

Government Health IT Conference 2006

Applying Technology to Improve Health Care Effectiveness

Ron Sullivan
Walt Ekard
Nick Macchione

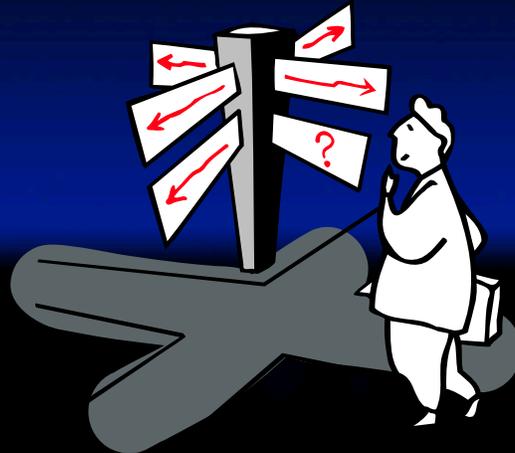
Learning Objectives

- How political and financial barriers can influence the purchase and implementation of information technology across an entire government system.
- How strategic planning can support a General Management System within a large government enterprise in delivering operational excellence.
- How implementing business process reengineering can improve health and other government services for customers.
- How an engaged health care workforce within a highly unionized environment can accept organizational culture change that sustains innovation and continuous improvement.
- How technological enablers can enhance operational priorities in achieving client solutions.

**Please Help Us Make This
Session Interactive**



**It Is Not About The
Technology**



Suggestions For Success

- User Buy In – (Management Support)
- Small Successes Lead to Bigger Success
- Involve All Levels
- Communicate Regularly
- Limit Your Customizations
- Empirical Feedback
- Get Professional Help

County of San Diego's Business Process Re-Engineering



*A success story in achieving
workforce productivity
by improving
Operational Excellence*

Walter F. Ekard
Chief Administrative Officer
County of San Diego

Nick Macchione
Deputy Director
Health & Human Services Agency



B **U** **S** **I** **N** **E** **S** **S** **P** **R** **O** **C** **E** **S** **R** **E** **-** **E** **N** **G** **I** **N** **E** **E** **R** **I** **N** **G**

Government Health IT Conference 2006

*“Applying Technology to Improve
Health Care Effectiveness”*

Agenda

Business Process Re-engineering	Walter Ekard
Mobile Remote Workforce Project	Nick Macchione
Q&A	Walter & Nick



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County Defined Circa 1997

- Population of 2.7 million
- Budget of \$2.4 billion
- New CAO hired from Private Sector
- Success in Privatizing Solid Waste
- Launch of Managed Competition and Reengineering Program



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IT Environment (Back Then...)

- Unclear responsibility for system failures
- Uneven distribution of technology across dept's
- Need for standardization and integration
- Frustrated workers and managers
- Business info for decision-making often unavailable → Innovation handicap
- Difficulty recruiting & retaining IT staff
- Limited public access and e-business

Daily Technology Failures!



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- **First four - five years** of the outsourcing engagement were focused on getting a unified and predictable IT environment (Infrastructure) and governing with an enterprise focus...
- With the infrastructure solid we have shifted the focus to **renovating our business processes re-engineering (BPR) for delivering services utilizing information technology**. This is the place where we can actually improve services to our citizens.



B **P** **R**-ENGINEERING

The IT Roadmap

- The County's Strategic Plan provides for Kids, Safe and Livable Communities and the Environment...
- We have an expanding population and declining budgets which demands...
 - IT initiatives that address making work less labor intensive...
 - Business Applications that focus on citizen centric government...
 - Information Technology human resources that are as state-of-the-art as our hardware...



B **P** **R**-ENGINEERING

BPR Imperative

- Continue to make additional services available via the Internet → e-gov't
- Improve the total experience of building within the County
- Renovate all back office accounting functions
- **Give mobile County workers more robust IT tools, including wireless capabilities, to allow more efficient use of human resources in the field**



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Mobile Remote Workforce

A State of the Art Solution

Putting Technology to Work!



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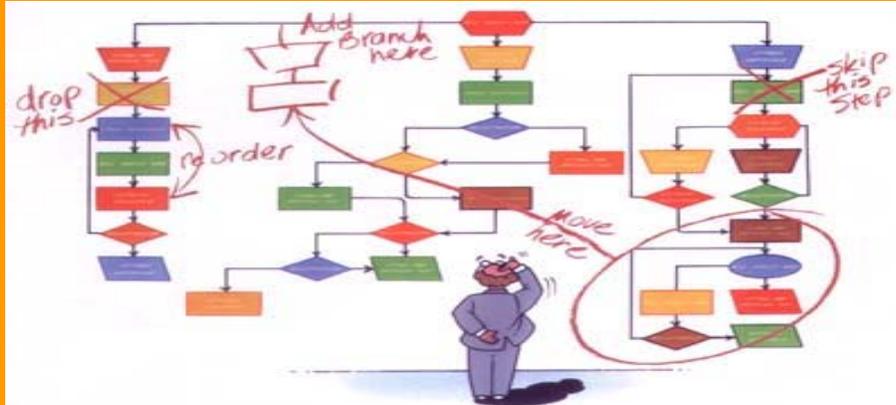
Discussion

- Challenge → Mission → Objectives
- Business Process Reengineering
- Outcomes
- Return on Investment
- Next Steps
- Lessons Learned



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Challenge



BUSINESS PROCESS RE-ENGINEERING

Mission

*Achieving operational excellence by
improving workforce productivity in
county Public Health Centers*



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Objective

Increase the time public health nurses devote to helping customers by reducing time spent on administrative tasks.



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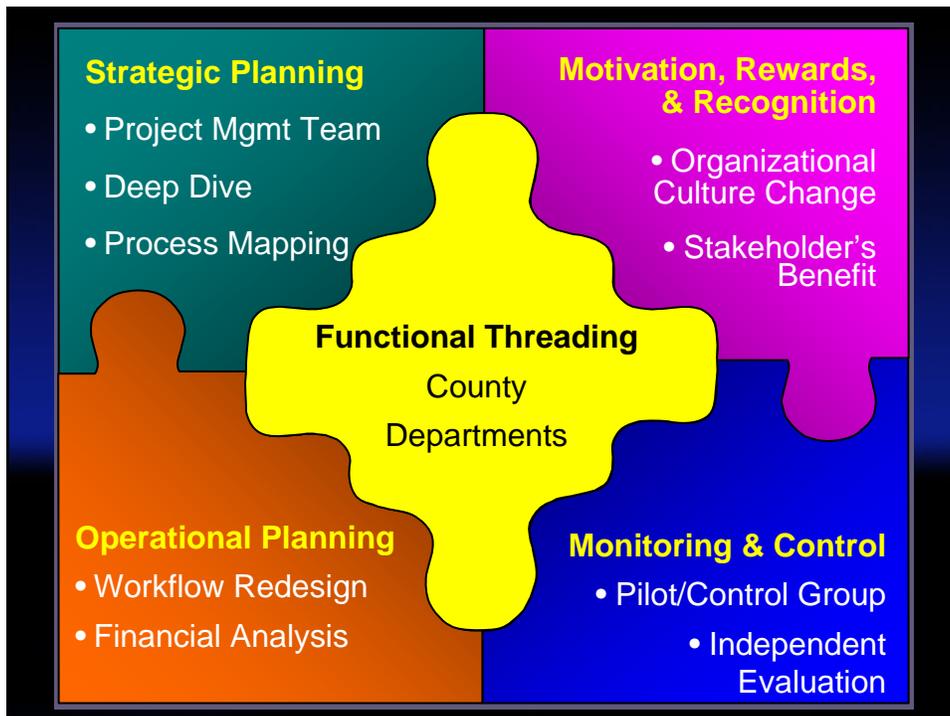
Guiding Principles

- Technology follows function
- Active employee participation
- Value added for employees & customers
- Fiscally sustainable
- Uniform standards
- Transferable innovation



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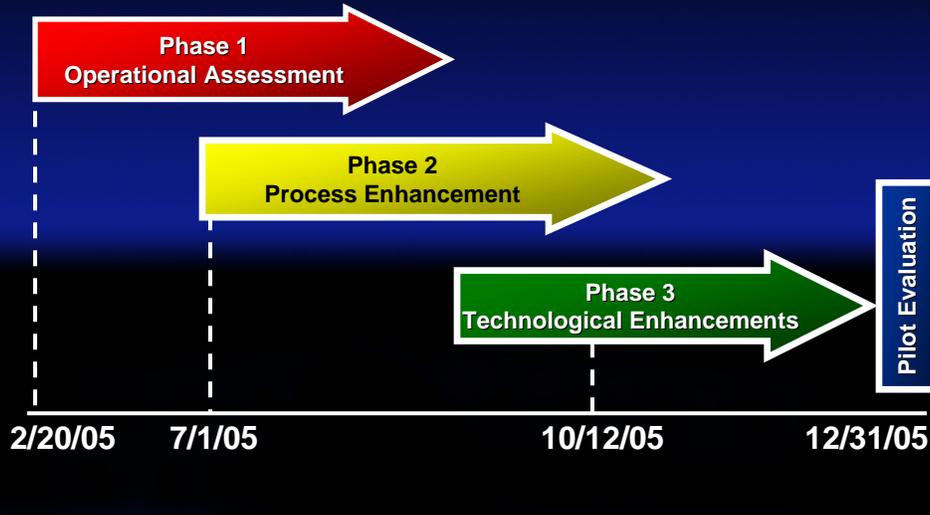
BPR Framework





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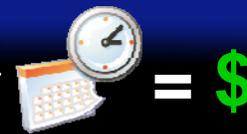
BPR Elements in Action



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Phase 1: Operational Assessment

- **Referrals**
 - Incomplete/Inappropriate
 - Delay in assignment
- **Travel**
 - Time Consuming
 - Inefficient
 - Redundant
- **Administrative Tasks**
 - Office time required
 - Duplicate entries





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Phase 2: Process Enhancement



BUSINESS PROCESS RE-ENGINEERING

Phase 3: Technological Enhancements

- Web-Based Referral System



- Database
Public Health Nurses
in the Community



- Electronic Tablets





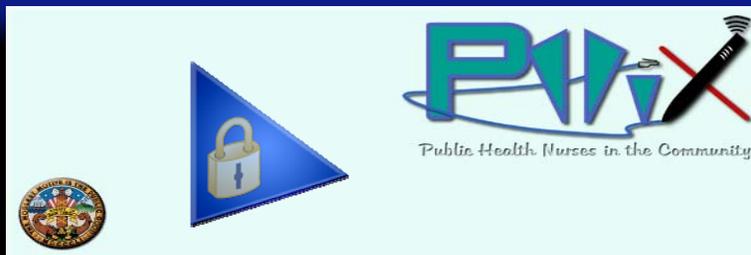
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Ideas into Action

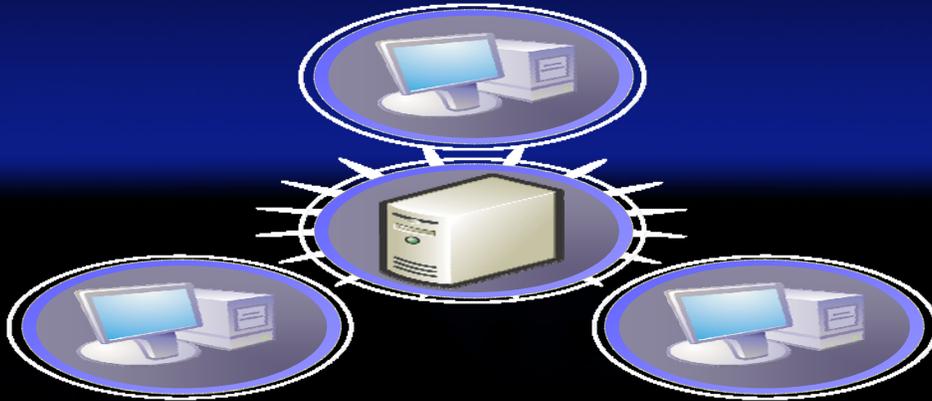
Public Health Nurses In the Community
(PHIX) - Database





BUSINESS PROCESS RE-ENGINEERING

Step 1 - Referring Agency Procedure



BUSINESS PROCESS RE-ENGINEERING



Referral Registration

County of
San Diego



Welcome to the County of San Diego Public Health Nursing pilot web referral site. This pilot site is limited in function to accept referrals for potential clients in the North Inland Public Health region only. The initial pilot period is from July 1, 2005 until December 31, 2005. To use this site you must first be registered by the North Inland Public Health region. If your agency's name does not appear in the drop down box below then your agency is not registered. Please contact Kitty Roche, Public Health Nursing Supervisor for North Inland region at (760) 740-4020 for more information.

Select your Agency from the list:

Palomar Medical Center

Password:

Next



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Client Information

County of San Diego



[Add Referral](#)

[Query Status](#)

[Logout](#)

CLIENT INFORMATION

First Name: Middle Initial:

Last Name:

Address:

City:

State: Zip Code:

City and State will be automatically filled in when you select a zip code.
For the pilot program, Zip codes are limited to North Inland region only.

Phone: No phone available

DOB:

Gender:

Language:

Reason for referral:

[Back](#)

[Next](#)



BUSINESS PROCESS RE-ENGINEERING



Referral Registration

County of San Diego



[Add Referral](#)

[Query Status](#)

[Logout](#)

Your request has been received and will be reviewed by Public Health. The reference number for the request is **FD-190-11AF**.

A confirmation email will be sent to gmcgrath@csc.com.

Thank you for using referral registration service.



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Steps 2 & 3 - Clerical Process



BUSINESS PROCESS RE-ENGINEERING

PHIX Server - Demo Supervisor (Supervisor)
 View Dashboard Tools Windows Help

Dashboard

Referrals

Client Name	Referring Agency	Status	Assigned Nurse	DOB	Last Update
Moncada, Maria	Tri-City Hospital	New	Doroth Gillon	3/14/67	10/7/05

1

Nurses

First Name	Last Name	Last Logon	City
Dorothy	Gillon	10/11/05 11:42:3	Escond
Elizabeth	Ingle	10/11/05 11:30:0	Escond
Hanna	Khazaeli	10/11/05 11:30:1	Escond
Joanne	Klein	10/01/05 08:00:0	Escond
Heather	Labelle	10/19/05 03:35:1	Escond
Gisela	Lauer	10/11/05 01:26:5	Escond
Deborah	Mcintosh	10/11/05 11:29:2	Escond
Carol	Nickless	10/11/05 01:00:2	Escond
Demo	Nurse	11/01/05 03:28:4	Escond
Julianne	Rhinehart	10/11/05 11:31:0	Oceans

2

Assign

Cases/Households (both assigned Referrals and Cases)

FirstName	LastName	Status	Gender	RelationshipType	CreatedDate	Birthdate
Donna	Monnum	Open	F	Head of Household	10/5/05 05:42:5	4/23/62
Martha	Monje	Open	F	Head of Household	10/05/05 05:37:3	11/21/86
Ileen	Morales	Open	F	Head of Household	10/05/05 05:37:2	5/09/04
Ventura	Morales	Open	M	Head of Household	10/05/05 05:37:3	9/11/03
Gisselle	Morales	Open	F	Head of Household	10/05/05 05:37:3	7/14/05

3



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Step 4 - Supervisor Process



BUSINESS PROCESS RE-ENGINEERING

HIIX Server - Demo Supervisor (Supervisor)

View Dashboard Tools Windows Help

Dashboard

Referrals

Client Name	Referring Agency	Status	Assigned Nurse	DOB	Last Update
Moncada, Maria	Tri-City Hospital	Pending	Nurse	3/14/87 12:00	10/7/05
Allen, Steve	Pomerado Health S	Pending	Labelle	2/02/83 12:00:00	10/07/05 01:28
Archer, Anne	Pomerado Health S	Pending	Nurse	3/02/60 12:00:00	10/07/05 01:57
Archer, Arnold	Pomerado Health S	Pending	Nurse	10/10/05 12:00:0	10/07/05 01:59
Gal, Baby	Kaiser	Pending	Nurse	10/07/05 12:00:0	10/08/05 03:08
Griffin, James	County of San Dieg	Pending	Labelle	8/05/05 12:00:00	10/07/05 09:25
Griffin, Meredith	County of San Dieg	Pending	Labelle	10/25/85 12:00:0	10/07/05 08:26
Jessica, Simpson	County of San Dieg	Pending	Nurse	9/10/03 12:00:00	10/07/05 10:18
Lincoln, Mary	Kaiser	Pending	Nurse	5/08/78 12:00:00	10/08/05 03:10
Wanda, Todd	Kaiser	Pending	Nurse	10/08/05 03:10	10/08/05 03:10

1

Nurses

First Name	Last Name	Last Logon	City
Dorothy	Gillon	10/11/05 11:42:9	Escondido
Elizabeth	Inglis	10/11/05 11:30:0	Escondido
Hanna	Khazeeli	10/11/05 11:30:1	Escondido
Joanne	Klein	10/01/05 08:00:0	Escondido
Heather	Labelle	10/18/05 03:35:1	Escondido
Gisela	Lauer	10/11/05 01:26:5	Escondido
Deborah	Mcintosh	10/11/05 11:29:2	Escondido
Carol	Nickless	10/11/05 01:00:2	Escondido
Demo	Nurse	11/01/05 03:28:4	Escondido
Juliana	Rhinehart	10/11/05 11:31:0	Oceanside

2

Cases/Households (both assigned Referrals and Cases)

FirstName	LastName	Status	Gender	RelationshipType	CreatedDate	Birthdate
Maria	Moncada	Open		Head of Household	10/05/05 05:37:3	10/18/87
Martha	Morje	Open	F	Head of Household	10/05/05 05:37:3	11/21/88
Ileen	Morales	Open	F	Head of Household	10/05/05 05:37:2	5/03/04
Viviana	Morales	Open	M	Head of Household	10/05/05 05:37:3	8/11/03
Gisselle	Morales	Open	F	Head of Household	10/05/05 05:37:3	7/14/05
Karina	Morales	Open	F	Head of Household	10/05/05 05:37:3	10/14/88
Samuel	Morales	Open	M	Head of Household	10/05/05 05:37:3	10/21/05

3



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Step 5 - Nurse Process



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Caseeload

Statu	Open Vis	Househ	DOB	Last Visit	Next Visit	Acuity	Program
		Adam, Alex	9/9/1986	10/8/2005 3:30	11/8/2005	Medium	
		Allen, Lene	7/28/2005	10/7/2005 10:30	11/7/2005	Medium	
		Allen, Tesh	5/18/1982			Medium	
		Allman, Ma	6/26/2003			Medium	
		Almanza, I	9/19/2004			Medium	
		Almaraz, A	4/21/2005			Medium	
		Alvarado,	4/24/2005			Medium	
		Ambriz, Re	1/1/1900			Medium	
		Andrace, G	11/19/1984			Medium	
		Aragon, Ba	1/1/1900			Medium	
		Aramulo, Y	12/13/2004			Medium	
		Archer, An	3/2/1960	10/7/2005 3:15	11/7/2005	Medium	
		Arizmandi,	9/7/2002			Medium	
		Aste, Alice	7/8/1990	10/8/2005 4:15	11/8/2005	Medium	
		Atkins, Dia	11/29/1981			Medium	
		Banda, Ce	7/1/1972			Medium	
		Banda, Lau	1/12/1972			Medium	
		Becerra, M	1/1/1901			Medium	
		Becker, Del	2/20/2005			Medium	
		Beckoff, Ali	3/25/1979			Medium	
		Bell, Fahmi	1/7/2005			Medium	
		Benecka, S	9/18/1974			Medium	
		Benitez, Bg	2/4/2004			Medium	
		Benitez, Bg	2/4/2004			Medium	
		Bishop, Ch	1/1/4/1963			Medium	
		Bossworth,	4/21/1985			Medium	
		Bowen, Jer	1/28/2003			Medium	
		Bowen, Sh	4/29/1983			Medium	

Moncada.

If this visit is complete, verify the following information and click OK.

Visit End Date/Time: 2/23/2006 3:30 PM

Next Visit Date: 4/30/2006

OK Skip Cancel

1

2

3



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Outcomes



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Referral System

Situation	Pre-Pilot	Post-Pilot
Getting referral to nurse	18 paper steps	5 electronic steps
Referrals were accurate and complete	2%	100%
Average # of days to 1 st client contact by nurse	54	13*

*11% of customers were seen on the same day as the referral



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Client Service Time



Situation	Pre-Pilot	Post-Pilot
Visits resulting in "no service"	33%	11%
Average monthly # of 1 st contacts per Public Health Center	132	165



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Survey Results

Referral Agencies		Public Health Nurses	
Web-based referral utilization	5.0	Process involvement	4.4
Web-based referral training	5.0	Technical training	4.4
Technical support	5.0	Tablet referral process	3.8
Referral tracking (JAHCO)	5.0	Tablet scheduling	4.4
		Tablet PHN forms	2.7
		Technical support	3.8
Overall Score	5.0	Overall Score	3.9



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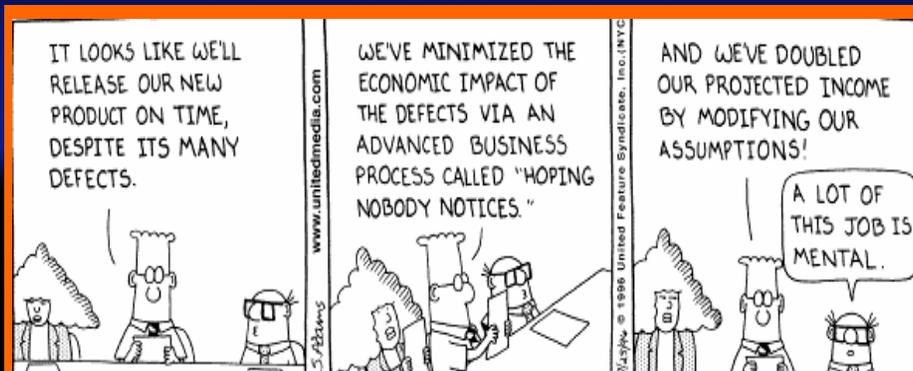
Summary of Key Performance Outcomes

	Target	Results
Increase time available for direct services	20-25%	25%
Reduce time elapsed between case referral and customer contact	25%	75%



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Return on Investment





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Methodology

- Utilizes the Pilot Project and roll out projections.
- Costs considered for Phases 1-3:
 - Information Technology
 - Staffing
 - Consultants



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Pilot Costs	Total
IT Costs	
Labor (IT Vendor)	\$756,470
Software	\$28,050
Hardware	\$39,680
Evaluation/Consultant Costs	\$19,800
TOTAL Pilot Costs =	\$844,000



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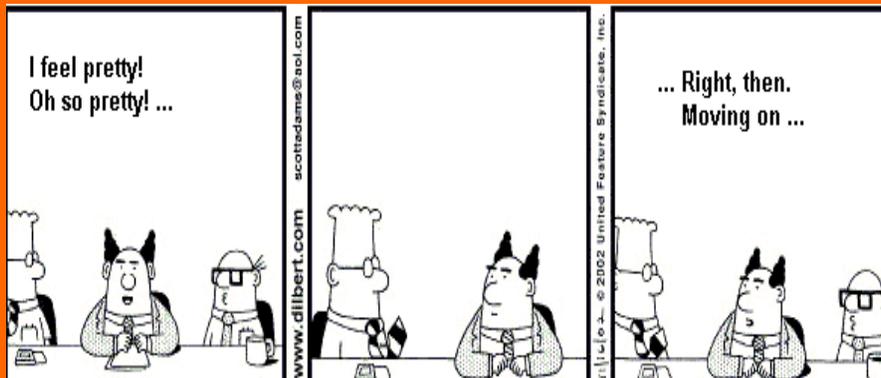
Return on Investment – Summary

- Up front costs captured within 12 months
- Cost avoidance of \$2,008,406 per FY
 - 25% increased productivity without BPR would require an additional 23 staff years (FTEs).
- Long-term savings
 - organizational
 - societal



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Next Steps





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Next Steps

Phase 4 – Technology Enhancements

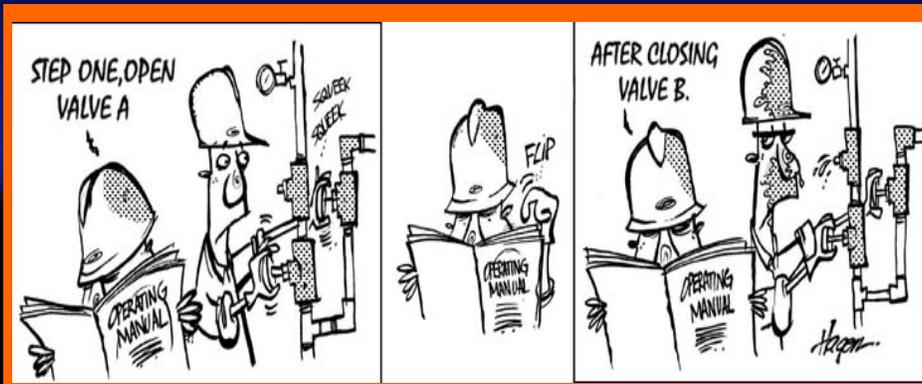
Agency-wide Rollout

Societal Impact Analysis



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Lessons Learned





B **U** **S** **I** **N** **E** **S** **S** **P** **R** **O** **C** **E** **S** **R** **E** **-** **E** **N** **G** **I** **N** **E** **E** **R** **I** **N** **G**

Must Have:

- Thorough planning process
- Zero-base operations
- Staff participation and buy-in
- Idea generation
- Flexibility and patience
- Budget in advance



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Understand That:

- Technology enhancements are not the only solution in BPRs
- Return on investment will occur in out years
- Technology development phase requires sufficient time
- Other unforeseen benefits will be identified throughout the process
- BPR forces organizational culture change that sustains innovation and continuous improvement



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For More Information

www.sandiego-mrw.org



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Thank You.

QUESTIONS?