

TELEVISION AS A HEALTH EDUCATOR:

A Case Study of **GREY'S ANATOMY**



A Kaiser Family Foundation Report

SEPTEMBER 2008

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by

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TABLE OF CONTENTS

1	INTRODUCTION
3	RESULTS
11	METHODOLOGY
12	THE SCRIPT
15	TABLES
19	COMBINED TOPLINE RESULTS

INTRODUCTION

For most health organizations, being able to communicate effectively with the public is a top priority. Whether the cause is preventing obesity, raising awareness about the uninsured, or encouraging cancer screening, communicating health information is a vital part of the effort.

Often a group's communications strategy includes making use of television—whether through putting out press releases they hope will be covered in the news, creating public service ads (PSAs), or, increasingly, by working with popular TV shows to embed health information in the storylines of dramas, reality shows, soap operas, or sitcoms—a type of “product placement” for health information. As a communications tool, TV continues to dominate, primarily because the size of its audience is unrivaled, dwarfing that of even the most popular websites. But hard evidence about the impact of so-called “edu-tainment” is hard to come by, and opportunities for large-scale, nationally representative evaluations of health messages in TV shows are rare.

THE STUDY

The study reported on here was the result of a unique opportunity to place a health storyline in one of the top-rated shows on television. Since its launch in 2005, *Grey's Anatomy* has been at or near the top of the Nielsen ratings, a cultural phenomenon that routinely draws an audience in the range of 20 million viewers. While the show focuses primarily on the personal lives of a group of young doctors at the fictional Seattle Grace Hospital, each episode also includes an abundance of medical situations encountered by the hospital's staff. There are a multitude of opportunities for communicating health information to the public—whether as part of a conscious effort at education, or incidentally, as part of a naturally occurring storyline.

Working with the director of medical research on *Grey's Anatomy*, a topic was selected that met three criteria: first, that it would be appropriate for the show; second, that it was not well understood by the American public; and third, that it was a topic that could be measured in a straightforward way in a survey.

The issue selected was the relatively low risk of mother-to-child transmission of HIV (the virus that causes AIDS) if an HIV-positive mother receives proper medical treatment during her pregnancy. Without treatment, the risk of mother-to-child transmission is quite high—25%—and in the past, there was no effective treatment available and hundreds of HIV-positive babies were born in the United States each year. Today, the risk is less than 2% if medication and care are received—one of the true success stories of the fight against HIV/AIDS. But few members of the public are aware of the progress that has been made, and some HIV-positive women who choose to have children face prejudice and disapproval for that decision.

To prepare for the episode, the Kaiser Family Foundation—which has long worked to incorporate health messages into popular television shows and has also studied the impact of different methods of delivering health messages through the media—organized a briefing with the show’s writers. Included in that briefing were Foundation staff with HIV expertise, an obstetrician who specializes in high-risk pregnancies, and a young woman who has been HIV positive since she was 19 and who just had a healthy baby with her HIV-negative husband. The issue was then incorporated by the writers into a storyline that aired on May 1, 2008.

In the episode, a young couple comes into the hospital’s clinic for a pregnancy test. They are seen by Izzie, a doctor and one of the lead characters on the show. She gives them what she assumes is the good news that they’re pregnant, and is surprised when they become distraught and ask her to schedule an abortion immediately. The couple explains that the wife has been HIV positive since she was 19, and that their condom broke. Because they don’t want their child to be born with HIV, they want to have an abortion. After researching the issue, Izzie returns to explain to the couple that, if the mother receives the proper treatment, her chances of transmitting the virus are substantially reduced. The mother gets angry at Izzie for trying to influence her decision, and insists that she schedule the abortion. Later, Izzie returns yet again, to make sure she is clear with the woman about her chances of having a healthy baby. Izzie says “I wasn’t saying there’s *some* chance your baby might not be sick. I’m saying there is a 98% chance your baby will be born perfectly healthy. *Ninety-eight percent.*” Later, the mom replies “A 98% chance?” and Izzie responds, “A 98% chance.”

In order to measure whether the episode had an effect on viewers’ awareness of this issue, three surveys were conducted among regular viewers of *Grey’s Anatomy*: a pre-show survey conducted one week prior to the target episode; a post-show survey, conducted during the week after the target episode aired; and a follow-up survey conducted six weeks later. Each survey used a separate sample of respondents, and tested viewers’ knowledge and attitudes about HIV-positive women giving birth.



RESULTS

KNOWLEDGE GAIN AND RETENTION ON MOTHER-TO-CHILD HIV TRANSMISSION RATES

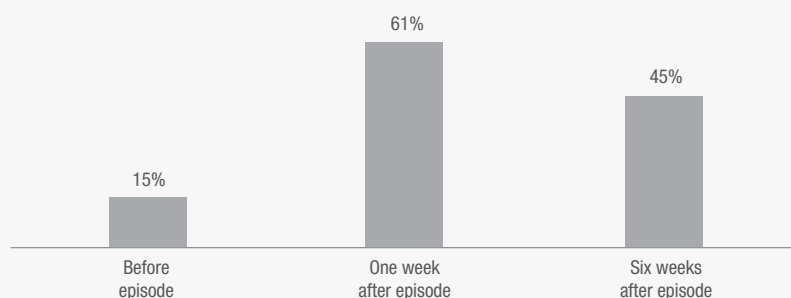
Viewers' knowledge about mother-to-child HIV transmission rates rose substantially after the *Grey's Anatomy* episode aired, and the new information was still retained by many *Grey's* viewers six weeks later.

The proportion of viewers who were aware that, with the proper treatment, there is more than a 90% chance of an HIV-positive woman having a healthy baby increased by 46 percentage points after the episode aired (from 15% to 61%). This includes 17% of respondents in the post-show survey who *volunteered* the specific response that the woman has a 98% chance of having a healthy baby—the statistic that was repeated several times on the show.

Six weeks after the episode aired, the proportion who gave the correct response had dropped to 45%, but was still substantially higher (by 30 percentage points) than it had been prior to the show. This time around, however, only 3% volunteered the specific fact that the woman would have a 98% chance of having a healthy baby.

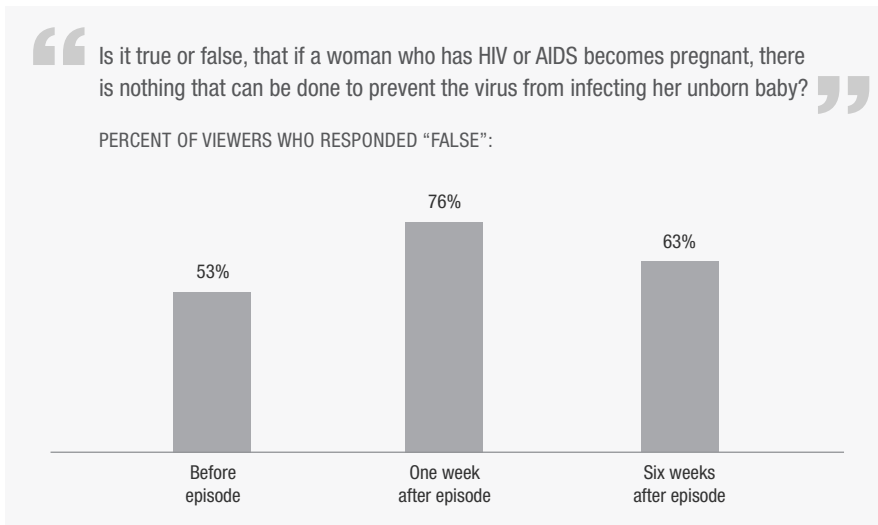
“As far as you know, if a woman who is HIV positive becomes pregnant and receives the proper treatment, what is the chance that she will give birth to a healthy baby — that is, a baby who is NOT infected with HIV?”

PERCENT OF VIEWERS WHO SAID THERE IS MORE THAN A 90% CHANCE:



Likewise, when asked whether it is true or false that “If a woman who has HIV or AIDS becomes pregnant, there is *nothing* that can be done to prevent the virus from infecting her unborn baby,” the proportion of viewers who knew that the correct answer is “false” increased by 23 percentage points the week after the episode aired, from 53% to 76%.

Six weeks after the episode aired, the proportion who said the statement was false had dropped, but was still a statistically significant 10 percentage points above where it had been before the show (63% said it was false, compared to 53% before the episode aired).

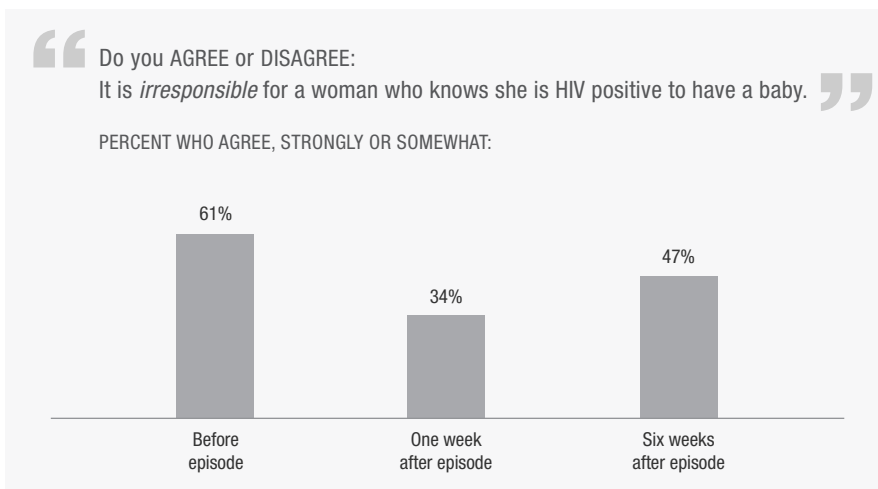


CHANGE IN ATTITUDE ON MOTHER-TO-CHILD HIV TRANSMISSION RATES

Viewers' attitudes about whether or not it is appropriate for HIV-positive women to have children also changed substantially after the episode aired, and this attitudinal shift was still evident among many viewers six weeks after the episode aired.

The proportion of viewers who agreed that “It is *irresponsible* for a woman who knows she is HIV positive to have a baby” went down by 27 percentage points after the show aired, from 61% to 34%.

Six weeks after the episode aired, the proportion who agreed with the statement had gone back up to 47%, which was still a statistically significant decrease of 14 percentage points from the pre-show level.



OVERALL VIEWER RESPONSE TO HEALTH CONTENT IN THE SHOW

Despite the fact that *Grey's Anatomy* focuses primarily on the personal lives of the doctors and has a comedic, tongue-in-cheek feel to it, many viewers say they have learned new information about health issues from the show, and believe the medical information it presents is mostly accurate.

Just under half (45%) of all regular viewers say they have learned something new about a health care issue from watching the show (although only 29% of all viewers can actually name a health care issue from the show that stands out in their mind). Younger and lower-income viewers are more likely than others to say they have learned something new about health from the show (50% of 18–39-year-olds, compared to 38% of those age 60 or older; and 51% of those with incomes under \$50,000 a year, compared to 41% of those above that level).

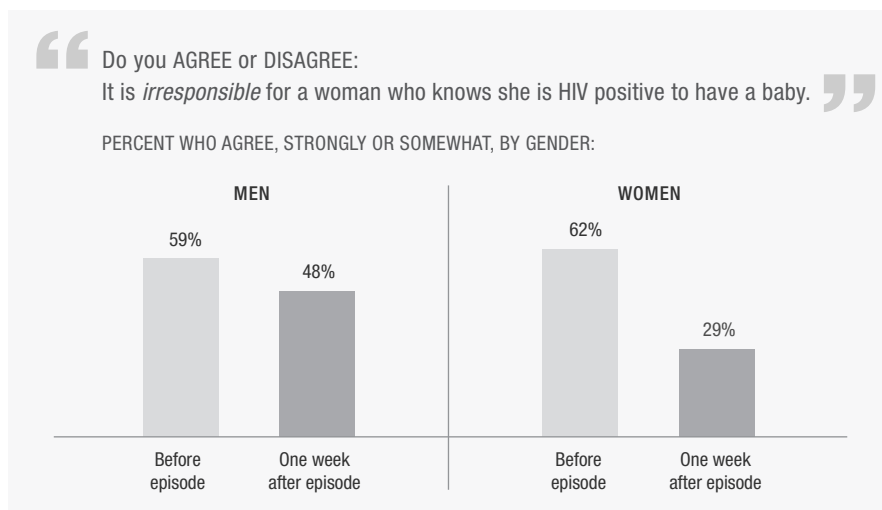
Twenty-nine percent of viewers say they think the medical information presented in *Grey's Anatomy* is “very” accurate, while the majority (58%) say it is “somewhat” accurate.

Seventeen percent of all *Grey's* viewers say they have either tried to find more information about a particular health care issue (13%) and/or actually spoken to a doctor or other healthcare provider about a health issue (9%) because of something they saw on the show. Again, lower-income viewers are more likely to say they have sought information or visited a doctor in response to the show than higher-income viewers are (24% compared to 14%).

DIFFERENCES IN KNOWLEDGE GAIN AND RETENTION, BY DEMOGRAPHIC GROUP

Analyses were conducted to see whether different types of viewers were more or less likely to be affected by content in the show. With one exception, the dramatic increases in awareness and the attitudinal changes were remarkably consistent across various types of viewers, whether looked at by age, gender, ethnicity, education, or income.

The one exception was among male viewers, on the question of whether it is irresponsible for a woman who knows she is HIV positive to have a baby. On this question, the change from the pre-show to the post-show survey was not statistically significant among men, while among female viewers, it was (an 11 percentage point change among men, compared to a 33 percentage point change among women).



With regard to viewers' retention of the new information, the results were mixed in terms of how different demographic groups responded. On the most significant change in the study—the increase in awareness about the chance of an HIV-positive woman giving birth to a healthy baby—the new information was retained at a statistically significant level across all demographic groups examined. Among each group, the level of awareness had dropped over the six weeks since the show was broadcast, but was still significantly higher than it had been prior to the episode.

However, for two other questions, the changes in awareness and attitudes were retained after six weeks only among college graduates and higher-income viewers. For example, on the question of whether it is irresponsible for a woman who knows she is HIV positive to have a baby, the two income groups (those earning less than \$50,000 a year, and those above that level) started out with similar views before the show, and opinions about the issue shifted a similar amount among each group immediately after the episode aired (a 25 and a 26 percentage point change, respectively). But six weeks later, there was still a 21 percentage point change among those viewers with incomes above \$50,000 while the change among those with lower incomes was just 3 percentage points, not a statistically significant difference from before the episode. Similar results were found based on education.

LACK OF CHANGE IN AWARENESS OF OTHER HIV-RELATED ISSUES

On a range of other HIV-related issues *not* addressed in the target episode, but which were tested in the surveys, viewers' knowledge and awareness did not change over the six weeks of the study. The steadiness of the findings on the other HIV issues—ranging from whether or not there is a rapid HIV test to whether HIV is increasingly affecting women in the United States—bolsters the finding of change in the areas that *were* addressed on the show. On none of these other topics was there a statistically significant change over any of the three surveys.

	PRE-SHOW	POST-SHOW	FOLLOW-UP
THERE IS A RAPID HIV TEST THAT CAN GIVE A PATIENT THEIR RESULTS IN ABOUT 20 MINUTES. Percent responding "True"	31%	30%	29%
AN HIV TEST ALWAYS INVOLVES GIVING BLOOD. Percent responding "False"	31%	27%	30%
HIV IS INCREASINGLY AFFECTING WOMEN IN THE UNITED STATES. Percent responding "True"	72%	71%	68%
THERE ARE DRUGS AVAILABLE THAT CAN LENGTHEN THE LIVES OF PEOPLE WHO HAVE HIV AND AIDS. Percent responding "True"	91%	92%	95%
HIV POSITIVE WOMEN WHO BECOME PREGNANT AND HAVE CHILDREN FACE A LOT OF PREJUDICE AND STIGMA. Total agree (strongly or somewhat)	79%	77%	78%
PEOPLE WHO GET HIV OR AIDS HAVE GOTTEN WHAT THEY DESERVE. Total agree (strongly or somewhat)	7%	7%	8%

VIEWER RESPONSE TO THE DISCUSSION OF CONDOMS

While the primary purpose of the experiment was to measure the effect of a plotline about mother-to-child HIV transmission rates, the storyline the writers developed also included a reference to condoms, so two questions on the topic were added to the surveys to see whether there was any change in viewers' attitudes.

In the show, the HIV-positive wife and her HIV-negative husband have clearly been married and sexually active for some time. They mention that “the condom broke”—implying that they have had sex using condoms in the past, and that the husband has managed to stay HIV negative—and that, until this point, they hadn't had a condom break.

Would this storyline have any effect on viewers' perceptions of the effectiveness and reliability of condoms? If so, which direction would the impact go? Perhaps viewers would note the fact that the condom broke, and their perception of the reliability of condoms would diminish; or perhaps they would understand the implicit message that this was the first time in 10 years that a condom had broken. Maybe viewers would pick up on the notion that the couple had been having an active sex life and that condoms had effectively prevented the husband from contracting the virus. Another possibility was that the condom reference was too brief and too small a part of the overall storyline to register at all.

The results indicate that there was no change in viewers' perceptions of the effectiveness of condoms in preventing HIV transmission—a subject that was addressed briefly and only implicitly in the episode. However, there was a small, statistically significant difference in viewers' perception of how often condoms break, with the percent who say they break “not too often” or “hardly ever” going up by 9 percentage points after the episode aired (from 43% to 52%), and remaining near that level six weeks later (51%).

	PRE-SHOW	POST-SHOW	FOLLOW-UP
IN YOUR OPINION, HOW EFFECTIVE ARE CONDOMS, IF USED CORRECTLY, AT PREVENTING HIV/AIDS?			
Very effective	45%	48%	50%
Total effective (very/somewhat)	86%	89%	91%
TO THE BEST OF YOUR KNOWLEDGE, HOW OFTEN DO CONDOMS BREAK?			
Total not often (not too often/hardly ever)	43%	52%*	51%*

*Denotes a statistically significant difference from the pre-show survey, at the level $p < .05$.

HOW GREY'S VIEWERS WATCH TV

The survey also offers a glimpse into how people are watching TV today. For example, 16% of viewers say they sometimes watch TV shows by downloading them from the Internet, and 23% say they usually watch new episodes of *Grey's* sometime *after* they are first aired—indicating that time-shifted viewing has become relatively common.

THE ROLE OF BLOGS

Health information that is incorporated into a TV show can have a ripple effect beyond the original broadcast. Many viewers talk about the show with family and friends (30% say they do this “often”). Episodes are also repeated, watched again online, and made available later on DVD. And, in a more recent development, many viewers communicate about the episode with one another via blogs.

In all, a Google search found about 35 different blogs that had discussed or at least repeated the statistic that an HIV-positive woman has a 98% chance of having a healthy baby if she has the proper treatment. Many of these blogs featured a lively discussion of the issue among viewers. One blogger asked “Did anyone watch *Grey’s* last night? It made me bawl [sic] my eyes out...I had no idea that someone with HIV would have a 98% chance of having a healthy baby,” and another wrote “So, I was watching *Grey’s Anatomy* last night and one particular scene still has my brain clicking and whirring,” referring to the storyline about the HIV-positive pregnant woman. On *Entertainment Weekly’s* blog, a viewer wrote “I liked that we learned interesting facts about HIV without it seeming preachy.” Others wrote about their emotional reaction to the storyline—“Wow, 98%, I had no idea ... and tears” or “That stunned me too. I thought it was almost a certainty for the child to get it. Wow.”

The writers of the show have their own blog called *Grey Matter*, where the author of this episode wrote about the issue of HIV and pregnancy, and included a link to a fact sheet on the issue from the Centers for Disease Control and Prevention. Her blog received about 400 comments from readers. One reader wrote “The AIDS storyline was interesting and significant too. I didn’t know that, but I think it’s great that you’re using the show to educate us a bit.” Another wrote: “Thank you for teaching your viewers an important medical fact, and one which can fight stereotypes/assumptions about HIV+ people, as well as crafting an excellent episode!”

CONCLUSION

This study documents the enormous potential of popular entertainment television to serve as a health educator—even on a show that has a “soap-opera”-like feel and a comedic bent. A very large proportion of viewers absorbed the information that was provided in *Grey’s Anatomy*, and many of them had retained that knowledge six weeks later.

On the key fact presented in the show—that an HIV-positive pregnant woman who gets the proper treatment has more than a 90% chance of having a healthy baby—the proportion of viewers who were aware of that fact *quadrupled*, from 15% before the show to 61% after it aired, an increase of 46 percentage points.

According to the Nielsen ratings, this particular episode of *Grey’s* had 17.5 million viewers. If 46% of them absorbed the HIV-related information in the show, this means that more than 8 million people learned this correct information about mother-to-child HIV transmission rates by watching the episode. This is an extraordinarily powerful impact.

One challenge to any kind of public health communication effort is retention—how long the public holds on to the new knowledge. Earlier studies have shown a steep drop-off in awareness of key issues after public education campaigns have ended, or after an “edutainment” storyline has aired. This study confirms that there is indeed a substantial drop in awareness over time. The proportion of viewers who correctly answered a question about the key fact in the study dropped from a high of 61% the week after the episode aired to 45% six weeks later—and in all likelihood, it will continue to drop unless the information is repeated. On the other hand, although that is a significant drop in awareness, it is also still three times as many viewers as were aware of the information before the episode aired—again, a very substantial increase by any measure.

In reading viewers’ comments on blogs, it is easy to understand why entertainment television has such power as a communications tool. Viewers were thoroughly engaged in the storyline; they saw what happened to this woman and her husband as almost real, and they became emotionally invested in it, with some shedding tears. The delivery of the information by the character Izzie was also memorable because the part is played by one of the top TV and movie stars in the country, Katherine Heigl, and because it was part of a significant moment in her character’s personal development.

Beyond this particular storyline, it is also of note that as many as one in six viewers of the show says that they have, at some point, sought more information about a health topic that they saw on *Grey’s*, or visited a doctor or other health provider about something they saw on *Grey’s*. Given that the show’s ratings are routinely in the range of 20 million viewers, this means that more than 3 million viewers may have taken action regarding a health issue based on something they saw on the show.

For health organizations or those in the medical profession, this is a strong message that entertainment television is, for better or worse, a health educator. Monitoring the health-related content of such shows may be just as important as monitoring the news media when it comes to understanding what the public is seeing and hearing—and learning—about key health issues. Actively working with shows to help ensure that the health content they include is accurate and balanced, as some health groups already do, may also be important. And this study demonstrates that—with the right message and the right show—entertainment television can be a powerful health communication tool.

METHODOLOGY

This report presents the results of three national telephone surveys that were designed to measure the impact of a storyline featured in the popular ABC television show *Grey's Anatomy*. The first survey was conducted just before the target episode aired, the second was conducted during the week after the episode aired, and the third survey was conducted six weeks later.

Each of the three surveys used a separate sample of approximately 500 regular viewers of *Grey's Anatomy* (people who indicate that they usually watch at least three out of four new episodes of the show). For the post-show and follow-up surveys, respondents were regular viewers who had seen the target episode.

The surveys were designed and analyzed by staff at the Kaiser Family Foundation in consultation with Princeton Survey Research Associates International (PSRAI). Fieldwork was conducted by Princeton Data Source, LLC.

The survey sample was drawn using standard list-assisted random digit dialing methodology. PSRAI calculates the response rate at 23.8% for the pre-show survey, 26.2% for the post-show survey, and 19.1% for the follow-up survey.

Interviewing was scheduled around the episode of *Grey's Anatomy* that aired on May 1, 2008. The first wave of interviewing (the pre-show survey) was conducted among 500 regular *Grey's Anatomy* viewers from April 15 to April 30, 2008 just prior to the airing of the target episode. The second wave of interviewing (the post-show survey) was conducted from May 2 to May 7, 2008 among a sample of 504 regular *Grey's Anatomy* viewers who watched the target episode. The third and final wave of interviewing (the follow-up survey) was conducted from June 11 to June 19, 2008 among a sample of 501 regular *Grey's Anatomy* viewers who watched the target episode.

The margin of sampling error for the weighted pre-show data is $\pm 5.0\%$. The margins of error for the post-show and follow-up data are $\pm 5.1\%$ and $\pm 4.9\%$ respectively.

The combined sample size across all three surveys was 1,505 respondents, with a margin of error from sampling of $\pm 5.0\%$.

THE SCRIPT

GREY'S ANATOMY — Pieces of Me

MAY 1, 2008 (AS AIRED)

IZZIE: Hi. I'm Dr. Stevens. What seems to be your problem today?

SARAH: We, um...

FREDDIE: My wife thinks she may be pregnant.

IZZIE: Okay – great – we'll get you a test... Excuse me, won't you.

END SCENE

Izzie approaches Sarah and Freddie where they wait.

IZZIE: Sorry it took so long. Congratulations. You're pregnant.

SARAH: You're sure?

IZZIE: It's a big day for pregnant ladies. Pregnant ladies everywhere I turn. It's weird.

She hands them handfuls of samples.

IZZIE: So I'm only supposed to give you a couple of these – but this is like a month's supply of prenatal vitamins – samples, they're free.

SARAH: No. Uh... We need to schedule an abortion.

IZZIE: Okay... I'm sorry... I...

Sarah starts to cry.

FREDDIE: *(quietly to Sarah)* I'm sorry. I'm so sorry.

IZZIE: I... I don't mean to intrude, but you might want to sit with this for a few days before you make your decision.

SARAH: There's no decision to make. I'm HIV positive. And the condom broke.

FREDDIE: I got tested already, and I will again in six months, but... so far I'm fine.

SARAH: Please I just... I want to get this over with. Is there any chance we can take care of it today?

IZZIE: Yeah, let me see what I can set up.

END SCENE

Izzie sitting at nurse's station eating potato chips

IZZIE: Dr. Montgomery would you do me a favor? Can you talk to my patient?

ADDISON: I don't work here anymore Stevens.

IZZIE: She's pregnant and HIV positive and she thinks she has to terminate the pregnancy.

ADDISON: She doesn't.

IZZIE: I know, but she doesn't, and it's not my area of expertise.

ADDISON: I don't work here anymore Stevens.

END SCENE

Izzie with couple in meeting room.

- FREDDIE: We can have the baby? You're saying we can have the baby? A healthy baby?
- IZZIE: With the proper prenatal treatment, the risks to your baby are substantially reduced... I haven't found you an OB yet, and I think the process might prove really difficult.
- FREDDIE: It doesn't matter. We'll figure it out. We can figure anything out... I can't believe this! Thank you.
- SARAH: No. No. Do not thank her. I asked you to do one thing, I asked you to schedule an abortion.
- FREDDIE: Sarah...
- SARAH: No. She just walks in here and gets your hopes up and that's not okay.
- (To Izzie) I was diagnosed at 19. And I have learned how to deal with it... but I will not put that onto a baby. I cannot bring a baby into this world who could possibly have this disease... I won't. Now could you please just schedule the abortion? And do me a favor. Don't come back. I'd like a different doctor.

END SCENE

Izzie enters room where Sarah & Freddie are waiting.

- SARAH: I thought I made myself clear.
- IZZIE: You did. I didn't.
- SARAH: I knew it. You disapprove. You're here to push some kind of agenda, right?
- IZZIE: No. No... Listen, if you want to have an abortion because you want to have an abortion, then that is between you and whatever god you believe in. But if you want to have an abortion because you think that's what medicine is telling you to do, then that's between you and me. I was ineffectual. I was unclear. I've been -- on my heels a little lately and... I was unclear. So just listen, okay. I wasn't telling you there is some chance your baby might not be born sick. I was telling you there is a 98% chance your baby could be born perfectly healthy. A ninety-eight percent chance. There's a higher chance of your baby being born with Down's Syndrome than there is of you passing HIV on to your child.
- SARAH: I don't... I just, I can't...
- IZZIE: I know you gave up on having children a long time ago, and I understand it's difficult to readjust your thinking so quickly, but Sarah, if you take your meds responsibly, there is no reason why you can't have a beautiful, healthy baby. This is your chance. If you want it, this is your chance to be a mom.
- SARAH: A ninety-eight percent chance?
- IZZIE: A ninety-eight percent chance.

Sarah and her husband hug.

- FREDDIE: Thank you.

END

TABLES

TABLE 1: If a woman who has HIV or AIDS becomes pregnant, there is nothing that can be done to prevent the virus from infecting her unborn baby.

	TOTAL	Male	Female	White	Non-White	Age 18-39	Age 40-59	Age 60+	High School or Less	Some College	College Grad	Less than \$50K	\$50K+
	A	B	C	D	E	F	G	H	I	J	K	L	M
TRUE													
Pre-show	17%	15%	17%	15%	21%	14%	17%	18%	23% ^K	18% ^K	7% ^U	21%	13%
Post-show	8%	9%	7%	6%	11%	9%	5%	7%	12% ^K	6%	3% ^I	15% ^M	3% ^L
Pre-show/post-show percentage point difference	-9*	-6	-10*	-9*	-10	-5	-12*	-11*	-11*	-12*	-4	-6	-10*
Follow-up	15%	13%	15%	13%	19%	13%	15%	18%	22% ^K	13% ^K	6% ^U	19%	12%
Pre-show/follow-up percentage point difference	-2	-2	-2	-2	-2	-1	-2	0	-1	-5	-1	-2	-1
FALSE													
Pre-show	53%	52%	53%	51%	58%	64% ^{GH}	46% ^F	47% ^F	46% ^K	53%	62% ^I	49%	57%
Post-show	76%	73%	77%	76%	76%	80%	77%	72%	67% ^{JK}	79% ^I	84% ^I	68% ^M	82% ^L
Pre-show/post-show percentage point difference	23*	21*	24*	25*	18*	16*	31*	25*	21*	26*	22*	19*	25*
Follow-up	63%	62%	64%	63%	63%	70% ^H	64% ^H	46% ^{FG}	51% ^K	63% ^K	79% ^U	57% ^M	70% ^L
Pre-show/follow-up percentage point difference	10*	10	11*	12*	5	6	18* ^H	-1 ^G	5	10	17*	8	13*
DON'T KNOW/REFUSED													
Pre-show	31%	32%	30%	34% ^E	21% ^D	22% ^{GH}	37% ^F	35% ^F	31%	29%	31%	31%	30%
Post-show	16%	19%	16%	17%	13%	10% ^H	18%	20% ^F	21%	15%	13%	17%	14%
Pre-show/post-show percentage point difference	-15*	-13*	-14*	-17*	-8	-12*	-19*	-15*	-10	-14*	-18*	-14*	-16*
Follow-up	22%	25%	21%	24%	18%	17% ^H	21% ^H	36% ^{FG}	27% ^K	23%	15% ^I	24%	18%
Pre-show/follow-up percentage point difference	-9*	-7	-9*	-10*	-3	-5	-16* ^H	1 ^G	-4	-6	-16*	-7	-12*
SAMPLE SIZE													
Pre-show unweighted base	500	148	352	387	106	120	224	151	173	130	196	168	245
Post-show unweighted base	504	99	405	418	79	114	229	147	160	131	210	154	244
Follow-up unweighted base	501	135	366	417	80	135	224	132	175	129	194	172	251

Findings with * are significantly different over time, compared with the pre-show data in the same column. Differences are significant at the level of $p < .05$. Upper case letters indicate a statistically significant difference across the same row, also at the level of $p < .05$.

TABLE 2: If a woman who is HIV+ becomes pregnant and receives the proper treatment, what is the chance that she will give birth to a healthy baby.

	TOTAL	Male	Female	White	Non-White	Age 18-39	Age 40-59	Age 60+	High School or Less	Some College	College Grad	Less than \$50K	\$50K+
	A	B	C	D	E	F	G	H	I	J	K	L	M
MORE THAN A 90% CHANCE THE BABY WILL NOT HAVE HIV													
Pre-show	15%	13%	16%	16%	14%	16%	15%	14%	13%	16%	17%	15%	17%
Post-show	61%	53%	64%	64%	53%	65%	65%	54%	53%	65%	67%	50%	65%
Pre-show/post-show percentage point difference	46*	40*	48*	48*	39*	49*	50*	40*	40*	49*	50*	35*	48*
Follow-up	45%	42%	46%	45%	45%	58% ^{GH}	40% ^{FH}	25% ^{FG}	36% ^K	46%	54% ^I	38%	48%
Pre-show/follow-up percentage point difference	30*	29*	30*	29*	31*	42% ^{GH}	25% ^F	11% ^F	23*	30*	37*	23*	31*
SAMPLE SIZE													
Pre-show unweighted base	500	148	352	387	106	120	224	151	173	130	196	168	245
Post-show unweighted base	504	99	405	418	79	114	229	147	160	131	210	154	244
Follow-up unweighted base	501	135	366	417	80	135	224	132	175	129	194	172	251

Findings with * are significantly different over time, compared with the pre-show data in the same column. Differences are significant at the level of $p < .05$. Upper case letters indicate a statistically significant difference across the same row, also at the level of $p < .05$.

TABLE 3: It is irresponsible for a woman who knows she is HIV positive to have a baby.

	TOTAL	Male	Female	White	Non-White	Age 18-39	Age 40-59	Age 60+	High School or Less	Some College	College Grad	Less than \$50K	\$50K
	A	B	C	D	E	F	G	H	I	J	K	L	M
STRONGLY AGREE													
Pre-show	41%	38%	42%	41%	42%	32% ^{GH}	44% ^F	48% ^F	47% ^J	34% ^I	40%	44%	42%
Post-show	19%	27% ^C	16% ^B	18%	25%	11% ^{GH}	22% ^F	24% ^F	29% ^{JK}	16% ^I	11% ^I	28% ^M	17% ^L
Pre-show/post-show percentage point difference	-22*	-11	-26*	-23*	-17*	-21*	-22*	-24*	-18*	-18*	-29*	-16*	-25*
Follow-up	30%	32%	29%	28%	36%	28% ^H	28% ^H	41% ^{FG}	35% ^K	35% ^K	20% ^{IJ}	39% ^M	24% ^L
Pre-show/follow-up percentage point difference	-11*	-6	-13*	-13*	-6	-4	-16*	-7	-12*	1 ^K	-20* ^{IJ}	-5	-18*
TOTAL AGREE (STRONGLY/SOMEWHAT)													
Pre-show	61%	59%	62%	62%	58%	57%	62%	65%	61%	55%	65%	64%	60%
Post-show	34%	48% ^C	29% ^B	34%	35%	25% ^H	35%	44% ^F	41% ^K	32%	28% ^I	39%	34%
Pre-show/post-show percentage point difference	-27*	-11 ^C	-33* ^B	-28*	-23*	-32*	-27*	-21*	-20* ^K	-23*	-37* ^I	-25*	-26*
Follow-up	47%	46%	48%	46%	52%	45% ^H	44% ^H	60% ^{FG}	53% ^K	53% ^K	35% ^{IJ}	61% ^M	39% ^L
Pre-show/follow-up percentage point difference	-14*	-13	-14*	-16*	-6	-12	-18*	-5	-8 ^K	-2 ^K	-30* ^{IJ}	-3 ^M	-21* ^L
SAMPLE SIZE													
Pre-show unweighted base	500	148	352	387	106	120	224	151	173	130	196	168	245
Post-show unweighted base	504	99	405	418	79	114	229	147	160	131	210	154	244
Follow-up unweighted base	501	135	366	417	80	135	224	132	175	129	194	172	251

Findings with * are significantly different over time, compared with the pre-show data in the same column. Differences are significant at the level of $p < .05$. Upper case letters indicate a statistically significant difference across the same row, also at the level of $p < .05$.

GREY'S ANATOMY SURVEYS: Combined Topline Results

**Princeton Survey Research Associates International (PSRAI)
for the Kaiser Family Foundation**

N=1505 regular Grey's viewers (margin of error 5 percentage points)

Interviewing Dates

"Pre-show" survey: April 16-30, 2008; N=500

"Post-show" survey: May 2-8, 2008; N=504

"Follow-up" survey: June 11-19, 2008; N=501

Note: An asterisk indicates a percentage less than 1%

READ TO ALL: I'm going to start with a few questions about different ways people watch television...

1. How many TV's do you have in your household?

None	*
One	8
Two	26
Three	28
Four	21
Five or more	17
Don't know/Refused	*

2. Do you ever use TIVO (TEE-voh), a VCR, or a digital video recorder to record shows and watch them later?

Yes	62
No	38
Don't know/Refused	*

3. Do you ever watch TV shows by downloading them from the Internet?

Yes	16
No	84
Don't know/Refused	-

4. When do you usually watch NEW episodes of *Grey's Anatomy* – on Thursdays when they are first aired, within a few days, or later on?

First aired	75
Within a few days	16
Later on	7
(VOL.) Varies from week to week	1
Don't know/Refused	1

5. Do you ever watch the soap opera *General Hospital*?

Yes	16
No	84
Don't know/Refused	-

6. About how many days a week do you watch *General Hospital*? (READ IF NECESSARY... Just your best estimate ... once a week, twice a week, three, four, or all five days?)

Based on those who watch General Hospital, n=205

Once a week	22
Twice a week	9
Three	18
Four	8
Five/Every day	36
Don't know/Refused	7

7. You mentioned that you watch *General Hospital*. In that show, the character Robin Scorpio has a long-term health condition for which she receives treatment. Do you happen to know what that condition is?

Based on those who watch General Hospital, n=205

Yes, gave response	73
HIV	49
AIDS	21
Other	7
No	27
Don't know/Refused	*

8. In addition to following the personal lives of the doctors on *Grey's Anatomy*, sometimes the show also has storylines about important health care issues. Have you ever learned anything new about a health care issue from watching *Grey's Anatomy*, or not?

Yes	45
No	52
Don't know/Refused	4

9. Have there been any particular health care story lines or issues shown on *Grey's Anatomy* that stands out in your mind?

Yes	29
No/None stands out	70
Don't know/Refused	1

10. What health care story line or issue stands out in your mind?
(PROBE FOR ADDITIONAL RESPONSES: Any others?)

Based on those who said a health care story line stood out in their mind, n=429

Crash/Accident/Severe trauma	13
Tumor	11
Alzheimer's/Mental health issues	7
Heart disease/Transplant	14
Cancer	8
Surgery	8
Diagnosis of rare/complicated disease	4
HIV/AIDS	4
Diabetes	2
Pregnancy and childbirth	4
Uninsured/Clinics/Health care for poor	2
Drugs/Addiction	1
HIV pregnancy/Prognosis of healthy baby	4
Other health story line	14
Other story line	8

Note: Multiple answers allowed

11. Have you ever tried to find more information about a particular health care issue because of something you saw on *Grey's Anatomy*, or not?

Yes	13
No	86
Don't know/Refused	1

12. Have you ever spoken with a doctor or other health care professional about a particular health problem or issue because of something you saw on *Grey's Anatomy*, or not?

Yes	9
No	91
Don't know/Refused	*
Total "yes" to Question 11 and/or Question 12	17

13. Next, I want to ask you some questions about HIV and AIDS. First, how serious of a problem would you say HIV/AIDS is for our country today? Would you say it's a very serious problem, somewhat serious, not too serious, or not a problem at all for our country today?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Very serious	70	63	69
Somewhat serious	25	32	27
Not too serious	2	2	4
Not a problem at all	1	1	*
Don't know/Refused	2	2	1

14. Now, please tell me whether you agree or disagree with the following statements: (INSERT. ROTATE ITEMS). Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with that statement?

	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE	DON'T KNOW/ REFUSED
a. It is IRRESPONSIBLE for a woman who KNOWS she is HIV positive to have a baby					
Pre-show	41	20	19	11	9
Post-show	19	15	31	26	9
Follow-up	30	17	25	19	9
b. People who get HIV or AIDS have gotten what they deserve					
Pre-show	2	6	18	72	3
Post-show	2	4	16	74	4
Follow-up	1	7	21	70	1

15. Please tell me whether you think each of the following statements about HIV and AIDS is true or false OR if you don't know whether it's true or false. (First/Next)... (INSERT ITEM – RANDOMIZE A-E).

	TRUE	FALSE	DON'T KNOW/ REFUSED
a. If a woman who has HIV or AIDS becomes pregnant, there is nothing that can be done to prevent the virus from infecting her unborn baby			
Pre-show	17	53	31
Post-show	8	76	16
Follow-up	15	63	22
b. There are drugs available that can lengthen the lives of people who have HIV and AIDS			
Pre-show	91	4	6
Post-show	92	4	5
Follow-up	95	2	3
c. HIV is increasingly affecting women in the United States			
Pre-show	72	7	21
Post-show	71	6	23
Follow-up	68	8	23
d. There is a rapid HIV test that can give a patient their results in about 20 minutes			
Pre-show	31	26	43
Post-show	30	23	47
Follow-up	29	27	44
e. An HIV test always involves giving blood			
Pre-show	49	31	20
Post-show	46	27	27
Follow-up	50	30	19

16. As far as you know, if a woman who is HIV positive becomes pregnant and receives the proper treatment, what is the chance that she will give birth to a healthy baby—that is, a baby who is NOT infected with HIV? Is there... (READ)

	PRE-SHOW	POST-SHOW	FOLLOW-UP
More than a 90 percent chance the baby will NOT have HIV	15	44	42
(VOL.) There is a 98% chance the baby will be born healthy/will not have HIV	n/a	17	3
Total more than 90% chance or Vol. 98% chance	15	61	45
A 50 percent chance	41	19	30
A 25 percent chance the baby will NOT have HIV	11	4	6
Or there is NO CHANCE of having a healthy baby?	7	2	3
Don't know/Refused	26	15	15

17. Next, please tell me how strongly you agree or disagree with this statement: HIV positive women who become pregnant and have children face a lot of prejudice and stigma. Do you... (READ)?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Strongly agree	40	36	37
Somewhat agree	38	40	41
Somewhat disagree	12	11	12
Strongly disagree	4	5	5
Don't know/Refused	6	7	5

18. In your opinion, how effective are condoms, if used correctly, at preventing HIV/AIDS? Are they very effective, somewhat effective, not too effective, or not effective at all?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Very effective	45	48	50
Somewhat effective	41	42	41
Not too effective	5	3	4
Not effective at all	5	2	2
Don't know/Refused	4	6	3

19. To the best of your knowledge, how often do condoms break? Would you say they break very often, somewhat often, not too often, or hardly ever?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Very often	4	3	4
Somewhat often	36	25	27
Not too often	24	30	30
Hardly ever	20	22	20
Don't know/Refused	17	20	18

20. In the episode of *Grey's Anatomy* where Addison returns to Seattle Grace Hospital, the baby she helps to deliver has a serious health problem. Do you happen to remember what that health problem was? Was it that... (READ AND ROTATE ANSWER CATEGORIES 1-3.)?

	POST-SHOW	FOLLOW-UP
His heart was growing on the outside of his body (or)	75	48
His brain was deprived of oxygen for an extended period of time (or)	3	8
He had spina bifida (or)	1	5
Don't know/Refused	21	39

21. Also in this episode, Derek and Meredith have a patient with a brain tumor. How does the brain tumor make this patient behave? Does he... (READ AND ROTATE ANSWER CATEGORIES 1-3.)?

	POST-SHOW	FOLLOW-UP
Lash out angrily at his wife (or)	82	67
Keep trying to escape from the hospital (or)	4	6
Feel hungry no matter how much he eats (or)	1	4
Don't know/Refused	14	23

22. Also in this episode, Derek and Meredith are starting a clinical trial together, where they will try a new technique to treat brain tumors. What is their new technique? Is it... (READ AND ROTATE ANSWER CATEGORIES 1-3.)?

	POST-SHOW	FOLLOW-UP
Injecting a virus directly into the tumor (or)	60	64
Implanting a radioactive device in the brain (or)	7	7
Giving the patient hormones (or)	2	5
Don't know/Refused	31	25

23. Also in this episode, a young woman who is HIV positive comes into the hospital clinic with her husband and finds out that she is pregnant. What does Izzy tell her... (READ AND ROTATE ANSWER CATEGORIES 1-3.)?

	POST-SHOW	FOLLOW-UP
That she will definitely pass the virus on to her baby, so she probably ought to have an abortion (or)	4	9
That she was irresponsible to have gotten pregnant, since she already knew she was HIV positive (or)	6	9
That there is a very good chance that she will give birth to a healthy baby (or)	77	60
Don't know/Refused	13	22

24. How often, if ever, do you talk with friends or family members about what happens on *Grey's Anatomy*...
(READ)

	<u>FOLLOW-UP</u>
Often	30
Sometimes	33
Hardly ever, OR	21
Never	16
Don't know/Refused	*

26. In general, how accurate do you think the medical information presented in *Grey's Anatomy* is...?
(READ IF NECESSARY)

	<u>FOLLOW-UP</u>
Very accurate	29
Somewhat accurate	58
Somewhat inaccurate, OR	7
Very inaccurate?	1
Don't know/Refused	4

DEMOGRAPHICS:

(READ) Finally, I have just a few questions we will use to describe the people who took part in our survey...

D1. Record Respondent's Sex

Male	30
Female	70

D2. What is your age?

18-39	35
40-59	45
60 and older	18
Undesignated	2

D3. What is the LAST grade or class that you COMPLETED in school? (DO NOT READ)

	PRE-SHOW	POST-SHOW	FOLLOW-UP
None, or grade 1-8	2	1	*
High school incomplete (grades 9-11)	7	5	6
High school graduate (grade 12 or GED certificate)	28	28	29
Technical, trade or vocational school AFTER high school	4	3	3
Some college, no four-year degree (includes associate degree)	28	28	28
College graduate (B.S., B.A., or other four-year degree)	19	24	21
Post-graduate or professional schooling after college (e.g., toward a Master's degree or Ph.D.; law or medical school)	12	10	11
Refused	*	1	1

D4. Are you currently married, living with a partner, widowed, divorced, separated, or have you never been married?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Married	58	63	57
Living with a partner	6	7	7
Divorced	10	10	11
Separated	2	1	1
Widowed	6	6	8
Never been married	17	11	15
Don't know/Refused	1	2	1

D5. Are you, yourself, of Hispanic or Latino background, such as Mexican, Puerto Rican, Cuban, or some other Spanish background?

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Yes	9	8	7
No	91	92	92
Don't know	0	0	*
Refused	*	*	1

D6. What is your race? Are you White, Black, Asian or some other race? (IF RESPONDENT SAYS HISPANIC ASK: Do you consider yourself a White Hispanic or a Black Hispanic?)

	PRE-SHOW	POST-SHOW	FOLLOW-UP
White	78	81	80
Black	13	11	12
Asian	2	3	3
Other or mixed race	6	3	5
Don't know	0	1	*
Refused	1	2	1

D7. Last year – that is in 2007 – what was your total family income from all sources, before taxes? Just stop me when I get to the right category. (READ)

	PRE-SHOW	POST-SHOW	FOLLOW-UP
Less than \$20,000	8	9	10
\$20,000 to less than \$30,000	10	8	13
\$30,000 to less than \$50,000	17	15	15
\$50,000 to less than \$75,000	16	15	16
\$75,000 to less than \$100,000	13	16	13
\$100,000 or more	20	19	19
Don't know	3	3	5
Refused	11	16	9

(READ) I have just a few more questions. Let me remind you that this is a completely confidential interview and that there are no right or wrong answers...

D8. Do you personally know anyone who now has AIDS, has died from AIDS, or has tested positive for HIV?

	PRE-SHOW	FOLLOW-UP
Yes	38	41
No	60	58
Don't know/Refused	1	1

D9. Have you, yourself, ever been tested for HIV?

	PRE-SHOW	FOLLOW-UP
Yes	50	52
No	48	47
Don't know/Refused	2	1

END OF INTERVIEW: That's all the questions I have. Thanks for your time.



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