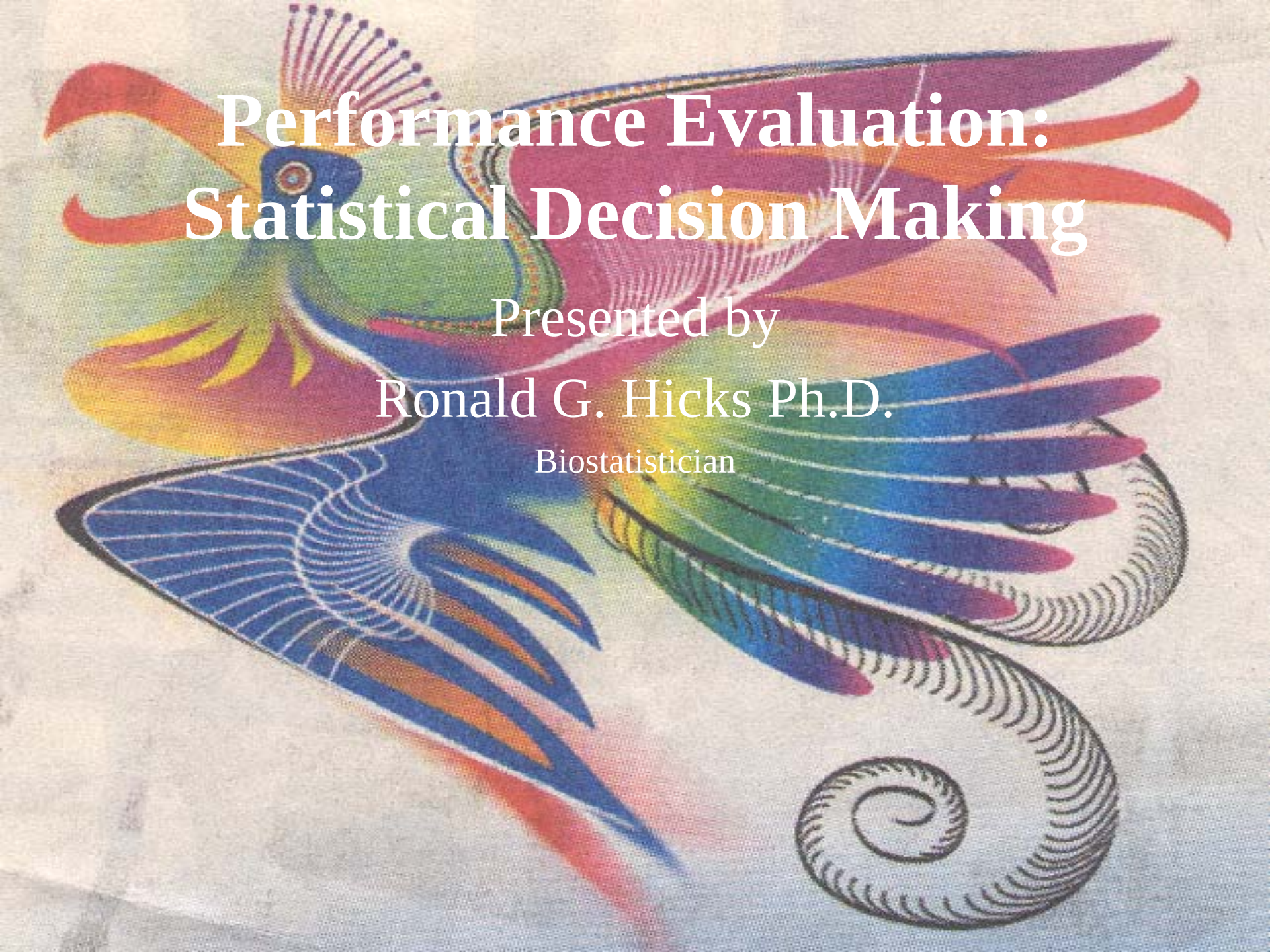

Performance Evaluation: Statistical Decision Making

Presented by

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Hippasus

- Around 500 BC, the ancient Greeks, the Pythagoreans, contented that all numbers could be derived from the integers by simple division.
- Hippasus proved that some numbers, i.e., /2 could not be written as a fraction of integers.

Hippasus

The Pythagoreans were so delight with Hippasus's insights, they rewarded him.

Hippasus

The Pythagoreans drowned Hippasus for heresy.

Key Performance Indicators Are:

* Metrics used to quantify objectives,
* Objectives have operational definitions,
* Reflect strategic performances,
* Aimed at prescribing a course of action.

KPIs:

- Are a set of metric values for chronological comparison.
- Consisting of;
    - * Timely, &
    - * Correct data.

- This analysis examines KPIs as to their objective efficacy.

- Also addressed but not answering, the cognitive milieu, “All measures are important.” Quoting, “The more measures I have the better I can manage.”

Method

Two years of "hypothetical KPI data" were analysed for two data-sets, "O" and "N".

Each data-set has numerous entries, e.g.:

1. Number of referrals,
2. Number of clients assessed,
3. Average waiting time,
4. Number of clients waiting,
5. Etc.

Slope was calculated for each sub-variable (8) for both “O” and “N” over two years, 2004 and 2005.

Slope is delta X/delta Y, indicating if performance has increased or decreased for the year.

Slope is then squared, eliminating negative scores, and entered into a Chi Square table.

Slope

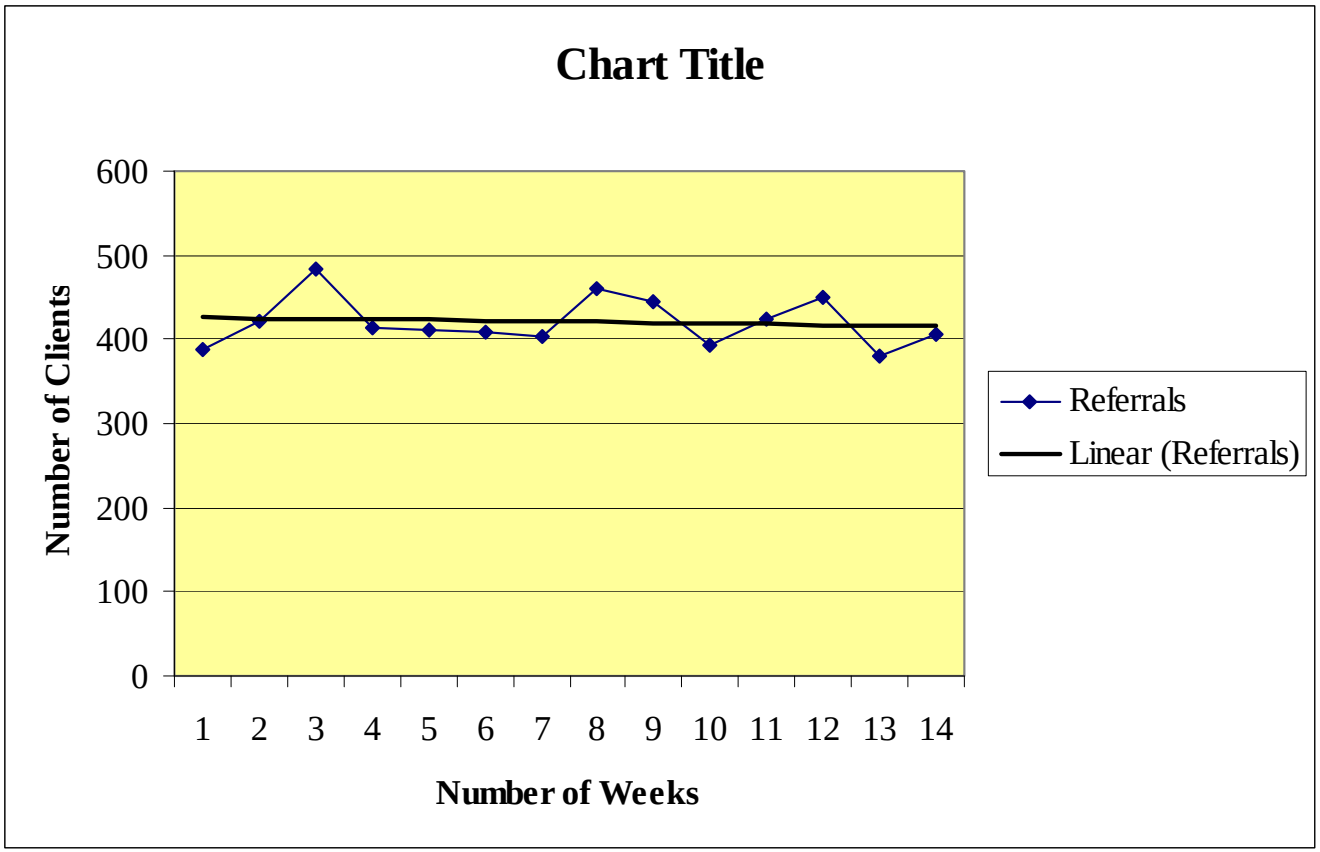
Chart Title
Number of Clients
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14
Number of Weeks
Referrals
Linear (Referrals)

Data for Chi Square

"N"	Observed			Expected	
	Square 04/04-05	Square 04/05-06	**Total**	04-05	05-06
	0.00988848	0.038494461	0.048382941	0.019943819	0.028439122
	0.089455117	0.015816768	0.105271885	0.043393878	0.061878007
	9.28266E-06	1.55417E-05	2.48244E-05	1.02328E-05	1.45916E-05
	0.0113381	0.000370551	0.011708651	0.004826396	0.006882255
	0.44092169	0.018250993	0.459172683	0.189274499	0.269898184
	0.305469042	0.01188052	0.317349562	0.130813922	0.186535641
	0.108416057	0.041594078	0.150010134	0.061835327	0.088174807
	3.763358315	6.616744696	10.38010301	4.278758011	6.101345
Total	4.728856083	6.743167608	**11.47202369**		

Chi Square Resultant

Chi Square	0.005069733	0.003555308	
	0.04889256	0.034287429	
	8.82216E-08	6.18681E-08	
	0.008785499	0.006161104	
	0.334573909	0.234630363	
	0.233189333	0.163531275	
	0.035089397	0.024607532	
	0.062082699	0.043537424	
Sum=	0.727683218	0.510310497	1.237993715
	Level of Confidence =		0.99

Goals:

- Steer the organisation toward explicate outcomes, impart by,
- Increasing awareness of personnel to capture, record and use information, by,
- Making comparisons within performance measurements.

KPI Effectiveness

Effectiveness is destroyed by:

- Having too many KPIs, two hundred is far too many to be effective.
- Having the KPIs yield random results.
- Managing randomness is a myth.

So What!

So what might you say!

What are the implications other than the ones already discussed?

Let’s say that a Health cluster has 774 employees, of which 674 are directly involved with service delivery.

Let’s also project, rather conservatively, each employee spends 5 hours per week entering information into a database, e.g., CHIME or AHMIS.

So What Continued!

The average hourly wage for a service provided is about $35 per hour.

Fifty-two weeks in a year.

So: 674employees * 5hours * $35wages * 52weeks = $6,133,400

Hypothetically, eight clusters within each of the eight NSW Health sectors. HOWZAT!

Recommendations

1. Eliminate all KPIs that demonstrate only random variation.
2. Eliminate all facets of the MAGGIE program that demonstrate only random variation.
3. Eliminate all facets of the Balanced Scorecard that demonstrate only random variation.
4. Provide education to staff as to numeracy. What does random mean?

Expanded Scope

* The demands on the Health System in the next 20 years are going to be at least 80-90 times greater than present.
* The acute care segment will continue within the benevolent model.
* Secondary care, with the same benevolent model will be overwhelmed by demand.
  - Added Accountability from service providers will be of marginal value.

Suggestions

Shift from a Benevolent Model (top down) to a Participative Model (interactive: client, service provider, support staff).

The Participation Model will need different skill sets (e.g., the utilization of added value information: integration vs. collation), and different attitudes than the benevolent approach. Health outcomes driven!

Reflection

Beware of Suggestions!!

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