

# The Science of Evidence-Based Messages: Demand Creation for Male Circumcision Uptake

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“Creating Desire for Microbicides” Meeting

13-14 May, 2014

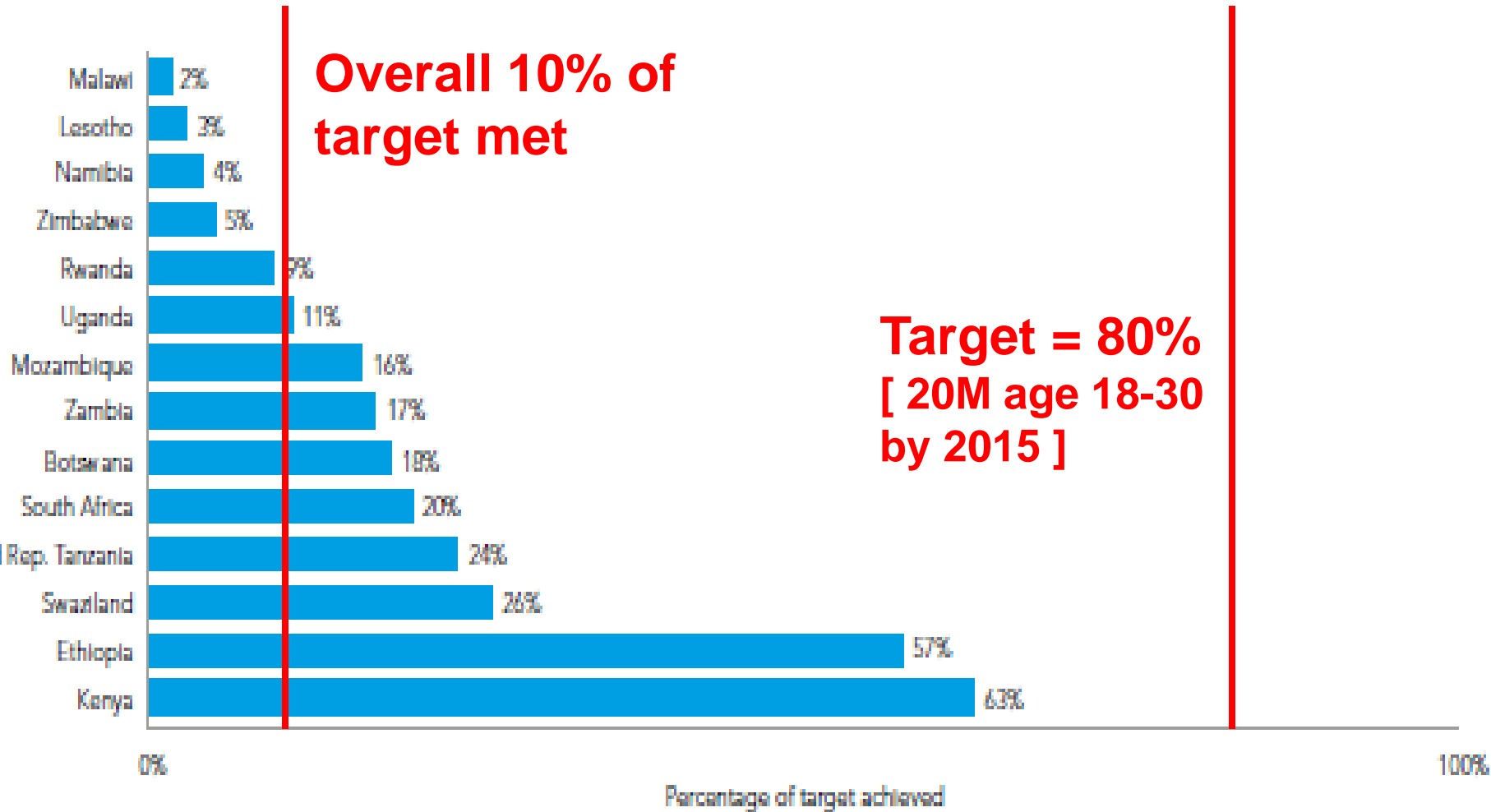


Department of Community Medicine

# Male Circumcision (MC): Impact

- Three trials showed 60%-75% protective effect for men
- WHO recommendations (Sept 2007)
  - Countries with  circumcision rates and  HIV rates should implement MC programs
  - For greatest impact on the AIDS epidemic, **80%** of men aged 18-30 should be circumcised
  - The faster this is done, the greater the effect

# MC Delivery Update end 2012



WHO, UNAIDS, 2012.

# Magnitude of MC Gap

- Vast majority of funding: MC capacity and training
- Demand lags far behind capacity
  - 10% of goal achieved in Sub-Saharan Africa
  - 1.3 M goal by 2017 in Zimbabwe
- Urgent need for communication campaign that is:
  - Theory-driven
  - Evidence-based

# MC Uptake Research in Zimbabwe

## “Environmental/Behavioral Factors Shaping Circumcision Decisions in Zimbabwe”

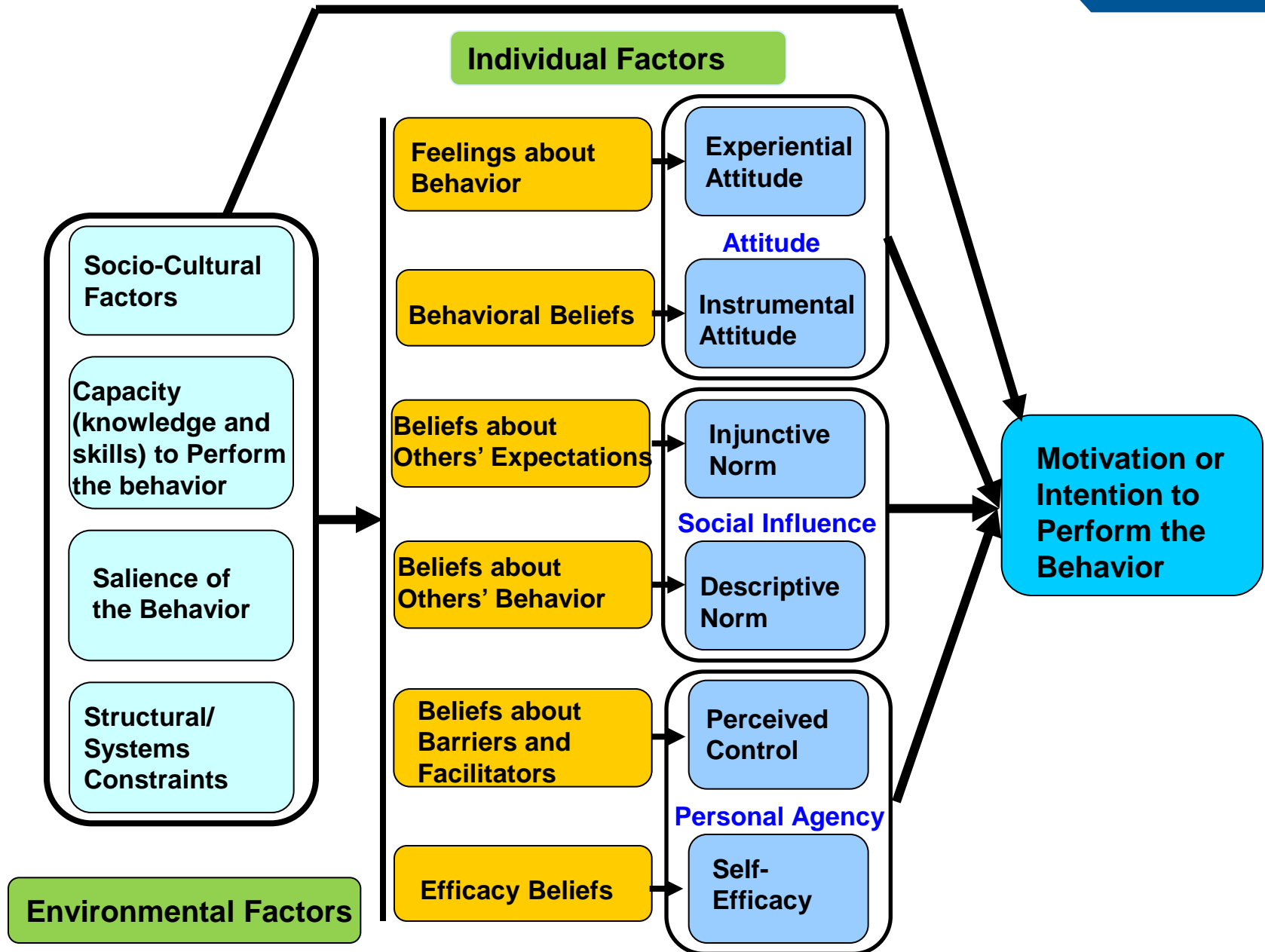
- Funded by US NIMH (R01MH083594)
- Understand factors affecting MC motivation in Zimbabwe among:
  - Men
  - Adolescent boys
  - Women (influencing men)
  - Parents of adolescent boys and of newborns
  - Clinicians
- Carried out in 4 sites:
  - Two urban (Harare, Bulawayo)
  - Two rural (Mutoko, Matobo)



**O = MC study sites**

# Study Design

- Conducted in 3 main phases:
  - Qualitative Elicitation
  - Quantitative Survey
  - Message Testing
- Integrated Behavioral Model guided all phases





# Elicitation Phase Methods - Results

- Representative household-based sample of:
  - 33 men, aged 18-30 years
  - Evenly split across study sites
- Content analysis identified:
  - 20 feelings (positive – negative)
  - 38 behavioral beliefs (positive and negative)
  - 23 sources of social influence (21 injunctive norm; 4 descriptive norm)
  - 16 self-efficacy beliefs
  - 29 perceived control beliefs (14 facilitators; 15 barriers)

# Behavioral Beliefs (N = 38)

LIST OF BELIEFS FROM QUALITATIVE INTERVIEWS WITH MEN	
The procedure would be painful	It will enhance sexual pleasure/enjoyment for you
The wound healing would be painful	It will enhance sexual pleasure/enjoyment for your partner
It may take too long to heal	It will give you a sense of achievement
It might not heal properly and cause disfigurement	Is something that you are too old for now
The doctor might make a mistake and cause you to be disfigured	Will cause girls/women to shun you and say your penis is different from what is considered normal in the community.
You may bleed to death	Your friends may laugh at you and you will be embarrassed.
It may get infected and swollen	Would be against your culture
Means having to wait too long to have sex, until healing is complete and you can engage in sex without feeling any pain.	Would be against your religion
It would protect you from HIV	Would be unnecessary because God will protect you from diseases.
It would protect you from sexually transmitted infections (STIs)	Would lead you to be tempted to have more sex partners
You would still have to use condoms all the time because you would not be completely protected from HIV	Would cause you to worry about what will happen to your removed foreskin
You would not need to use condoms because you would be protected from HIV	Pain from previous infections you may have had could be reignited.
You would be protected from HIV even if a condom breaks	Your wife/girlfriend may think that you intend to seek pleasure from others (that you will have other partners)
You would be protected from HIV even if you have unprotected sex (under the influence of alcohol, you don't have condoms, your partner is unfaithful)	It would be inappropriate because it would be changing the way God created you
It would give you peace of mind	It will make it easier for you to have your sons circumcised
Means you will live long and healthy life	You may lose potency
Means you will protect (look after) your family (will have a family with no problems)	It may compromise your sexual performance
Your penis will be clean, and protect you from bacterial infections	It will help encourage your friends to get circumcised
Means you will not spread HIV to other people	It will result in a slowdown of HIV in Zimbabwe

# Common Mistakes in Messaging

- Marketing research often stops at qualitative results
  - Target issues most frequently mentioned
  - Seldom drivers of motivation
- Ask respondent what motivates or deters them
  - People are not good judges of what actually affects their behavior
  - If most survey participants say they think high salt diet leads to hypertension-
    - Would researchers accept this and develop diet intervention?
    - Test whether amount of salt is associated with hypertension!
- Behavioral research: Measure belief strength
  - Empirically determine which beliefs explain motivation

# Quantitative Survey Design

- ***Measures:***

- Demographics
- **MC behavioral motivation**
- Each issue identified with respect to each model construct
  - **Affect (feelings about MC)**
  - **Attitude (behavioral beliefs)**
  - **Social influence (normative beliefs)**
  - **Personal agency (efficacy and control beliefs)**

# Quantitative Survey Administration

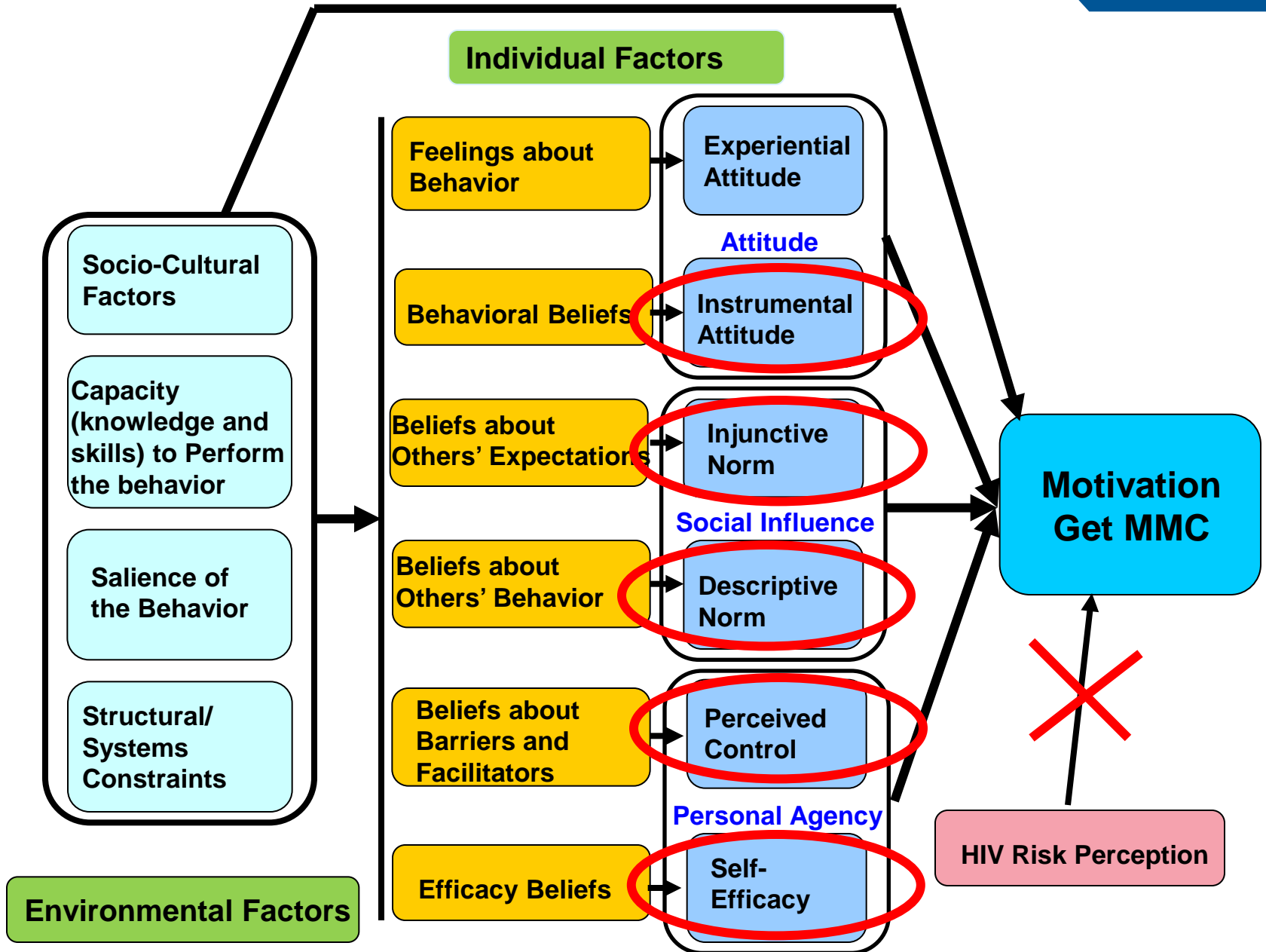
- Community Household-Based Sample:  $n = 1,201$ 
  - Harare
  - Bulawayo
  - Mutoko District
  - Matobo District
- Exclusion Criteria
  - Circumcised
  - Analysis sample:  $n = 1082$

# Model Testing: Step 1

- Which constructs predict MC **motivation**?
  - Five constructs
  - Reliability tests for internal consistency
  - Stepwise regression

# Model Testing Results: Step 1

Model predicting intention to have MMC		R=.71	
Construct	Beta	t	Sig
Behavioral Beliefs (Attitude)	0.160	4.787	.000
Perceived Control	0.122	2.898	.004
Self-Efficacy	0.187	4.765	.000
Injunctive Norm	0.126	3.445	.001
Descriptive Norm	0.279	7.869	.000
<del>Perceived Risk of HIV</del>	<del>0.009</del>	<del>0.385</del>	<del>.701*</del>





## Model Testing: Step 2

- Identify key beliefs within each IBM construct to target in communication campaigns
- Within each construct:
  - Pearson Correlations
  - Stepwise Regression
  - Checks for Collinearity

# Behavioral Beliefs (13 significant)

Behavioral Beliefs about getting circumcised:	r*	b (R=.65)
Will help encourage friends to get circumcised	.46	.17
Will give you peace of mind	.44	.15
Is something that you are too old for now	-.38	-.17
Will give you sense of achievement	.43	.10
Might not heal properly, cause disfigurement	-.35	-.07
Will enhance sexual pleasure for you	.29	.10
Would be against your religion	-.37	-.09
Will result in a slowdown of HIV in Zimbabwe	.40	.06
It may get infected and swollen	-.34	-.06
Will make it easier to have sons circumcised	.38	.07
Will cause women to shun you	-.20	.07
Wife/girlfriend may think you will seek pleasure elsewhere	-.29	-.07
Will protect you from STIs	.37	.06

# Normative Beliefs (5 inj; 4 desc sig)

Normative Beliefs about who would encourage you to get circumcised:	r*	b (R=.61)
Your Brothers	.58	.24
Your Closest Friends	.52	.16
Your Culture	.50	.16
People in your community	.47	.11
Your Wife	.59	.07+
Your Girlfriend	.43	

Descriptive Norm Beliefs about who would get circumcised:	r*	b (R=.60)
Your Closest Friends	.57	.23
Your Brothers	.56	.17
Most people like you	.52	.11
Your other male relatives	.55	.12

# Efficacy Beliefs (6 significant)

Efficacy Beliefs - How certain you can get circumcised if:	r*	b (R=.63)
MC is new and has not been offered before in community	.51	.17
MC is available in local – including rural - clinics	.49	.24
<b>Your culture is against it</b>	.50	.17
Your wife/girlfriend is against it	.49	.11
You cannot have it done privately, so others might know about it	.43	.08
Worried about whether there are adequate supplies in clinics	.34	.06

# Control Beliefs (10 significant)

Control Beliefs - Facilitators/ Barriers to getting circumcised:	r*	b (R=.66)
Availability of equipment and materials	.55	.23
People describe MC as painful	.42	.09
If you don't know how MC prevents HIV	.33	.10
If local chiefs / village heads support MC	.52	.13
MC is new, not offered before in community	.41	.10
If circumcision is not free to you	.31	.09
If MC available in local (including rural) clinics	.44	.07
If MC promoted on TV and radio	.51	.09
If you cannot do it privately, so others know	.36	.06
If you did not know where to go for MC	.17	-.06

## Model Testing: Step 3

- Which unique elements from the full IBM significantly and independently predict MC **motivation**?
  - Stepwise Regression using all significant items from Step 2

Montaño D, Kasprzyk D, Hamilton DT, Tshimanga M, Gorn G. Evidence-based identification of key beliefs explaining adult male circumcision motivation in Zimbabwe: Targets for behavior change messaging. *AIDS and Behavior* 2014 May;18(5):885-904, DOI 10.1007/s10461-013-0686-7; PMID 24443147.

# Final Model

<b>IBM Construct</b>	<b>Belief</b>	<b>b (R=.74)</b>
Behavioral Beliefs	Will give you peace of mind	.11
	Something you are too old for now	-.09
	Will enhance sexual pleasure/enjoyment for you	.09
	Cause women to shun you and say your penis is different	.08
	Might not heal properly – cause disfigurement	-.06
Normative Beliefs: Injunctive/ Descriptive	Brothers encourage	.14
	Wife/girlfriend encourage	.07
	Closest friends encourage	.14
Efficacy Beliefs	If culture is against MC	.10
	If MC is new – not offered before in community	.07
	If wife/girlfriend is against MC	.09
Control Beliefs	Availability of equipment and materials (B)	.13
	The fact that MC is new, not offered before in community	.06
	If MC available in local (including rural) clinics (F)	.06

# Translating Research Results to Evidence-Based Messages



# Message Design Process

**Goal:** Design messages to target key beliefs

- Start with beliefs significantly correlated with MC motivation
  - Affect = 20 semantic differential items
  - Attitude = 35 beliefs
  - Social Influence: IN = 20 beliefs; DN = 4 beliefs
  - Perceived Control = 29 beliefs
  - Self Efficacy = 16 beliefs
- Examined beliefs that best differentiate motivated from unmotivated

# Message Development

- Discussion groups held
  - Presented results
  - Facilitated discussion
- Over 200 messages created
- Images also discussed



## MALE CIRCUMCISION - MESSAGE TESTING

Development of MC Social Marketing Messages

Date: 11, September 2012  
Purpose: Young Men Focus Group

### BRAINSTORMING MESSAGES

- Do a man, write your future, prepare for victory > Circumcision saves lives
- Do a man, prepare for victory, write your future.
- Do a man, prepare for combat, seize victory for Zimbabwe.
- Do a man, be an inspiration, be informed, write your future.
- Do a man, be an inspiration, be informed, take action.
- Do a man, be a champion, be an inspiration.
- Do a man, be a fighter, be an inspiration.
- Do a man, protect yourself, fight for your family, be an inspiration.
- Do a man, fight for your family, fight for Zimbabwe.
- Do a man, find your champions, write your future.
- Do a man, write your future, fight for Zimbabwe.
- Do a man, write your future, seize your victory
- Do a man, write your future
- Protect yourself from HIV, become a man.
- Protect yourself, protect your family, protect Zimbabwe.
- Protect yourself, protect your loved ones, protect Zimbabwe.
- Protect yourself, your partner and your Country.
- Undeniable, undeniable, undeniable.
- We are strong, we write our future.
- We are smart, we write our future.
- We are strong, we are fighters, we write our future.
- We are fearless, we are fighters, we write our future.
- Fight for yourself, fight for your future, fight for Zimbabwe.
- Fight for your children, fight for your future, fight for Zimbabwe.
- Fight for your sons, fight for your future, fight for Zimbabwe.
- Fight for your daughters, fight for your future, fight for Zimbabwe.
- Fight for your future, fight for victory, fight for Zimbabwe.
- I am fighting for myself, for my loved ones, for Zimbabwe.
- I fight for myself, for my loved ones, for Zimbabwe.
- Fight for yourself, fight for your future, we for Zimbabwe.
- Fight for yourself, fight for your future, victory for Zimbabwe.
- This is your story, write your future.
- This is our story, write the future.
- This is Zimbabwe's story, write the future.
- This is our story, we write the future.
- One small step starts a life long journey.
- Get circumcised today, start your better life tomorrow.
- Protect yourself from STIs including HIV - Get circumcised (male image)
- More protection, more pleasure, more peace of mind.
- More protection, more enjoyment, more peace of mind.
- Do protection, feel good, feel safe.
- Feel safe, feel good.
- Do smart, feel safe, feel good.
- More protection, stronger performance.
- Feel good for life.
- No one is in, do the smart thing and get circumcised.
- Get circumcised - you will be glad you did.
- Get circumcised - You and your partner will be healthier and happier.
- Get circumcised - You and your partner will be healthier, safer and happier.
- Be clean, be safe, be proud - Get circumcised.
- Be smart, be safe, be proud - Get circumcised.
- Your partner will thank you - Get circumcised.
- Your partner will be glad you did - Get circumcised.
- Quick, safe, and a lifetime of protection.
- Quick, safe, and a lifetime of benefits.
- Quick, safe, and a lifetime of appreciation.
- It's not the pain, it's minutes, lifetime protection.
- 8 minutes for the procedure, lifetime protection.
- 8 minute procedure for a lifetime of peace of mind.
- It is safe, effective and takes less time than you might think.
- Just a little pain and so much to gain.
- Just a little discomfort for a lifetime of protection.
- A little discomfort for a lifetime of benefits.
- A little pain and twenty minutes for so much to gain.
- A little discomfort and twenty minutes for a lifetime of protection.
- A little discomfort and twenty minutes for a lifetime of benefits.
- A little discomfort and twenty minutes for a lifetime of peace of mind.
- Don't be back in action before you know it.
- Get the cut, it is excruciatingly painful. Don't be a boy.
- Let's search for the top.
- Make it to the top.
- Reach for your future.
- Do it for you, do it for your loved ones, do it for Zimbabwe.
- Do it for your son, do it for yourself, do it for Zimbabwe.
- Do it for your brother, do it for your friends, do it for yourself, do it for Zimbabwe.
- Good for you, Good for Zimbabwe.
- Be respected! Do it for yourself, for your loved ones, for Zimbabwe.
- Did I? To protect myself, my family, and Zimbabwe.
- Be a man. Do the right thing.
- Be a smart man. Get circumcised if I'm a smart man. I get circumcised.
- Be a proud man. Get circumcised, if I'm a proud man. I get circumcised.
- You are a man. Someone else wants to be.
- A man's man gets circumcised.
- More peace of mind. More pleasure.

# Message Validity Check

- Coded messages to IBM constructs
- Mapped message content to analytic results
- Verified content was based on the evidence from model results

## Coded Messages

		become a man. <i>[Get circumcised.]</i>	
4	Couple	Get circumcised – You and your partner will be healthier and happier	DA7, IA3, IN3
5	Group of young men	Grab your brother, grab your friend. Make the decision about circumcision	IN2, IN4, DN2, DN3
6	Group of young men	Safe, simple, no complications. 26,000 men got circumcised in Zimbabwe last year	IN1, DN1, DA3, IA1, IA2
7	Cultural icon/woman	It's not about culture, it's about health	IN5, SF1

# Poster Design

***Disclaimer:*** Images used in the posters that were designed were taken from snapshots of people and places from Battelle and Zichire's history of implementation and evaluation of HIV prevention programs over the last decade. Models and scenes would have to be staged for public dissemination of posters and billboards.



# Messages and Images

- Self-efficacy belief example
  - Behavioral certainty even if culture against MC
- Culture was an issue
- Cultural icons:



**Tetes**



**Chief**



**Granny**



1



**IT'S NOT ABOUT  
CULTURE,  
IT'S ABOUT  
HEALTH.**

***Get circumcised.***

It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

Trained providers offering free services, 6 days a week.

Spilhaus Clinic  
Harare Central Hospital Grounds  
Lobengula Road  
Southerton, Harare



# Message Testing Study

- **Pilot test:**
  - 32 posters (4 distracters)
  - 32 messages (4 distracters)
- **Assess:**
  - Reaction, acceptability
  - Recall
  - Effect on targeted beliefs, MC motivation

## Study Design:

Pre-exposure  
IBM measures

*Exposure*

Emotional/Cognitive  
ratings

3-days post  
exposure

8 weeks post exposure  
IBM measures

-MC Motivation, Attitude, Social  
Influence, Personal agency, MC  
behavior

# Message Testing Study

- Total Sample: 143 students
  - Articulate
  - Fit target age
- Run in groups of 8-10 students per group; 16 groups total
- Mixed gender groups: 78 males, 65 females
- Age range = 18 to 25, both males and females

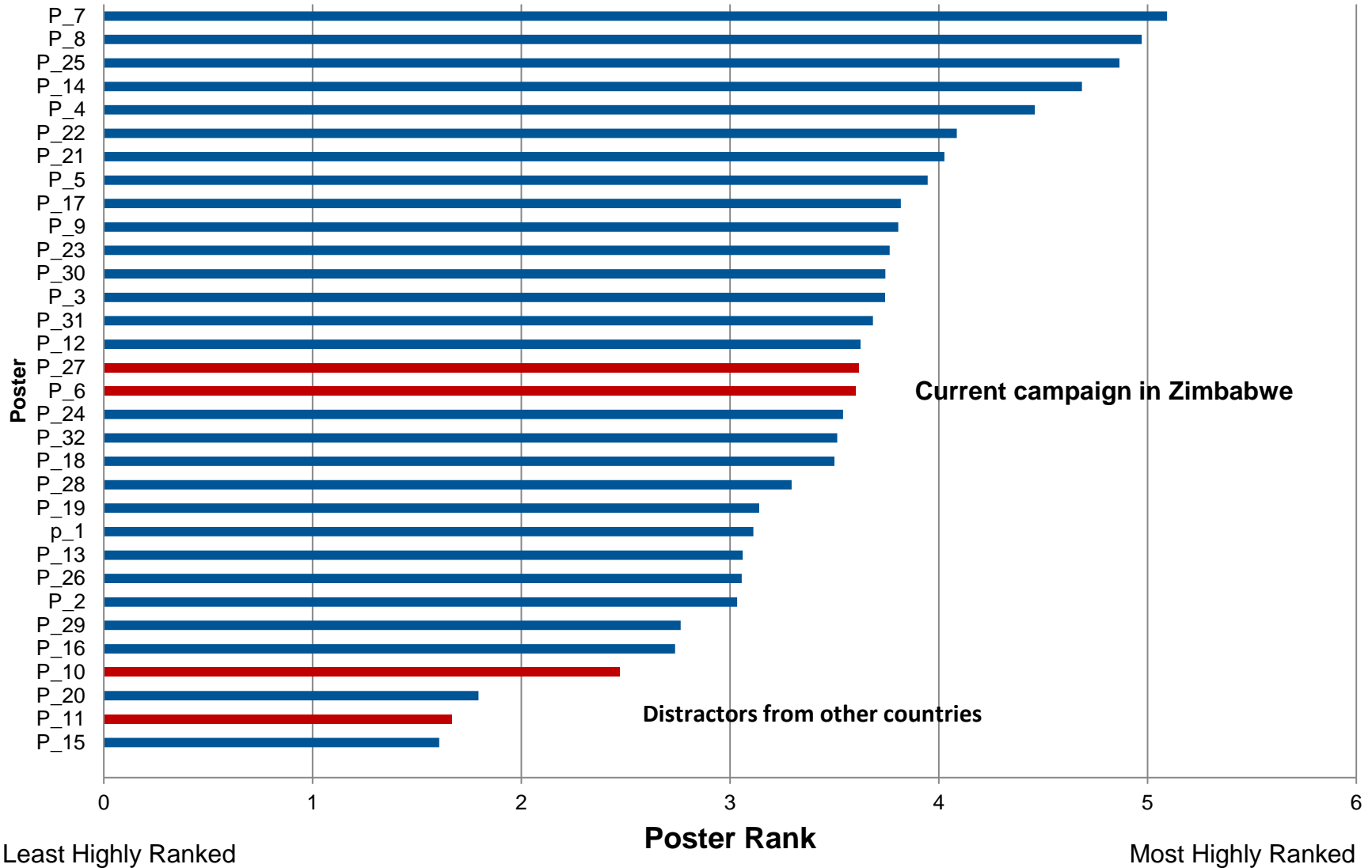
# Group Session Procedures

## *Message Exposure*

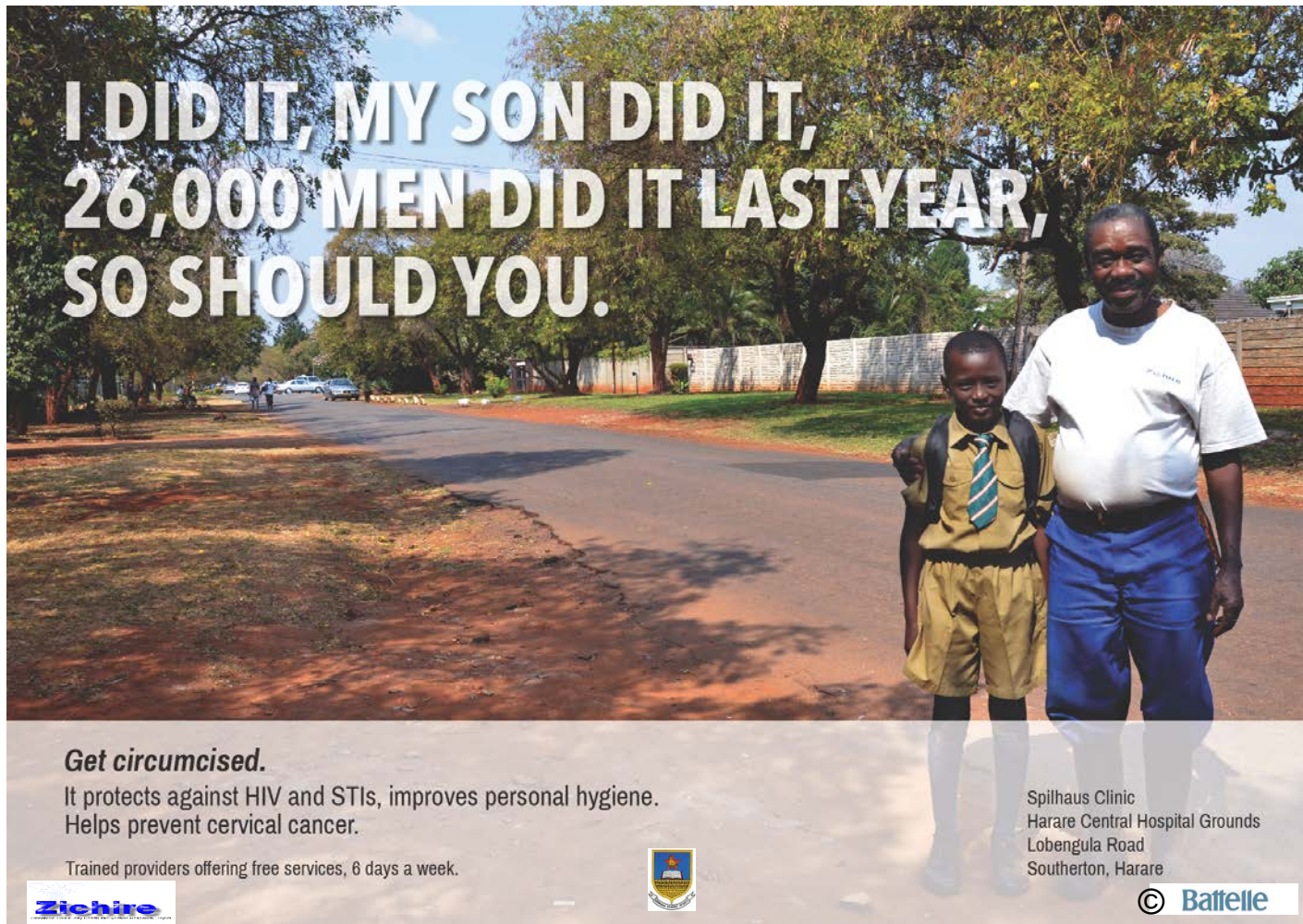
- 8 posters, 8 messages per session
- **Randomly ordered**
  - 30 second exposure to each poster
  - Provided ratings
  - Wrote thoughts/reactions
  - Sorted posters – liked most to least

# Message testing – University students

## Average Ranking of Posters from Most to Least Favorite



# Most Popular - Cognitive Assessment




**I DID IT, MY SON DID IT,  
26,000 MEN DID IT LAST YEAR,  
SO SHOULD YOU.**


**Get circumcised.**  
It protects against HIV and STIs, improves personal hygiene.  
Helps prevent cervical cancer.

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**Zichire**  
Zichire Health Services





# Least Popular – Cognitive and Emotional Appeal

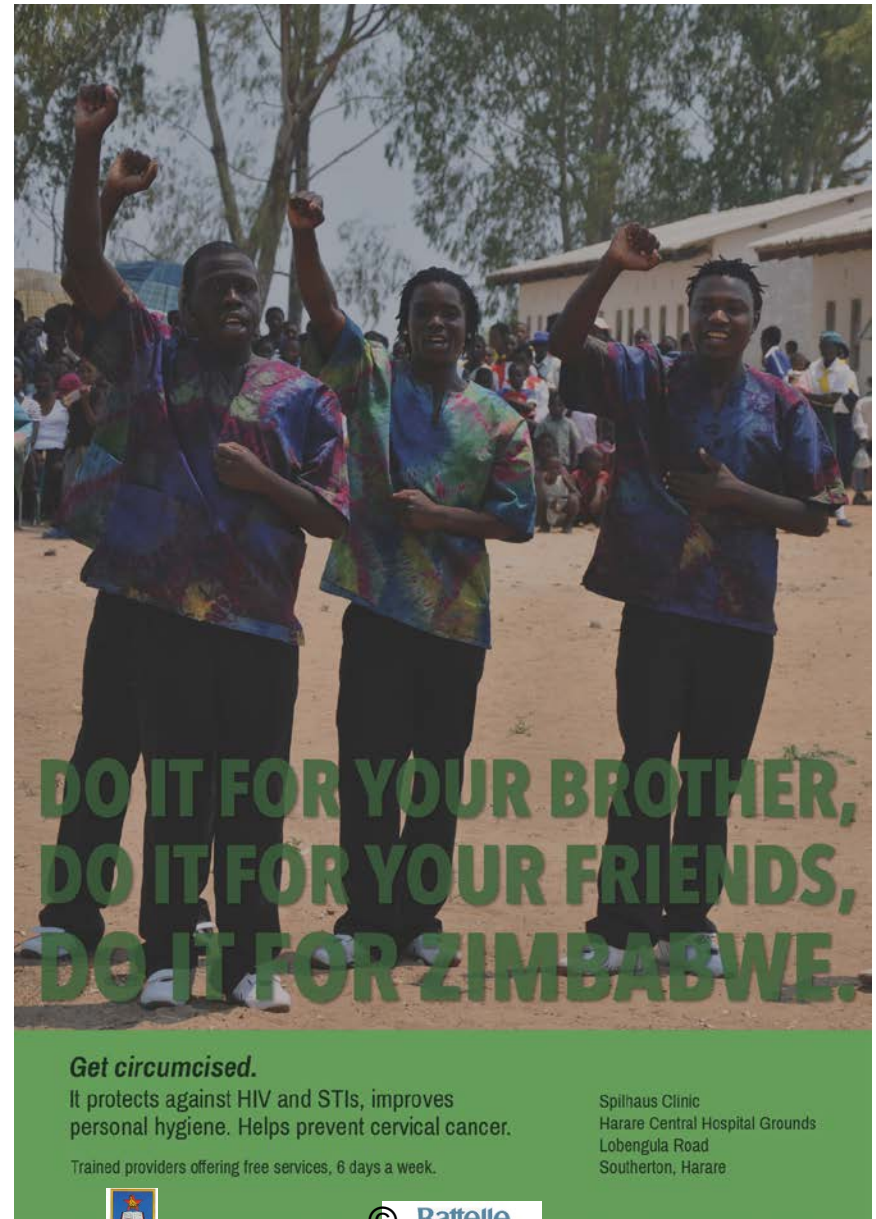


**NO SKIN IS IN,  
DO THE SMART  
THING AND GET  
CIRCUMCISED.**

**Get circumcised.**  
It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

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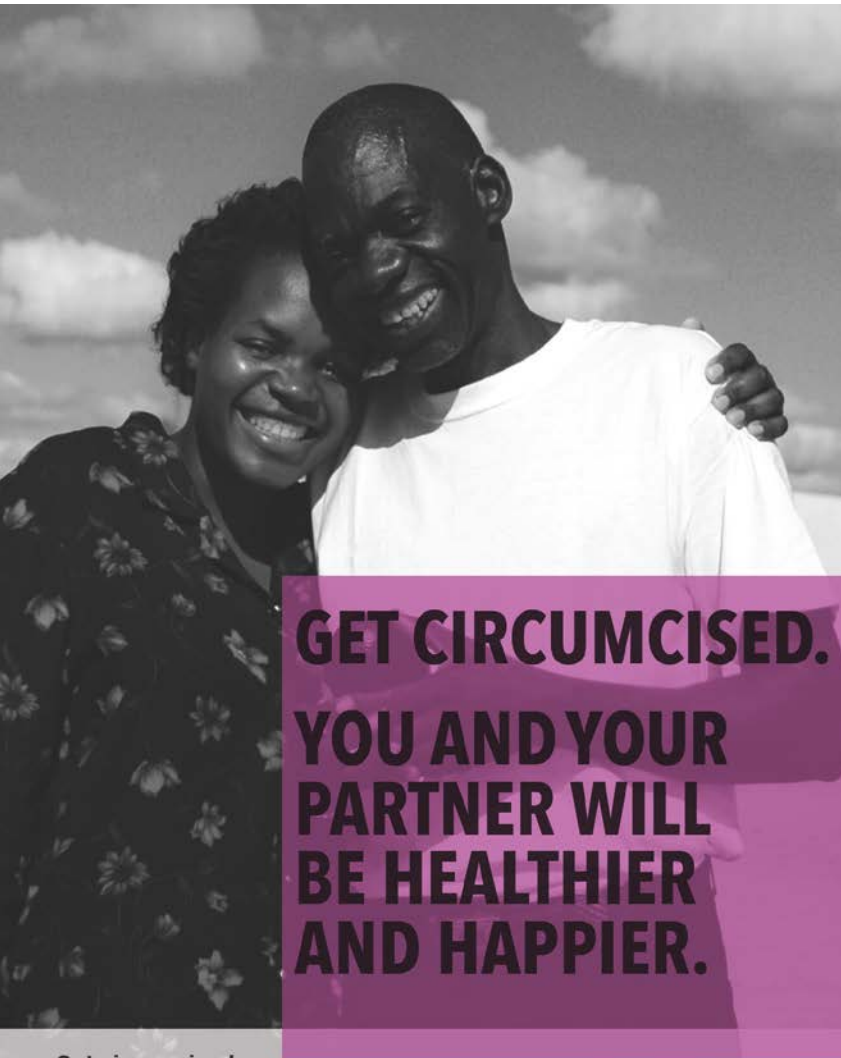
**DO IT FOR YOUR BROTHER,  
DO IT FOR YOUR FRIENDS,  
DO IT FOR ZIMBABWE.**

**Get circumcised.**  
It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

Trained providers offering free services, 6 days a week.

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# Most Popular – Emotional Appeal



**GET CIRCUMCISED.  
YOU AND YOUR  
PARTNER WILL  
BE HEALTHIER  
AND HAPPIER.**

**Get circumcised.**

It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

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## Men

**"THE BRAVE MAN IS NOT HE WHO DOES NOT FEEL AFRAID, BUT HE WHO CONQUERS THAT FEAR."**  
-NELSON MANDELA

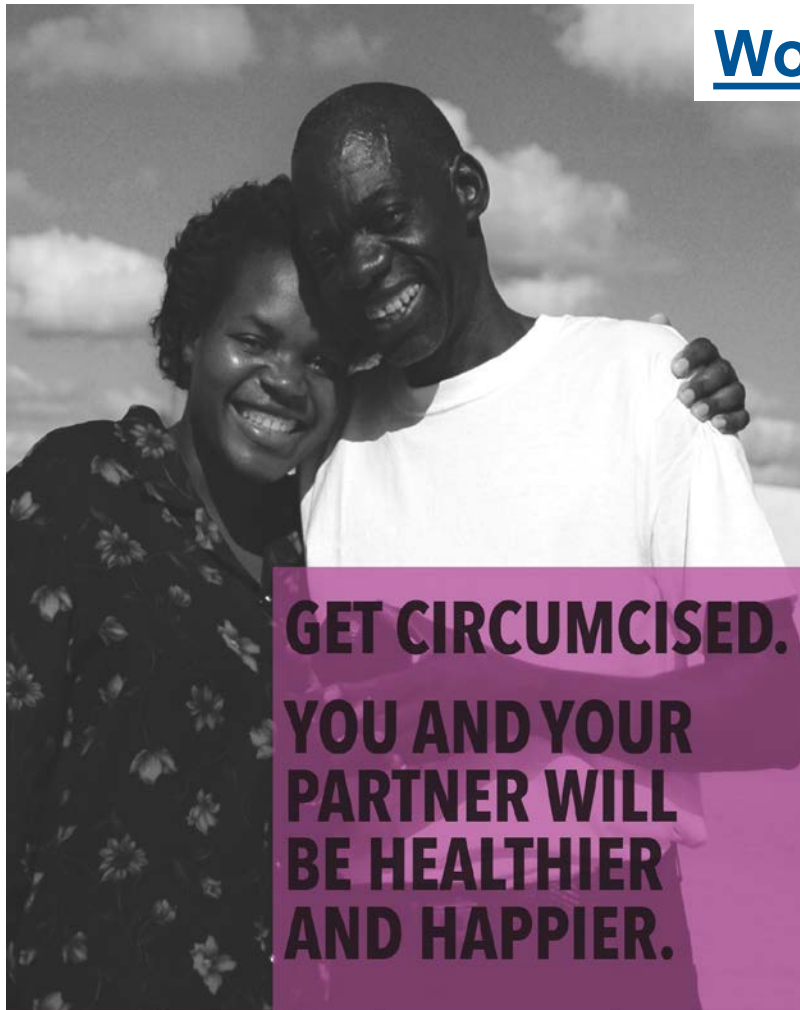
**Get circumcised.**  
**Zichire** is against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.  
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# Most Popular – Emotional Appeal

## Women



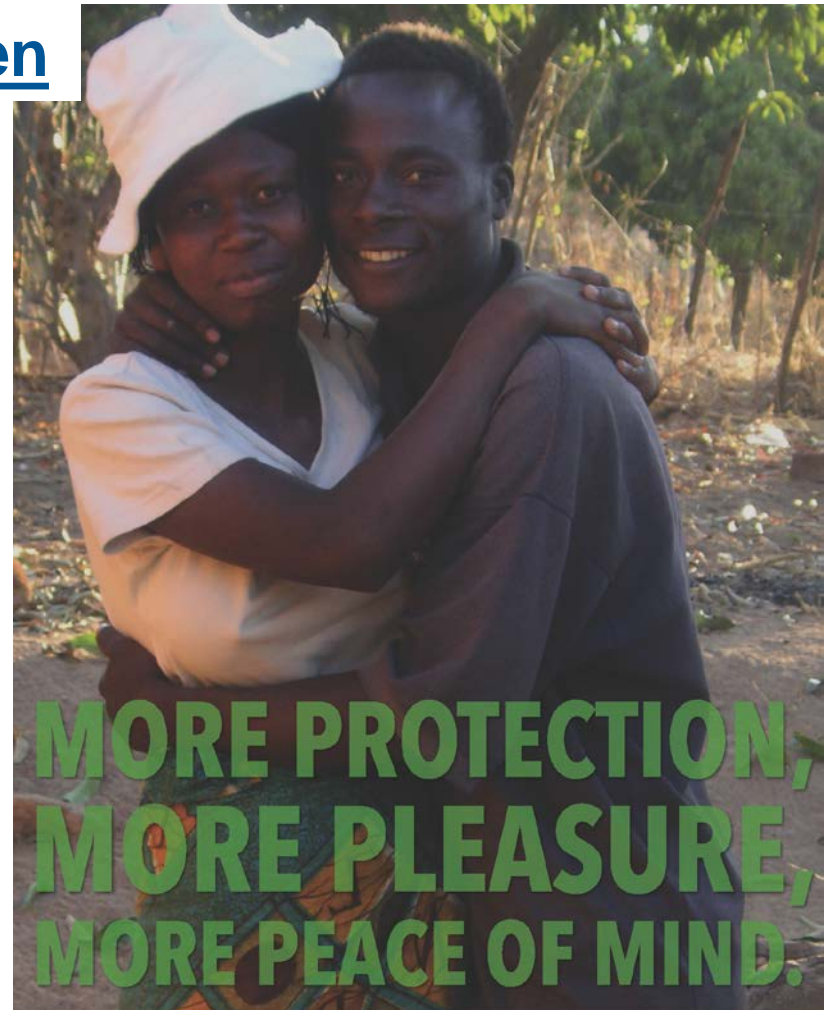
**GET CIRCUMCISED.  
YOU AND YOUR  
PARTNER WILL  
BE HEALTHIER  
AND HAPPIER.**

**Get circumcised.**

It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

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**MORE PROTECTION,  
MORE PLEASURE,  
MORE PEACE OF MIND.**

**Get circumcised.**

It protects against HIV and STIs, improves personal hygiene. Helps prevent cervical cancer.

Trained providers offering free services, 6 days a week.

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## Effect on IBM Constructs – Men

- Significant Change: MC Intention
- Significant Change: IBM Constructs
  - Attitude (Instrumental)
  - Affect (Experiential Attitude)

# Effect on Targeted Beliefs

- Attitude – Behavioral Beliefs:
  - It will be painful ↓
  - It will give you peace of mind ↑
  - It will give you a sense of achievement ↑
  - It will enhance sexual pleasure for you ↑
  - It will enhance sexual pleasure for your partner ↑
  - It will protect you from STIs ↑
  - It will protect your partners from STIs ↑
  - It will protect your partner from cervical cancer ↑
  - Might make mistake and cause you to be disfigured ↓

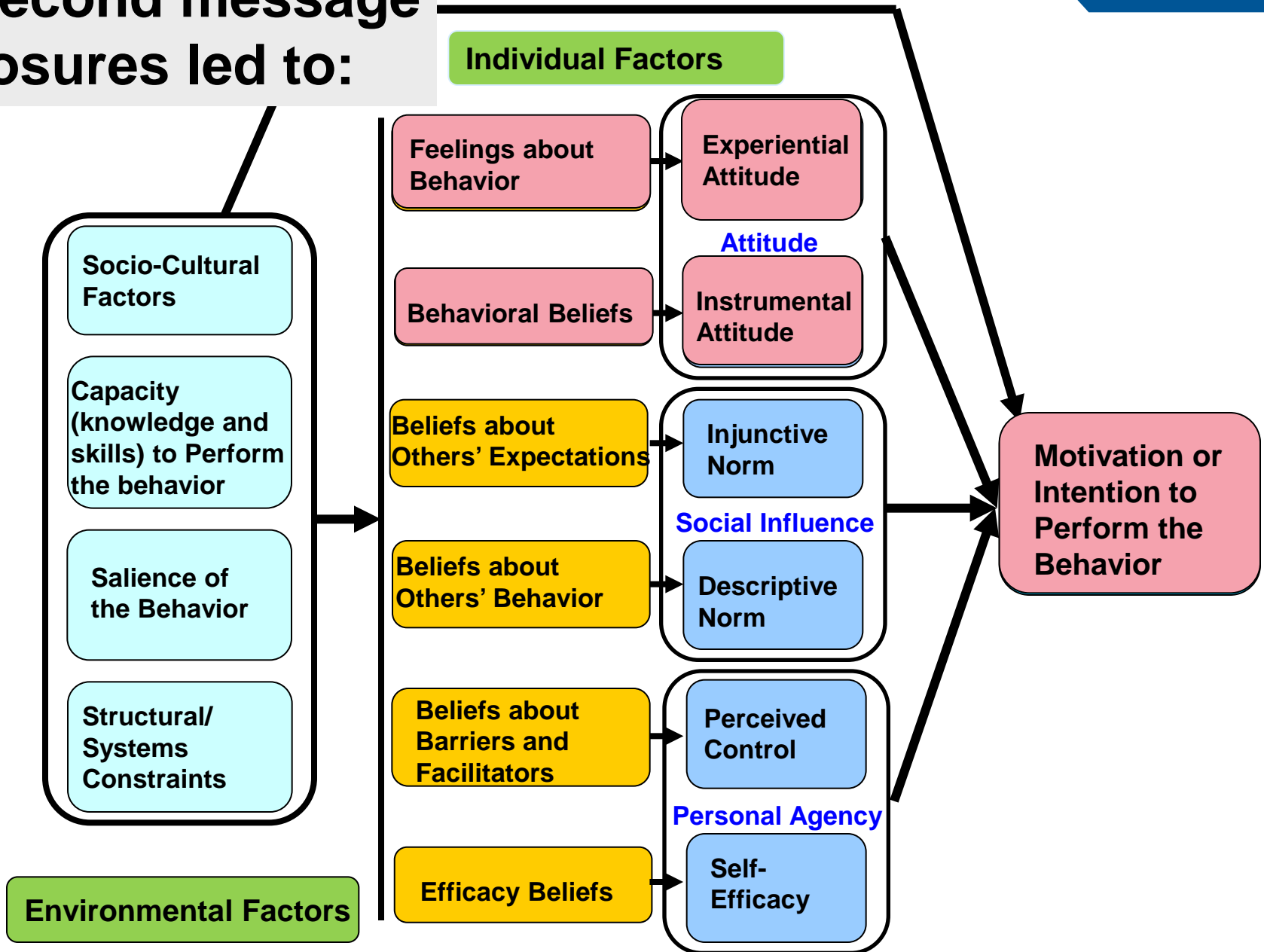
# Effect on Targeted Beliefs

- Affect – Feelings about MC

Getting MC would be:

- Bad – Good
- Difficult – Easy
- Stressful – Comforting
- Dirty – Hygienic
- Pointless – Worthwhile
- Undesirable – Desirable
- Unhealthy – Healthy

# 30 second message exposures led to:



# Implementation Questions

- How to package into communications campaign
  - Delivery of messages targeting key beliefs
    - Emotional or Cognitive appeal
    - Approach or Avoidance based (Framing)
    - Tailoring
  - Delivery channel/mode – Media vs. Interpersonal
    - Media
      - Large/Small Print or Electronic (sms)
    - Interpersonal communication
      - Community mobilizers or Peers or Clinicians

# Summary

## Developed and demonstrated Systematic Approach

- To design behavior change communication
  - Theory-driven: IBM = framework for
    - Investigation
    - Designing messages and posters
    - Evaluation
  - Evidence-based
    - Identified key beliefs to target
- Implementation science to change behavior
  - Move from **Efficacious** biomedical interventions
  - To **Effective** interventions

# Challenges

- Implementers do not invest in systematic communication design
  - Want immediate activity that gets attention
  - Think content is intuitive
  - Will not put resources into ID of key beliefs
  - Funders restrict funds – no research
- Need strategy to motivate funders and implementers to apply this approach
  - ID key beliefs
  - Design messages to target key beliefs
  - Test/evaluate messages

# Acknowledgements

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