

Next Generation Disease Management:

Saving Healthcare Costs Through Medical Genomics

© GenoMed, Inc. 2000-2005



GenoMed's Mission Statement

- To find the molecular basis of common diseases, and
- To use this information to improve patient outcomes as quickly, as safely and as inexpensively as possible.



Comparison w/ other DM cos.

- Cutting-edge medicine (genomics), not out-of-date consensus guidelines
- Ongoing clinical research
- Financial incentivization of MDs
- Constant contact w/ MDs & pts
- We own the Intellectual Property



ACE D/D genotype = overactivity of ACE

- D/D has twice as much activity as ACE I/I; 1.5 times as much as ACE I/D
- ACE is rate-limiting step for angiotensin II production
- ACE D/D is associated w/ ~150 diseases in whites (75%), ~40% of diseases in blacks
- ACE is the major aging gene



Diseases with Published Outcomes

- CRF due to NIDDM or HTN in white and black men (n=1,000)—published 9/02
- ASPVD due to HTN (n=2)
- COPD (n=1)

Recently published:

- Psoriasis (2), pancreatic cancer (1), West Nile virus encephalitis (8)

In trials: Cancers, MS, flu, chronic fatigue, Alzheimer's, etc.



Avoiding Kidney Dialysis due to Diabetes or Hypertension



Next Generation DM™

GenoMed can Prevent 90% of Kidney Dialysis

- Due to diabetes or hypertension
- In whites, blacks, and Hispanics
- Our outcomes are the best in the literature
 - 1,000 St. Louis VA patients 1994-1997
 - Ref. Diab Technol & Ther 4(4):519-531, 2002.
 - No adverse events in over 3,000 patient-yrs
- Requires our patent-pending treatment to be started early: before creatinine is 2 mg/dl

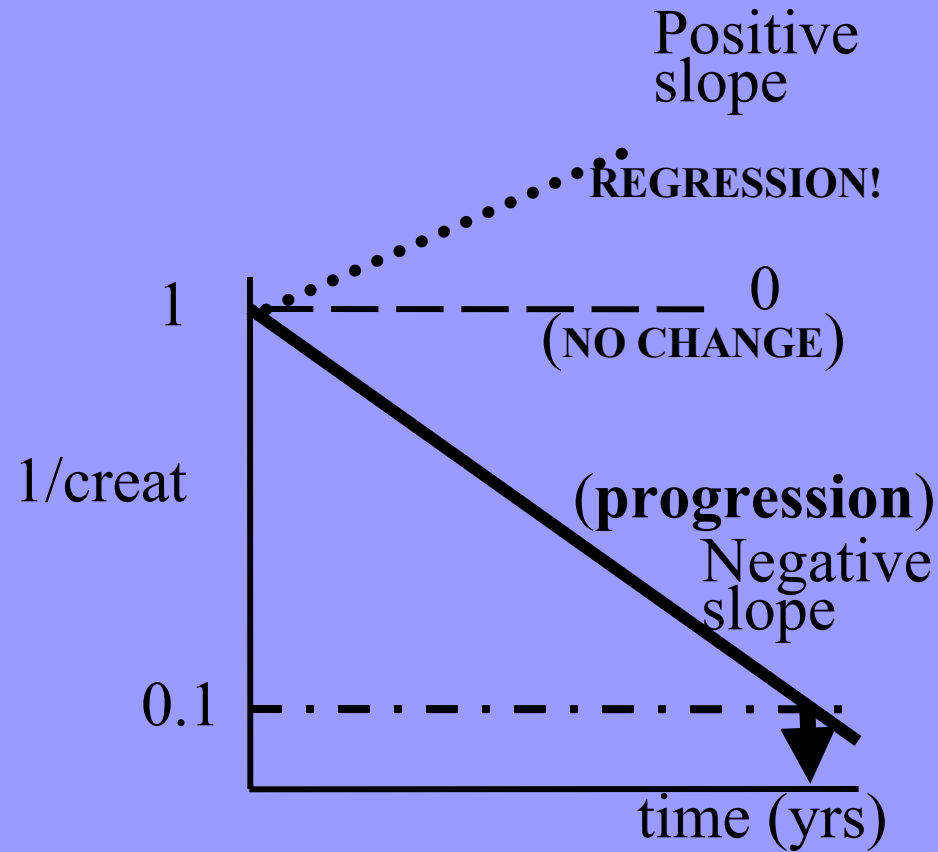
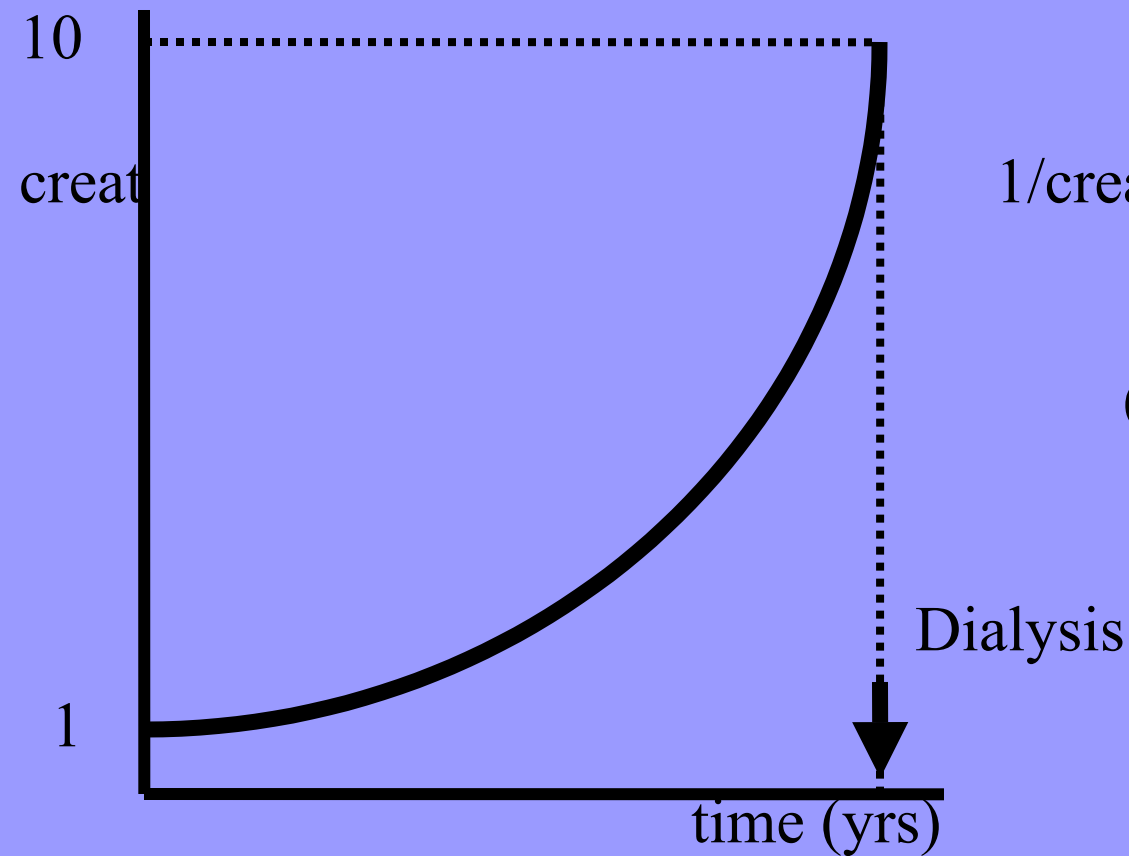


Clinical Results in Diabetic Kidney Disease



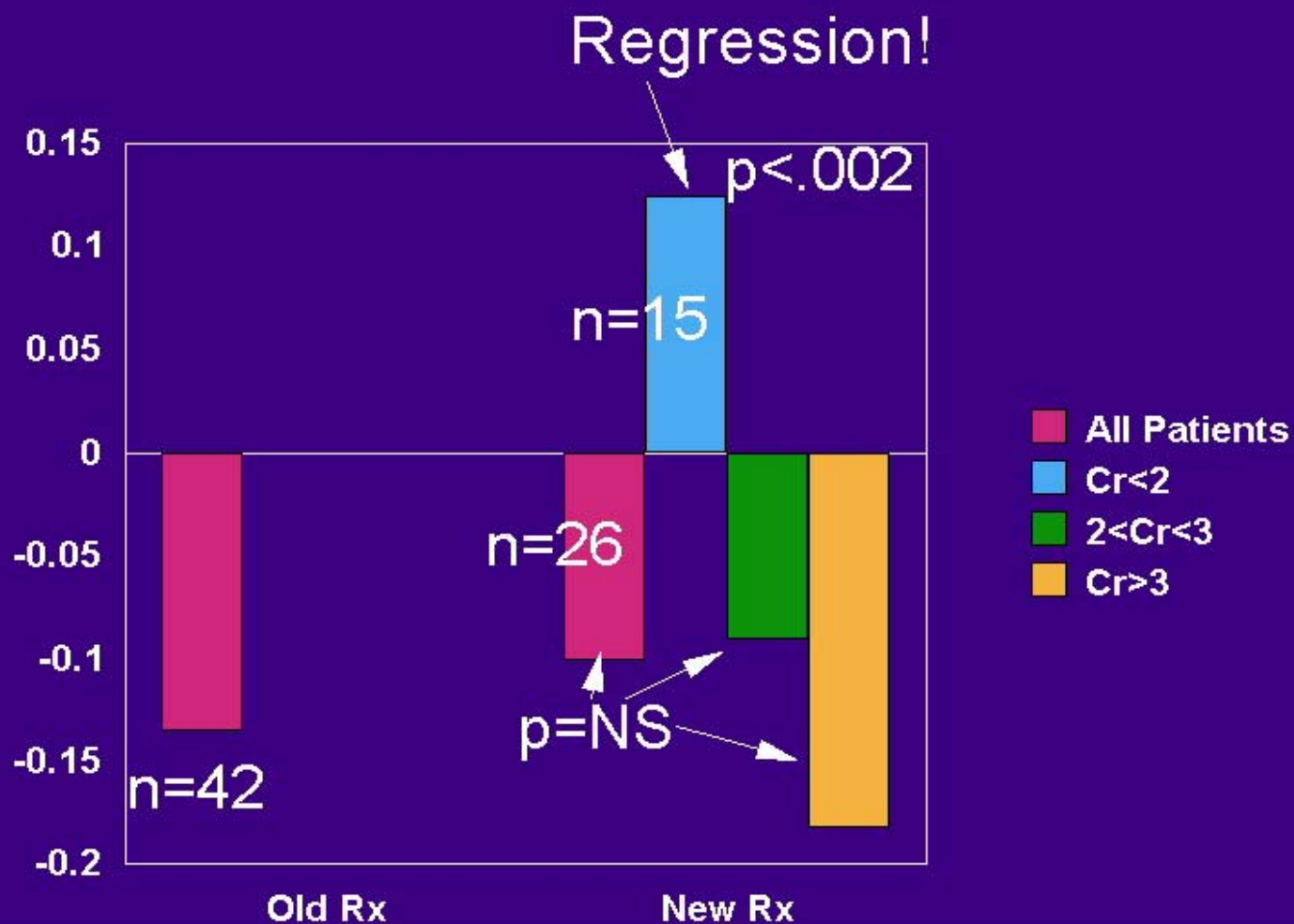
Next Generation DM™

1/creat vs. time



Progression of CRF due to NIDDM: white men

slope 1/cr
vs. time

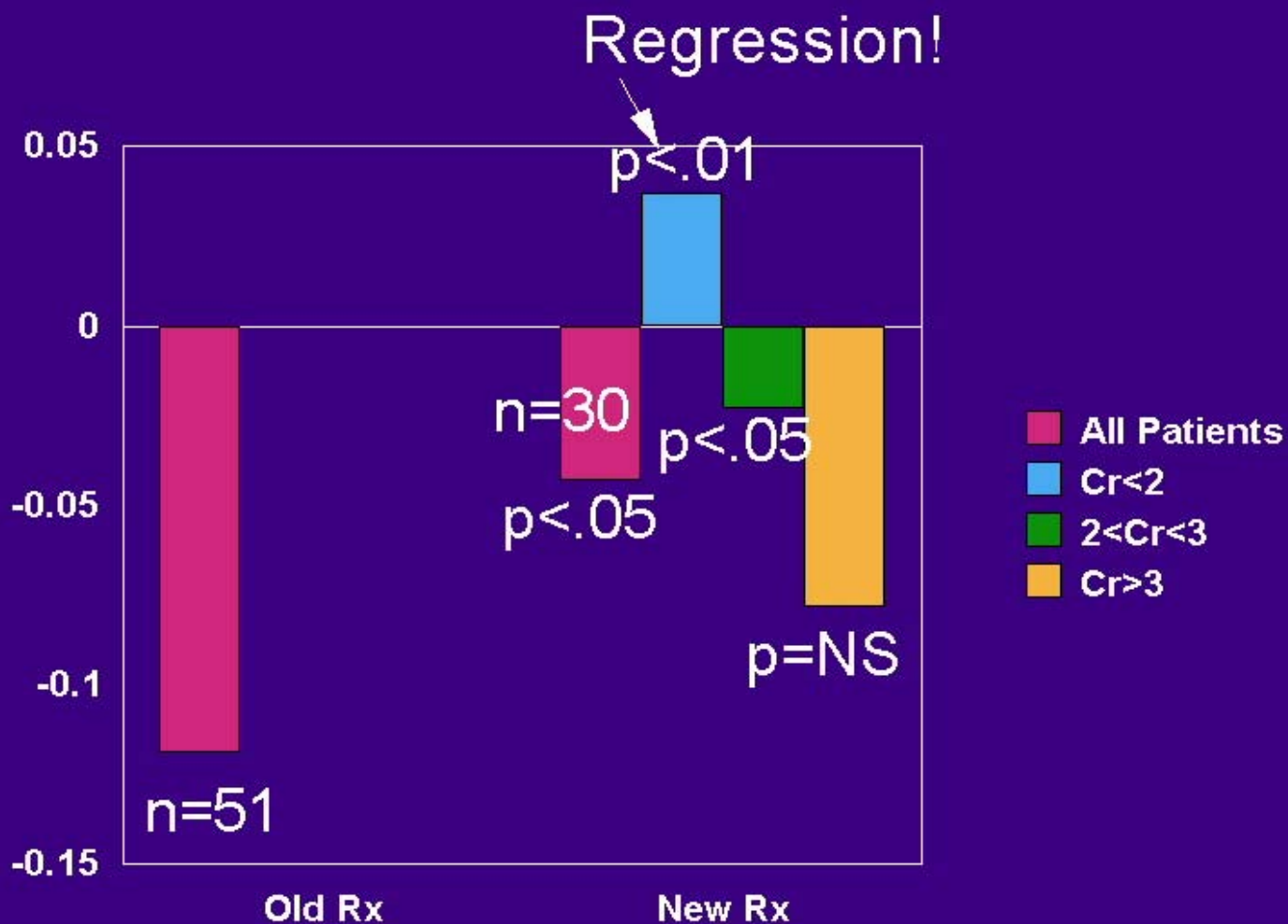


The blue bar means kidney disease has regressed, i.e. progression to end-stage kidney disease has been reversed.



Progression of CRF due to NIDDM: black men

slope 1/cr
vs. time



Dose and specific
ACE inhibitor are
crucial (& patent-
pending)



Next Generation DM™

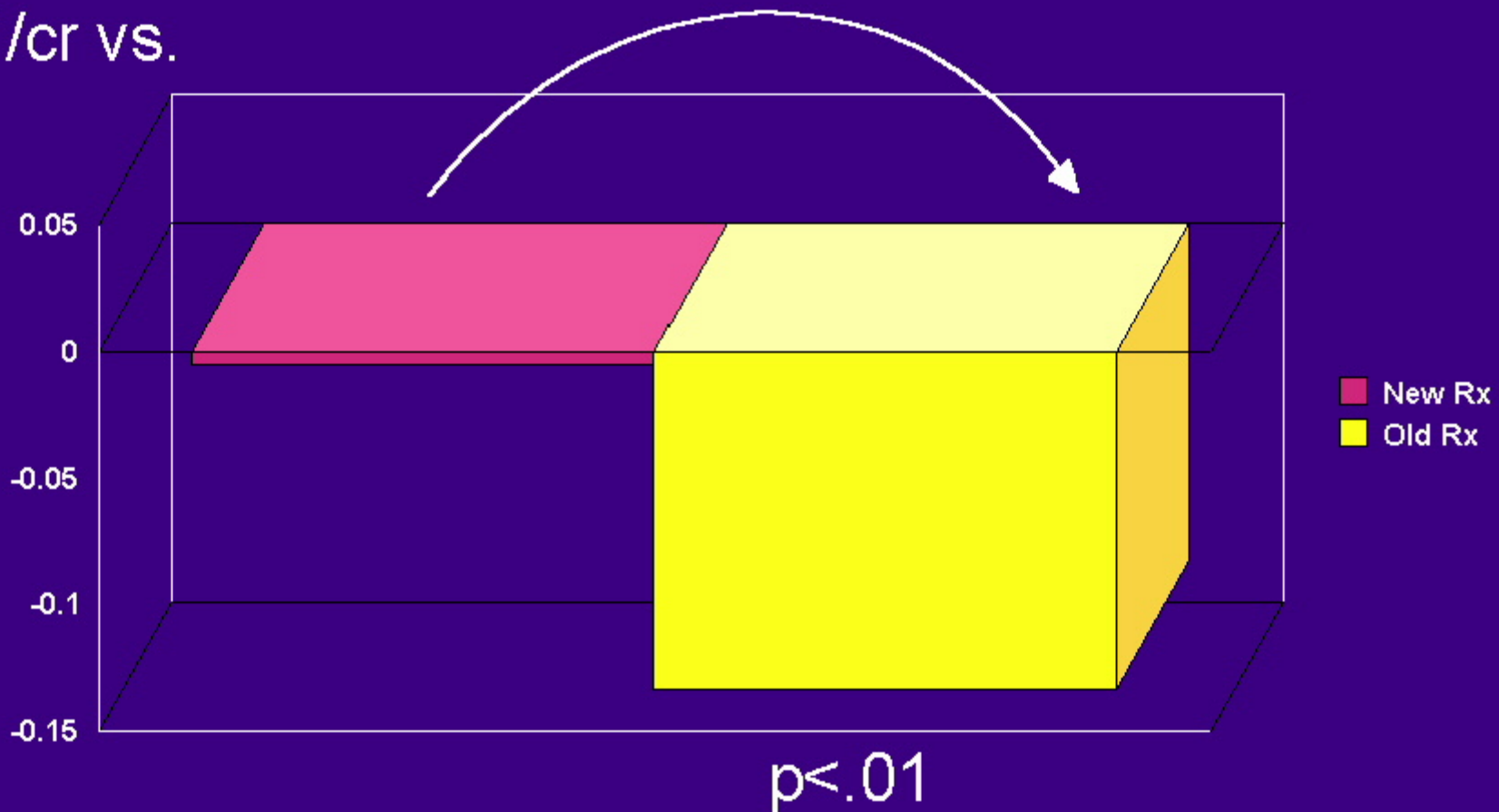
Inadvertent Cross-over Design

From New Rx to Conventional Rx

Black men w/ CRF due to NIDDM

(n=21)

slope 1/cr vs.
time



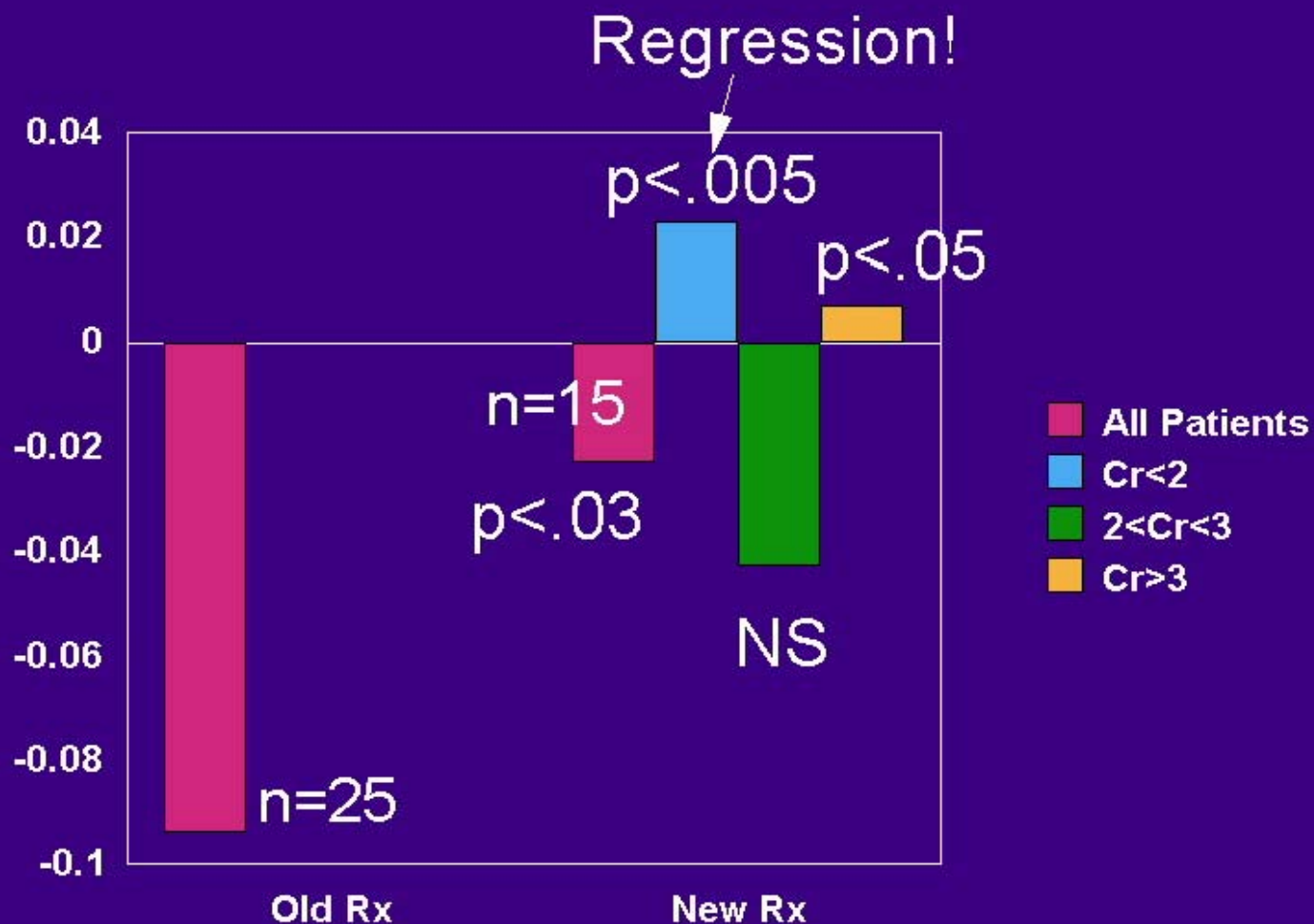
Chronic Kidney Disease due to High Blood Pressure



Next Generation DM™

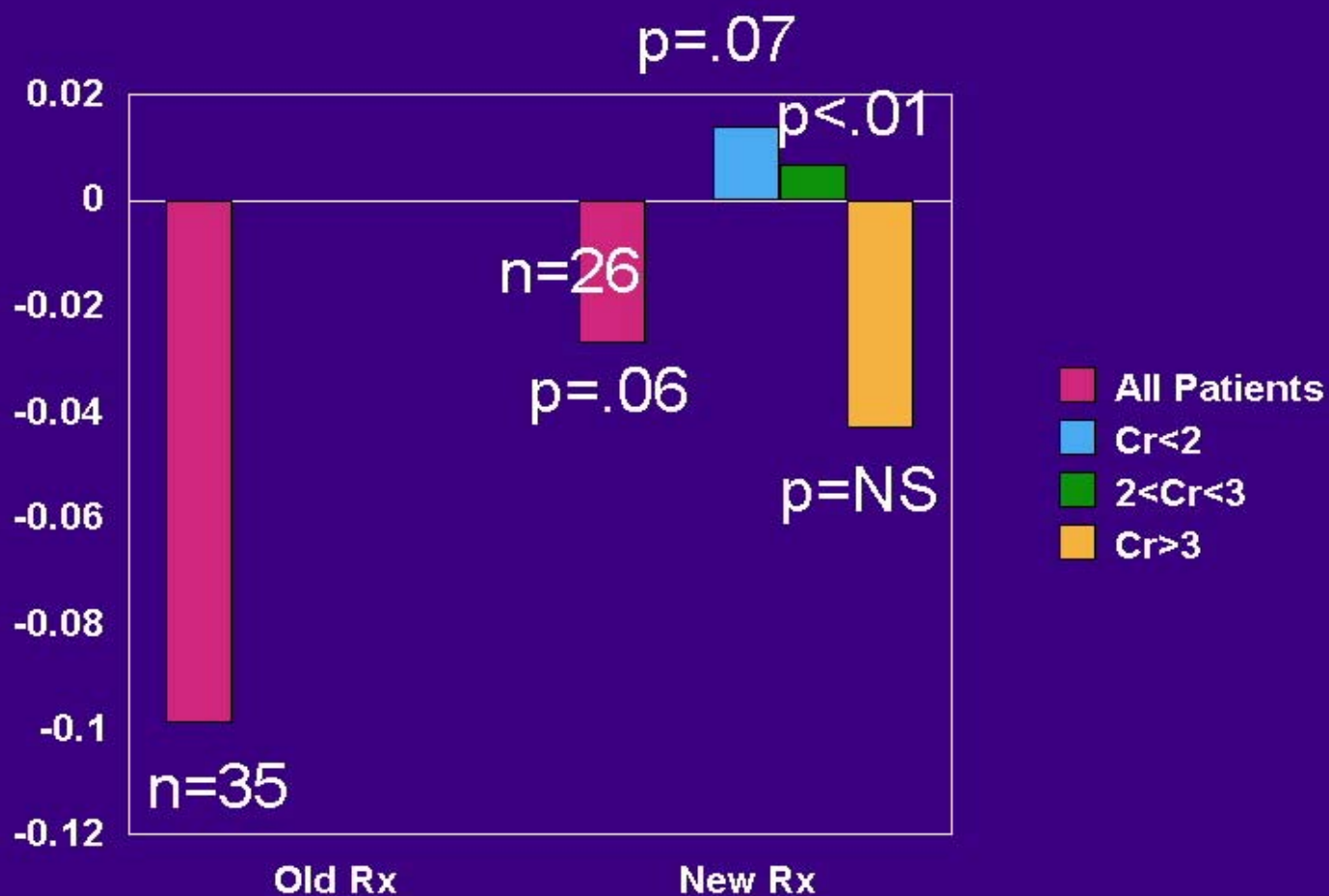
Progression of CRF due to HTN: white men

slope 1/cr
vs. time



Progression of CRF due to HTN: black men

slope 1/cr
vs. time



Again, dose of ACE
inhibitor
is crucial



Next Generation DM™

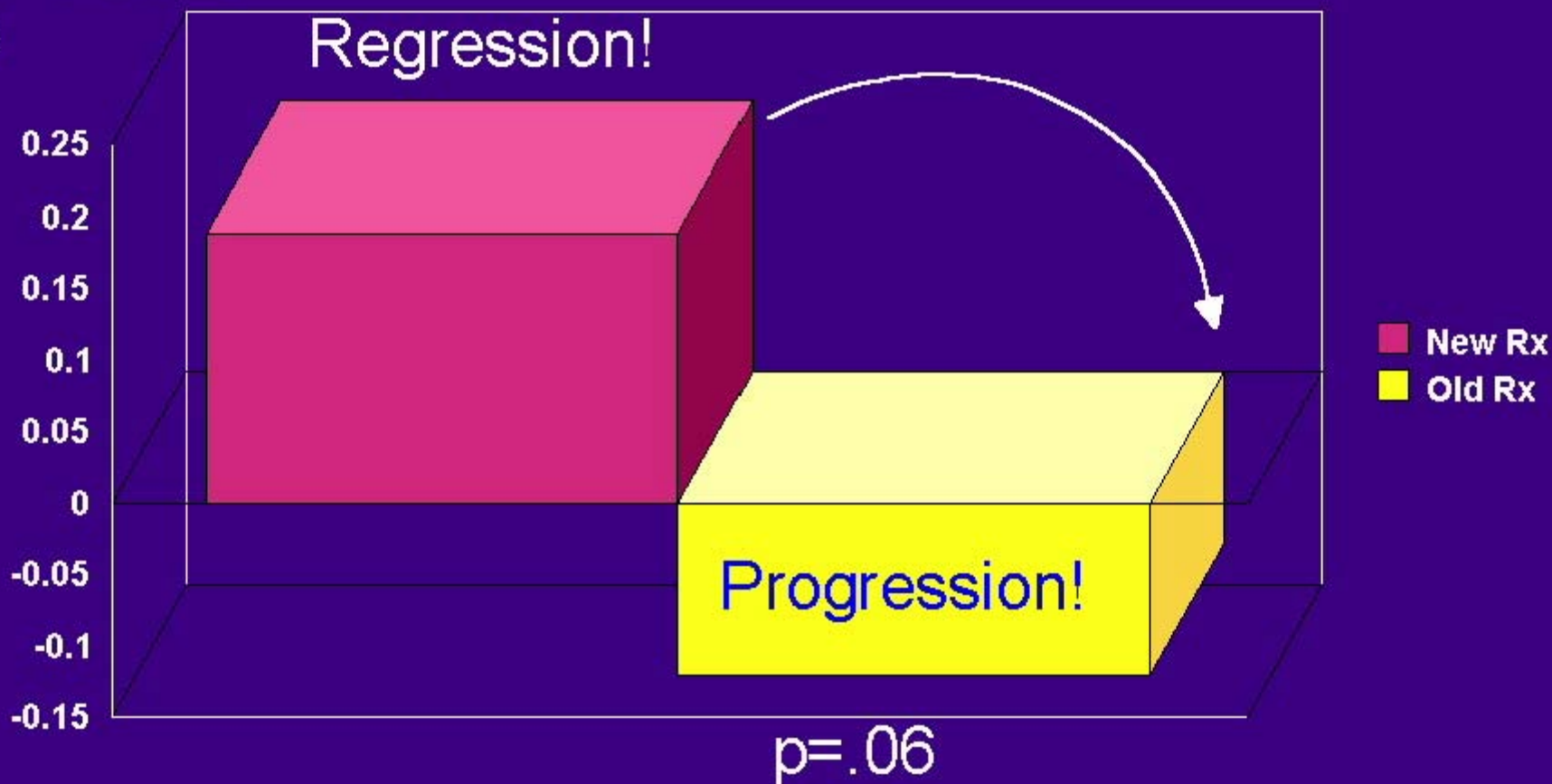
Inadvertent Cross-Over Design

From New Rx to Conventional Rx

White men w/ CRF due to HTN

(n=22)

slope 1/cr vs.
time



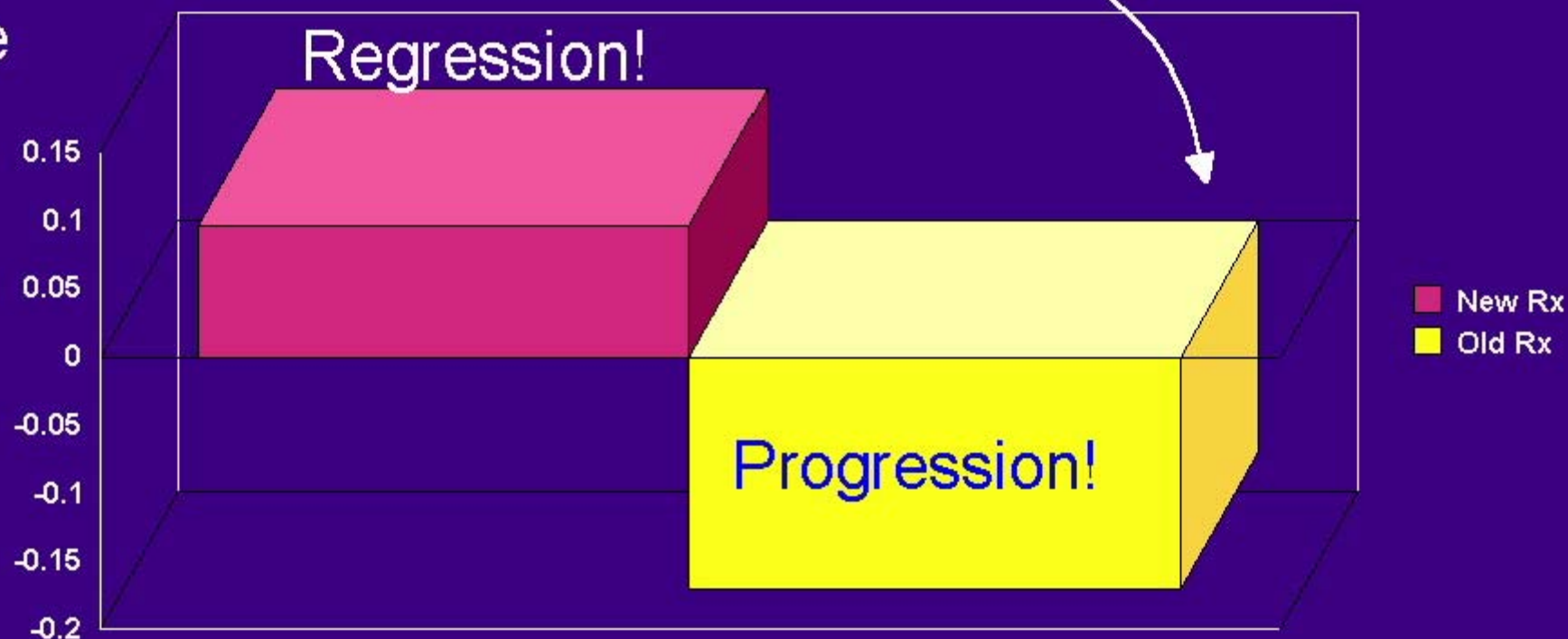
Inadvertent Cross-over Design

From New Rx to Conventional Rx

Black men w/ CRF due to HTN

(n=13)

slope 1/cr vs.
time



$p < .05$

Preventing Dialysis: Population Health Statistics

- 20 million adults with diabetes, and 60 million with hypertension in US
- 11 million Americans (14% of 80 million) have serum creatinine ≥ 1.5 mg/dl (~25% of all IDDM/NIDDM pts, ~10% of all HTN patients)
- Diabetes has been leading cause of dialysis since late 1980s
 - The incidence of diabetes is increasing
 - Hispanics have even higher prevalence than blacks
- Among patients with diabetes or hypertension, blacks have 4-6 times higher risk of dialysis than whites



Dialysis Facts

- Dialysis w/in 4 yrs once creatinine = 2 mg/dl
- Death w/in 4 yr for 55 yr old man starting dialysis; usually unable to work
- 200,000 dialysis pts cost \$18 B in 2001 (i.e. \$90K per patient per yr)
- 300,000 pts projected in 2010 (“ESRD epidemic”) **at a cost of >\$150K/pt/yr**
- ***Healthcare plan must pay for first 3 yrs of dialysis***
- **ROI: spend \$ 800 /yr to avoid spending \$ 150,000 /yr**



Typical Health Plan Population

For 100,000 adult patients:

- Assume 30% have NIDDM or HTN (30,000 patients)
- 14% of these will have $Cr \geq 1.5$ (4,200 patients)
 - 2,000 with $1.5 \leq Cr \leq 2$
 - 1,000 with $2 \leq Cr \leq 3$
 - 1,200 with $Cr > 3$



Opportunity

- “Immediate”: Delaying ESRD in CRF/HTN
 - Identify 480 patients with $3 < Cr < 4$
 - 2.3 years until payoff begins
 - **Annualized ROI: 17 to 20**
- Longer-term: Preventing ESRD in HTN & NIDDM
 - Identify 3,000 patients with $Cr < 3$
 - 4 to 6 years until payoff begins
 - **Annualized ROI: 3.8 to 11.5**



GenoMed's Clinical Outcomes Improvement Program (COIP[®])

- Patients
 - NIDDM, IDDM, or HTN & $1.5 \leq \text{Cr} \leq 4$ mg/dl
- Physicians
 - Learn GMED's approach
 - Select suitable patients (with GMED's help)
 - Obtain patient approval for participation in GenoMed's COIP[®]
 - Prescribe GMED's Rx to willing patients
 - Report patient outcomes to GMED
 - Are paid \$25 per patient per quarter by GMED
- Cost: \$800/pt/yr Next Generation DM[™]



GenoMed's Clinical Outcomes Improvement Program™

- Additional Patients
 - Any pt w/ NIDDM, IDDM, or HTN
 - Goal: Delay all complications
 - COPD
 - Psoriasis
 - WNV
- Cost: \$800/pt/yr



For questions, please contact:

David W. Moskowitz, MD, MA, FACP
Chairman, CEO, and Chief Medical Officer
GenoMed, Inc. (www.genomed.com)
St. Louis, Missouri
Ticker symbol: GMED (OTC Pink Sheets)

dwmoskowitz@genomed.com

Cell phone 314-378-7864

Office tel. 314-983-9938

FAX 314-754-9772

