the preceding 12 months.
- Hospital claims typically make up 35% - 40% of all medical scheme claims cost
- Typically slowest claims category to develop
 - ± 33% paid in month 0
 - ± 85% paid up to month 1
- As a result outstanding hospital costs make up about 60% of the outstanding claims balance
- You cannot manage what you cannot measure

Outstanding claims distribution



Common approaches

- Run-off triangles
- Independent claims estimates
- Combination methods (e.g. Bornhuetter-Ferguson)

High level approach

- Estimate total incurred hospital cost and deduct paid amounts
- Individual estimates per admission
- Over 100 000 admissions per month!
 - $\pm 25\%$ outstanding account for bulk of cost

Hospital pre-authorisation data

- Admission date
- Facility
- Reason for admission
 - Defining procedure vs diagnosis
- Authorised length of stay

Our model

- Statistical model using clinical grouping of admissions by category
- Clinical Service Grouping (CSG) used to define groups and sub-groups
- Over 700 main admission categories
- Determines average cost per day per admission subgroup

Challenges

- Outstanding pre-authorisations
- Vast quantities of data required (start with current scheme year, then prior year, then universe)
- Clinical classification into similar admission categories (CSGs)
- Initial reason for admission vs ultimate main driving cost category

But is it accurate?

Data Set	Remaining Unknown						
	Actual	Model Amounts			Model # Admissions		
	Month 0	Month 2	Month 1	Month 0	Month 2	Month 1	Month 0
2012 05	81.8%	1.2%	4.4%	16.9%	0.1%	0.3%	1.3%
2012 06	69.3%	1.3%	4.6%	17.4%	0.1%	0.3%	1.4%
2012 07	67.2%	1.2%	4.6%	16.9%	0.1%	0.3%	1.4%
2012 08	65.5%	1.3%	4.6%	17.0%	0.1%	0.3%	1.2%
2012 09	59.2%	1.2%	4.5%	16.7%	0.1%	0.3%	1.2%
2012 10	66.9%	1.2%	4.5%	16.9%	0.1%	0.3%	1.1%
2012 11	55.2%	1.2%	4.5%	17.3%	0.1%	0.3%	1.1%
2012 12	60.2%	1.2%	4.5%	17.2%	0.1%	0.3%	1.1%

Summary

- Run-off model with Bornhuetter-Ferguson
- Hospital projection estimate
- Implications for other claims cost categories?

A photograph of a young woman with long brown hair, smiling and looking upwards and to the right. She is wearing a light-colored sleeveless top. The background is a field of tall grasses, slightly out of focus. Overlaid on the image are several large, rounded rectangular shapes in blue, green, and pink. The text 'Thank you' is written in white on the blue shape.

Thank you