

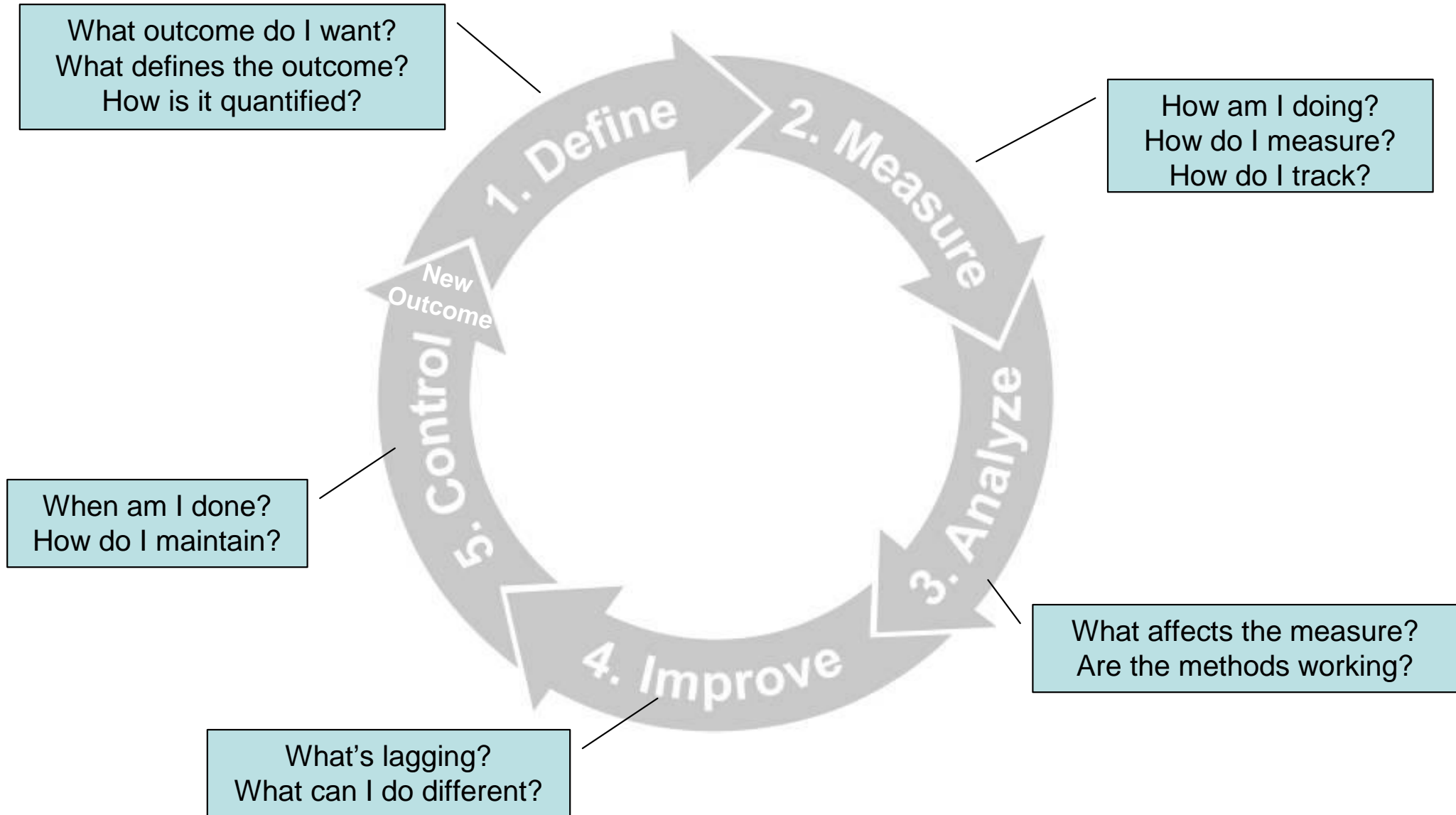
# DMAIC Fitness

Matthew Velderman

Quantified Self Meet-up

May 22, 2011

# DMAIC



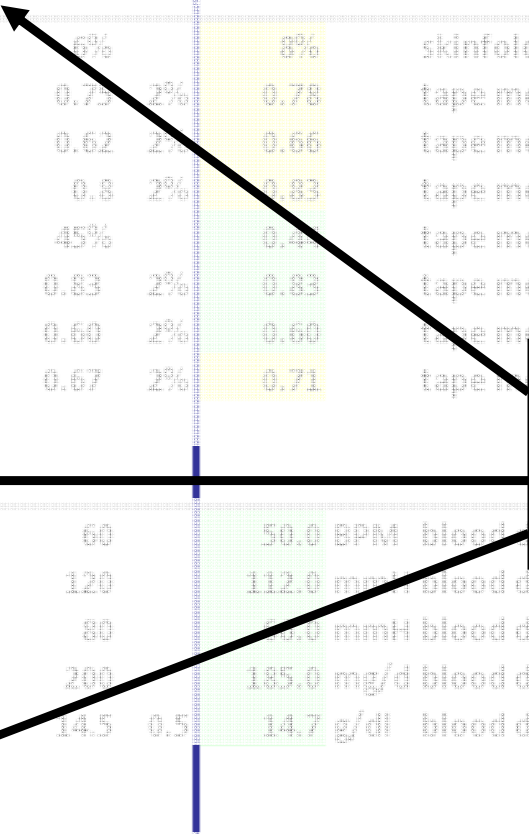
# Fitness Overview

GOALS									
Define			Measure				Analyze	Improve	Control
CTQ	Target	Err	Current	Unit	Method	Deadline	Key Inputs	Changes	
<b>Attractive to Women</b>									
Low bodyfat	≤	6%	8%		skinfold calipers	July-11	nutrient cycling, IF	PSMF on rest days	
Waist / chest	=	0.75	2%	0.78	tape measure	July-11	bodyfat, lifting	↓ BF%	
Waist / shoulder	=	0.62	2%	0.66	tape measure	July-11	bodyfat, lifting	↓ BF%, ↑ OH Press	
Waist / hip	=	0.8	2%	0.83	tape measure	July-11	bodyfat, lifting	↓ BF%	
Waist / height	<	45%		0.44	tape measure	July-11	bodyfat		
Forearm / bicep (r)	=	0.83	2%	0.83	tape measure		lifting		
Thigh / hip (r)	=	0.60	2%	0.60	tape measure		lifting		
Calf / thigh (r)	=	0.67	2%	0.71	tape measure		lifting	↑ squat	
<b>Longevity</b>									
Resting heart rate	<	60		50.0	BPM	blood donation	nutrition (paleo)	-	→ paleo diet
Systolic BP	<	120		112.0	mmH	blood donation	nutrition (paleo)	-	→ paleo diet
Diastolic BP	<	80		66.0	mmH	blood donation	nutrition (paleo)	-	→ paleo diet
Cholesterol	<	200		185.0	mg/d	blood donation	nutrition (paleo)	-	→ paleo diet
Hemoglobin	=	14.5	0.5	14.7	g/dl	blood donation	nutrition (paleo)	-	→ paleo diet
<b>Strength</b>									
Deadlift BW ratio	≥	2.5		2.37		lifting, scale	July-11	bodyfat, lifting	→ training, ↓ BF%
Squat BW ratio	≥	2		1.90		lifting, scale	July-11	bodyfat, lifting	↑ frequency, ↑ flexibility
Bench BW ratio	≥	1.5		1.46		lifting, scale	July-11	bodyfat, lifting	→ training, ↓ BF%
Chin BW Ratio	≥	1.5		1.52		lifting, scale	July-11	bodyfat, lifting	→ training, ↓ BF%
Overhead BW ratio	≥	1		0.96		lifting, scale	July-11	bodyfat, lifting	→ training, ↓ BF%

# Outcomes

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What matters to me



# 'Critical to Quality'

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From 'Muscle & Fitness' 1979 & studies on male attractiveness

Primary indicators of health

Fundamental strength to bodyweight ratios

# Measure

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# Analyze

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Waist / shoulder	=	0						↓ BF%, ↑ OH Press
Waist / hip	=							↓ BF%
Waist / height	<	4						
Forearm / bicep (r)	=	0.83	2%	0.83	tape measure			
Thigh / hip (r)	=	0.60	2%	0.60	tape measure			
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Systolic BP	<	120		117.0	mmHg	blood donation		→ paleo diet
Diastolic BP	<							→ paleo diet
Cholesterol	<							→ paleo diet
Hemoglobin	=	15.0			g/dL	blood donation		→ paleo diet
<b>Strength</b>								
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'Leangains' method

'Paleo' nutrition

Reverse pyramid training



# Methods

- ‘Leangains’ method
  - High calorie, high carb on lifting days
  - Low calorie, low carb on rest day
  - High protein all days
  - 16 hr fast + 8 hr feed
- ‘Paleo’ nutrition
  - Eat like a caveman
    - No grains, sugar, trans fats, etc.
    - Limited dairy, alcohol, fruit, etc.
- Reverse pyramid training
  - Start heavy (3 rep), finish light (8-10 rep)



## DAILY SUMMARY

Date	Cal In	Fat (g)	Carb (g)	Pro (g)	Cost	7 Day Avg \$	Fast (h)	Cal Out	Daily Δ Cal	7 Day Δ Cal	Weight (lbs)	BF%	Aox (2)	Calc.(2)	Mult. (1)	F-Oil (2)	Caff (2)	Yoh (2)
5/7/11	1795	77	12	251	\$ 6.63	\$ 6.76	14.5	2692	-896	-2378	170.4	10%	2	2	1	2		
5/8/11	3502	54	454	341	\$12.35	\$ 6.75	16.1	3110	392	-3488	171.6	8%						

## FOOD LOG

Date	Time	Food	Srv.	Size	Cal.	Fat	Carb.	Pro.	Cost	Fast
5/8/11	11:10	Whey	2	1 scoop	240	2	6	48	\$ 1.22	16.08
5/8/11	11:30	Whey	2	1 scoop	240	2	6	48	\$ 1.22	0.33
5/8/11	12:00	Honey Crunchin' Oats	8	1 cup	1387	11	288	21	\$ 1.64	0.50
5/8/11	12:00	Milk, Fat Free	4	1 cup	360	0	48	32	\$ 1.10	
5/8/11	16:15	Cottage Cheese, 1%	4	1/2 cup	320	4	24	52	\$ 1.75	4.25
5/8/11	16:15	Pudding Mix, Chocolate	3	1/6 package	105	0	24	0	\$ 0.75	
5/8/11	19:40	Cottage Cheese, 1%	8	1/2 cup	640	8	48	104	\$ 3.49	3.42
5/8/11	19:40	Pudding Mix, Chocolate	6	1/6 package	210	0	48	0	\$ 1.50	

## EXERCISE LOG

Date	Activity	Duration (minute)	Expenditure		Deadlift				Chin				Overhead			
			BMR	Added	Lbs	Reps	ORM	BWR	Lbs	Reps	ORM	BWR	Lbs	Reps	ORM	BWR
5/8/11	Lifting	45	2,300	216	395	2	406	2.37	80	5	90	1.52	135	8	168	0.98
5/8/11	Mowing	50		146												
5/8/11	Basketball (1/2 court)	90		448												

Rest

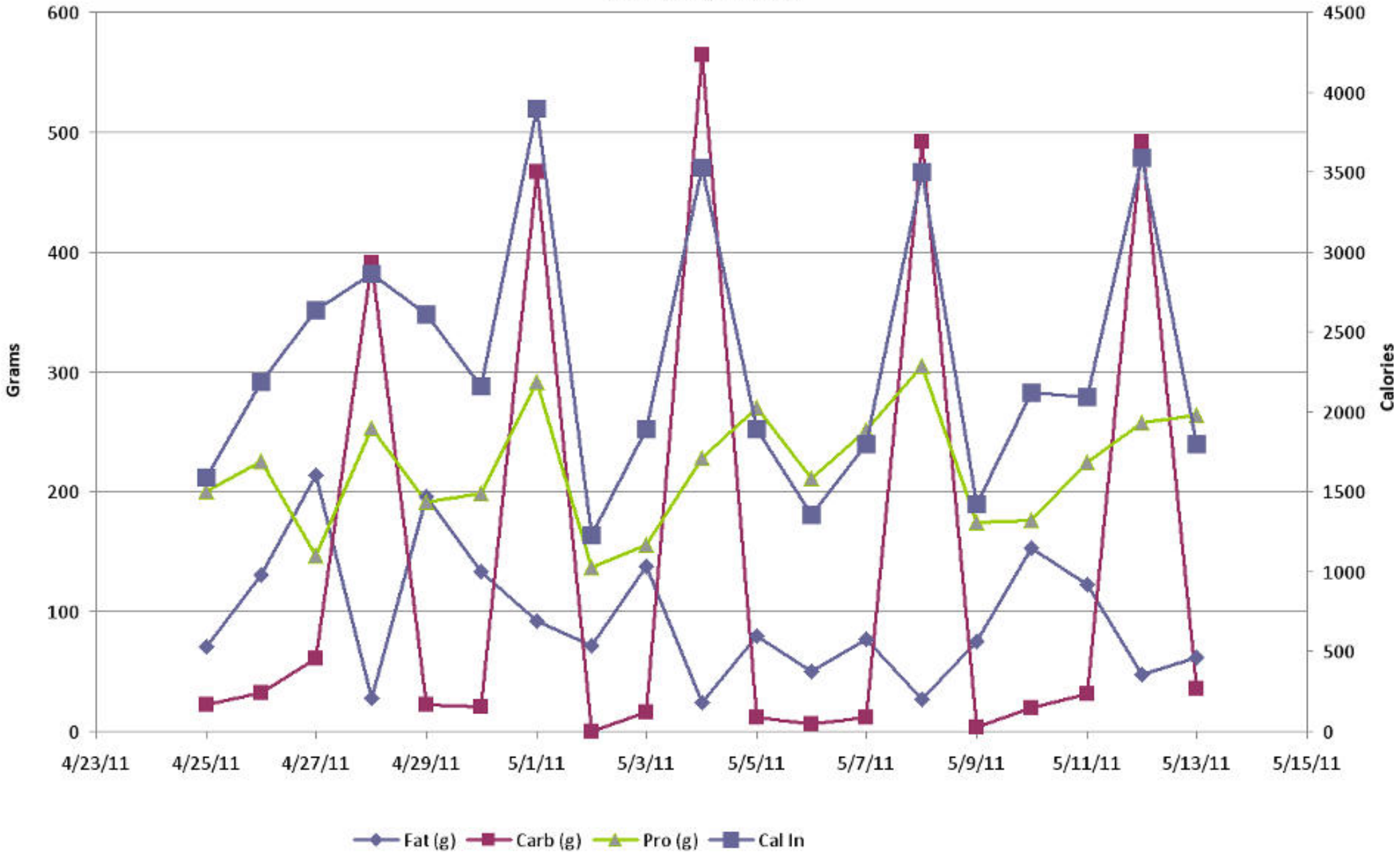
Lifting

INPUT

OUTPUT

# Daily Nutrient Intake

(sample period)



# Weight and Caloric Balance

(sample period)



# Cost Efficiency

(Finance Goal)

## FOOD CHOICES

Type	Brand	Srvg Size	Cal	Fat	Carb	Pro	\$ / serving	450 Cal / \$	30 Pro / \$	Pro/Fat
Brussel Sprouts	Giant	1 sprout	7.5	0	1.33	0.5	\$ 0.0333	225	15	
Casein, Choc	Optimum Nutrition	1 scoop	120	1	3	24	\$ 0.7994	150	30	24.00
Cheerios	General Mills	1 cup	100	2	20	3	\$ 0.2494	401	12	
Cheerios, Honey Nut	General Mills	1 cup	146.7	2	29.3	2.7	\$ 0.3333	440	8	
Chicken Breast, Skinless	Giant	1 gram	1.65	0.04	0	0.31	\$ 0.0078	212	40	7.75
Cottage Cheese, 1%	Giant	1/2 cup	80	1	6	13	\$ 0.4363	183	30	13.00
Egg, Large A	Giant	1 egg	70	4.5	1	6	\$ 0.1772	395	34	1.33
Egg Substitute	Better'n Eggs	1/4 cup	30	0	1	6	\$ 0.2681	112	22	
Hash Browns (Baked)	Giant	1 gram	0.82	0	0.19	0.02	\$ 0.0032	257	7	
Honey Crunchin' Oats	Giant	1 cup	173.3	1.3	36.0	2.7	\$ 0.2051	845	13	
Hot Dogs	Nathans	1 Link	170	15	1	7	\$ 0.3750	453	19	0.47

# Improve & Control

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# DMAIC Fitness Conclusions

- Forces total consciousness
  - No lying (e.g. food, progress)
- Objectification feels good
  - Like getting a good report card every day
- Identifies an ending point
  - End improvement, start control phase

# Next Project: Hedonometer

- A device to gauge happiness
- Direct
  - Biochemical: Serotonin, dopamine, oxytocin
  - Brain scanning, MRI
- Indirect
  - Day reconstruction method (journal)
  - ‘Quality of Life’ indicators
  - % completion of desired life outcomes
  - Mood journal