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THE VALUE SHEET: HOW TO QUANTIFY AND COMPARE VALUE FOR HEALTHCARE PROCEDURES

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Aim: Provide practitioners with an alternative outcome measurement tool (the Value Sheet) to calculate the quantitative value of their procedures over time. Knowledge of value combines clinical outcome with cost to allow appropriate choices when more than one procedure is used to treat the same diagnosis (ref 1). Understanding the relative value of procedures will assist in procedure decision-making and promote understanding and engagement in new value-based payment reform models for reimbursement.

Method: Pain procedures are used for illustration of this method. Value = the ratio of successful outcome and costs (payments to the provider, minimum $100). Outcome = % recovery to baseline (0-100) of the primary factor pain (numeric rating scale, 0-10). The numerator is reduced by secondary factors for necessity, number of complications or recurrences requiring repeat procedures. Success is a binary factor defined as greater than a minimum % recovery of the primary factor. Excluded are patients dependent on narcotic pain medications or other effective interventional pain techniques. Data entry consists of 12 variables entered by the practitioner including 1) % greater than for success, 2) case identifier, 3) months post procedure, 4) diagnosis code, 5) procedure code, 6) baseline pain level, 7) pre-treatment and 8) post-treatment pain, 9) cost (payment to providers per procedure), 10) necessity or crossover to another pain procedure, 11) minor reversible complications and 12) major irreversible complications or repeat procedures.

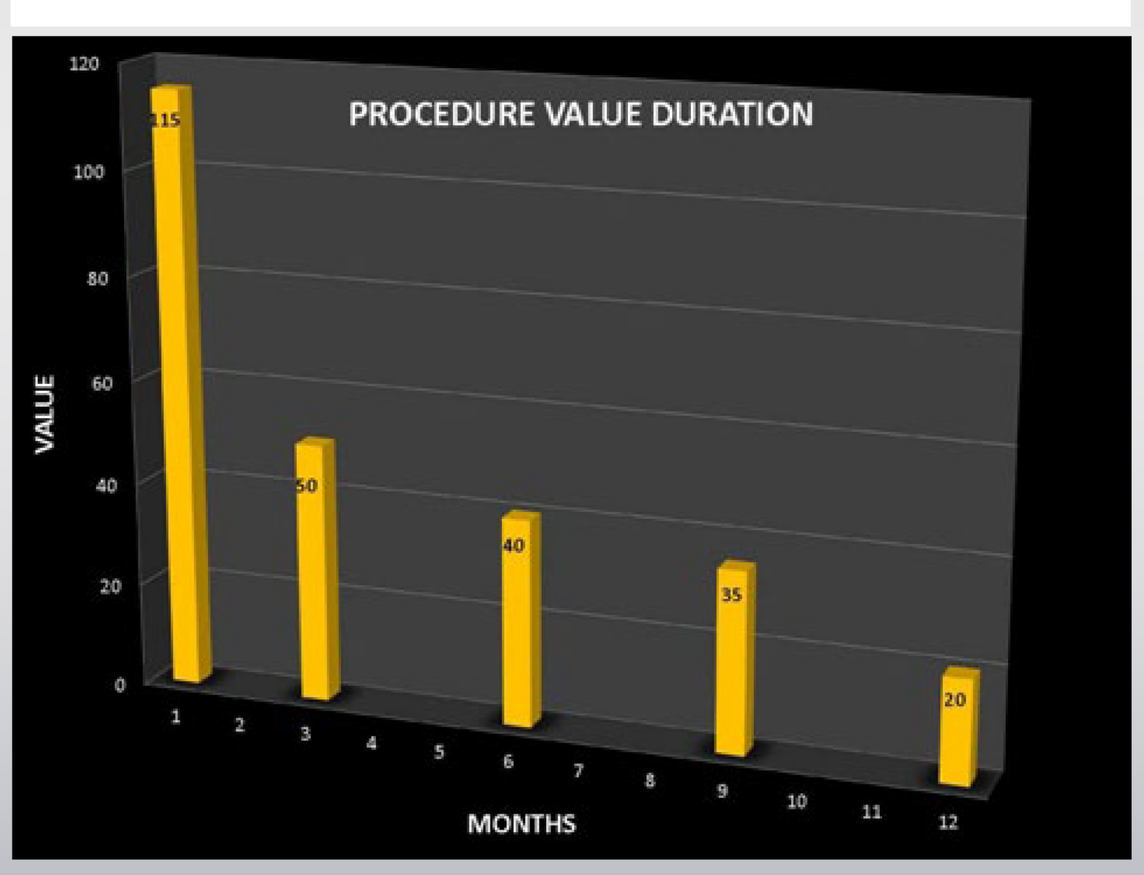
Results: Values are calculated with a range 0-1000. A value of 1000 is calculated for a necessary procedure when the calculated outcome is 100% recovery, the cost is $100 and there are no complications or recurrences (Sheet #1). A value of 0 is calculated when the procedure is a failure (less than the minimum % success) or the procedure is unnecessary per accepted guidelines (Sheet #2). Value is reduced 10% for each complication requiring treatment and 50% for each repeat procedure for recurrence. Examples of spreadsheets showing the value formula, data entries, calculated subentries and the final value for each procedure are displayed. In practice, a Value Sheet is created after each patient encounter using the spreadsheet with smartphone entries then printed or saved for transfer into the medical record for later review. The data is transferred to a table and the duration of value is plotted over time (Graph #1, minimum 12 months).

PROCEDURE VALUE SHEET #1

Pt # =	58	Mth =	6	ICD10 = M51.16	CPT = 99203

A_0	10			BASELINE VAS (0-100 mm)
A_1	90			PRE-TREATMENT
A_2	10			POST-TREATMENT
$S_{\%}$	70	S_x	1	SUCCESS % (GREATER THAN)
O_1	100	O_x	100	OUTCOME (A1-A2)/(A1-A0)x100)
C_1	$100	C_x	0.1	COST (min. $100/1000)
X_1	1	X_x	1	NECESSITY (0 or 1)
Y_1	0	Y_x	1	COMPLICATIONS (#)
Z_1	0	Z_x	1	RECURRENCES (#)

VALUE = 1000 = (S)(O)(X)(Y)(Z)/C



Conclusions: Value sheets collected over time will provide data that demonstrate the relative valuation and durability of alternative treatments for the same diagnosis code. Value calculation of a practitioner's own procedures will improve understanding of the "value for the patient" concept and may promote interest and more engagement in value-based payment reforms (ref 2). Optimization of value for pain patients is the ultimate goal of this improved understanding.

Bibliography

1. Porter ME, "What is Value in Healthcare?", New England Journal of Medicine **363**: 2477-81 with Appendix 1-2, 2010.
2. Van Biesen T and Weisbrod J, "Doctors Feel Excluded from Health Care Value Efforts" Harvard Business Review, 2-4, 10/6/2017.

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