Community Address

HEALING RESEARCH: WHAT WE KNOW AND DON'T KNOW

by Larry Dossey, M.D.

ABSTRACT

Since the first major clinical trial of prayer at San Francisco General Hospital was published in 1988, numerous follow-up studies have emerged in both humans and nonhumans. Assessments and reviews of this field have varied wildly. Dr. Dossey will offer his view of where this field stands, and will offer guidelines on how best to do healing experiments.

Dr. Dossey will survey the history of healing research, describe its accomplishments and shortcomings, and discuss the challenges in this field for the future.

KEYWORDS: distant healing, intercessory prayer, randomized double-blind controlled trials, remote healing, consciousness, quantum physics, experimenter effect, parapsychology

The sensible thing would be to quit while I'm ahead, but not being sensible, I will persevere. It's just great to be back. It's been about five years since I had the opportunity to rant here and offend folks. ISSSEEM has sort of changed since I was here the last time. This has become one of the premiere watering holes internationally for people who are interested in healing. I am absolutely honored to return.

They say confession is good for the soul, so I want to begin with one. This is a confession of ignorance. Lewis Thomas was one of the great medical researchers at Sloan-Kettering, and also one of the most graceful essayists that my profession produced during the last century. He said, "The only solid piece of scientific truth about which I feel totally confident is that we are profoundly ignorant about nature." He continued, "It is this sudden confrontation with the depth and the scope of ignorance that represents the most significant contribution of twentieth century science to the human intellect."

This is the part of my talk that focuses on what we don't know. I think it's refreshing to begin here. You know, you can find these confessions in many areas. There are quite a number physicists today who are willing to say we don't really understand very much about what we are trying to talk about. An example is Willie Fischler, who is at the theory group in the department of physics at University of Texas in Austin, my old alma mater. He said, "We don't really know how the universe works. We're like little kids in the forest who are walking and trying to find their way."

Some people consider physicist Stephen Hawking to be the smartest guy on the planet right now. Hawking is on record as saying, "We have no idea how the world really is. All we do is build up models which seem to prove our theories." I have to say, with all due respect to Professor Hawking, my grandmother knew this. I grew up an identical twin. When my twin brother and I were really little, and we'd do something incredibly dumb and get into bad trouble—which was most of the time—my grandmother would always say, "To be so smart, you boys just don't know very much." Wes Nisker, the meditation teacher, put it well: "Just imagine how good it would feel if we all got together once in a while in large public gatherings, and admitted that we don't know why we're alive, that nobody knows for sure if there's a higher being who created us, and that nobody really knows what the hell's going on here."

Then there's this question about whether we are equipped to know what we want to know. Emerson Pugh, the eminent biologist, said, "If the brain were so simple we could understand it, we would be so simple that we couldn't." We're in deep trouble, folks. This is not a new and novel position; Simone Weil said, "Bragging about one's intelligence is like an animal bragging about the size of its cage."

Let's switch over to what we do know. We have learned a little something. Dr. Dan Benor, a former president of ISSSEEM, corralled all the healing studies back in 1990 that had been done until then. At that time he came up with 131 of them, not just in

people, but also in other species and in non-human biological systems. He found that approximately two-thirds of these experiments showed statistically significant results. The best recent systematic analysis is by Dr. Wayne Jonas, who is former director of the National Center for Complementary and Alternative Medicine at NIH, and his research assistant Cindy Crawford.[1] They found 122 laboratory studies, which looked at the ability of intentionality to affect some system in a laboratory that you can really control with high specificity. They also found 80 randomized controlled trials of healing in people. Now, the skeptics say, well, numbers don't matter – the studies are no good, period. So Dr. Jonas and Crawford did something that no one has done in one of these analyses: they graded the quality of all of these studies by applying what are called CONSORT criteria: Consolidated Standards for Reporting Trials. They found that the mind/matter interaction studies (the laboratory type) were of "A" quality, the highest you can get. The prayer and healing intention studies were given a "B," or a "fair" grade. For a field that is this young, this is an outstanding report.

So, when you hear skeptics say there are no studies, you don't have to go there. Moreover, when you hear them say the studies are no good, you don't have to buy into that either.

If you fast-forward to the present day: As of June 2008, we have around 22 major randomized, double-blind, controlled clinical trials published, of distant healing/intercessory prayer in people. Eleven of these have demonstrated statistically significant results, which is far more than you would expect by chance. According to my count, we have seen eight systematic or meta-analyses published in peer-reviewed literature, and seven of these have arrived at generally positive conclusions.

For the sake of people who may not be familiar with what this field looks like, I'll just hit the high spots of about three or four positive studies, and then I'm going to pay special attention to one that was not positive.

The study that got this field rolling was published in 1988 by Dr. Randolph Byrd, a board-certified staff cardiologist at UCSF School of Medicine. This study was done in the coronary care unit at San Francisco General Hospital. It involved about 400 patients with heart attack or acute chest pain who were hospitalized in the cardiac care unit. Roughly half of these people were prayed for by having their first names farmed out to various prayer groups around the country. The other half were not assigned special prayer. The people who were in the intervention group, receiving long-distance intercessory prayer, unknown to them, did better statistically on several clinical counts.[2]

This study was essentially replicated eleven years later, by Dr. William Harris at the Mid-America Heart Institute in Kansas City. You may wonder why it took so long – eleven years later. It took that long for us in the profession to recover from the shock, and the realization that you can take healing

intentions or prayer into a clinical setting, and test it pretty much like you would a new medication. But Dr. Harris did precisely that: a randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the coronary care unit. Harris showed that patients in the coronary care unit who were assigned intercessory prayer did significantly better than those who were not assigned prayer.[3]

Another study looked at the ability of women to become pregnant following *in vitro* fertilization and embryo transfer at a fertility clinic in Seoul, South Korea. You've heard of double-blind studies; this was a triple-blind study. The subjects – the patients and the physicians taking care of them – hadn't a clue that the study was even going on. Now, you can argue about the ethics of that (and I think you should) – but in any case, this study showed that women who were assigned intercessory prayer from prayer groups in Canada, the United States, and Australia had twice the successful pregnancy rate as women who were not assigned intercessory prayer. The odds against chance in this study were something like 1000 to 1.[4]

A legendary study was done by Dr. Elisabeth Targ, again in California. This was done at California Pacific Medical Center. They looked at the ability of healers following many different paradigms of healing – many different traditions of healing – to make a difference in patients who were suffering from advanced AIDS. These people, who were extended distant healing, had a statistically lower incidence

Elisabeth Targ
1961-2002

of AIDS-associated illnesses, which kill patients with advanced AIDS – things like pneumocystis pneumonia, encephalitis, and so on.[5]

For a while, the best-known study that had been done to date came out of Duke University Medical Center by Dr. Mitchell Krucoff and Suzanne Crater and their team. It looked at subjects who had undergone a cardiac catheterization. They found that if patients undergoing cardiac catheterization

received prayer – unknown to them – they had 50 to 100% fewer side effects than people who were not assigned intentional prayer.[6]

These researchers then expanded the study to about eight more major hospitals throughout the country, this time recruiting intercessory prayer from a variety of groups. This was the so-called MANTRA II phase of their randomized study.[7]

In this phase of the study, if you looked at all the statistical data and did all the number-crunching, you could not show that the people who were assigned intercessory prayer had any advantage. However, if you unpack the data and look for trends within the study, you could find that the people who were extended music, imagery and touch therapy had a lower six-month mortality rate than the controls, and the lowest absolute death rates were found in people who had music, imagery, and touch therapy combined with prayer.

They combined into this study something that we'll be coming back to later – something called two-tiered prayer. What they did in the middle of the study, because they were having trouble recruiting subjects, was to go out and recruit another prayer group. They asked these people not to pray specifically for the subjects in the study, because that would have changed the study design midstream; they didn't want to do that. They just simply asked this second prayer group to pray for the success of the study: that it could finish on time, and that people would resume volunteering as subjects. Beginning with the addition of this back-up prayer group, the data just took off in the study. From that point on, one saw tremendously positive results in the group that was extended healing prayer.

Now, everybody wants to know how this stuff works. We're up against it here; no one really has a clear idea about how remote healing and prayer work, although we are not nearly as desperate for hypotheses as some people maintain. In order to understand how this works, we're going to have to understand something about consciousness, and therein lies the rub. John Searle may be the most prestigious mind-body philosopher in the country currently. He said, "At the present state of the investigation of consciousness, we don't know how it works and we need to try all kinds of different ideas." This is another confession of ignorance for you.

We can find many comments of this sort. Jerry Foder is another prestigious mind-body philosopher at Rutgers: "Nobody has the slightest idea how anything material could be conscious. Nobody even knows what it would be like to have the slightest idea about how anything material could be conscious. So much for the philosophy of consciousness."

An idea that is out of favor by most researchers doing theoretical work in healing is the notion that there is some physical signal that passes between the healer and healee. But if there is no signal, how can healing happen? Here's the answer: "Something unknown is doing we don't know what." (Sir Arthur Eddington, 1882-1944) I have actually appropriated this explanation for all the mysteries in my

life. This explanation has never failed me. I highly recommend it – use it freely. Sir Arthur Eddington was talking about the uncertainty principle in modern physics when he made this comment, but I think this is applicable to how remote healing happens. Sometimes I switch off to Dr. Seuss's explanation: "It just happened to happen."

People have been struggling with the mysteries of consciousness and how it might intervene in the context of physics for an awful long time. A premier example is Wolfgang Pauli, who won a Nobel Prize in the 50's. He said, "The only acceptable point of view appears to be the one that recognizes *both* sides of reality – the quantitative and the qualitative, the physical and the psychical – as compatible with each other, and can embrace them simultaneously."

It simply is not true that we have no hypotheses in this field about what's going on with remote healing. We have quite a list of evolving hypothoses. These are non-transmission type theories; they hinge on concepts that have come out of quantum mechanics. Dean mentioned some of these. The name of his recent book is ***Entangled Minds***, which invokes the concept of entanglement in quantum mechanics. People go with the notion of non-locality, observation effects and so on. David Chalmers, one of the leading thinkers in this field, maintains that consciousness is fundamental in the universe, perhaps on a par with matter and energy; it is not produced by the brain, nor reducible to it. If anyone in the country deserves to be called the godfather of quantum theory, it's probably Professor Henry Stapp at UC-Berkeley. Professor Stapp says, "The new physics presents *prima facie* evidence that our human thoughts are linked to nature by non-local connections: what a person chooses to do in one region seems immediately to affect what is true elsewhere in the universe . . . [O]ur thoughts . . . DO something."

Sir Roger Penrose is one of the people who think that appealing to current concepts in modern physics is not going to be enough. He says, "My position [on consciousness] demands a major revolution in physics . . . [T]here is something very fundamental missing from our current science. Our understanding at this time is not adequate and we are going to have to move to new regions of science. . ."

I really admire this position, because you don't have to use your imagination to find some things that are missing in current physics that are absolutely crucial to a healing endeavor. For example, consider the concept of meaning – what things *mean* to people in their life – and the role of empathy and compassion and love in the healing effort, without which healing usually doesn't get off the ground. You will search quantum physics textbooks *ad infinitum*, and you will find they say *nothing* about these kinds of subjective factors that are crucial in healing.

Paul Davies has made a significant contribution to this area of thought. He says, "I belong to the group of scientists who do not

subscribe to a conventional religion, but nevertheless deny that the universe is a purposeless accident," he says. "There must be, it seems to me, a deeper level of explanation. Furthermore, I've come to the point of view that mind – that is, conscious awareness of the world – is not a meaningless and incidental quirk of nature, but an absolute fundamental facet of reality." Go Paul.

One of my favorite theorizers in this field is Professor Costa de Beauregard, who was an eminent French physicist. "Today's physics allows for the existence of 'paranormal' phenomena of telepathy, precognition and psychokinesis . . . the whole concept of non-locality in contemporary physics requires this possibility." This is an important point of view, because you will hear skeptics and cynics from within the physics community say that none of this stuff that we're here to discuss at this conference could possibly be true because we know that if it were true, this would violate the laws of nature. So we know from the get-go that what we're all talking about must be nonsense; we've made some fundamental mistake. Well, I've been looking for laws of nature with respect to consciousness and I can't find any. And neither can several other people. De Beauregard continues, "Far from being irrational, the paranormal is postulated by today's physics." Gerald Feinberg, the eminent American physicist, agrees, saying, "If such phenomena indeed occur, no change in the fundamental equations of physics would be needed to describe them." Physicist Henry Margenau, who collaborated with psychologist Lawrence LaShan, who probably studied more healers than anybody else alive, was the head of the Sloan Physics Laboratory at Yale for many years. Margenau said, "Strangely, it does not seem possible to find the scientific laws or principals violated by the existence of [nonlocal phenomena]. We can find contradictions between [their occurrence] and our culturally accepted view of reality, but not – as many of us have believed – between [their occurrence] and the scientific laws that have been so laboriously developed."

I want to circle back to the studies, and focus on a study out of Harvard Medical School that may have eclipsed the Byrd study as the most famous prayer study ever done. This was published a couple of years ago in the ***American Heart Journal*** – the first prayer study that journal ever published. It was done by a dear friend of mine, Dr. Herb Benson at Harvard, who has made fundamental contributions to what he's called over the years the "relaxation response." I hope my comments won't be taken out of context; Herb is a good friend of mine, and although what I will say sounds critical, it is not meant as anything personal. I think Herb would agree that it's our job to analyze these healing studies to try to find the best way forward.

This study was called the STEP study, which is an acronym for the Study of Therapeutic Effects of Intercessory Prayer.[8]

This study was done with coronary bypass patients. Now, it's a little complicated setting this up, so just hang in there with

me. This study looked at over 1800 patients undergoing coronary bypass surgery in six different big hospitals around the country. These 1800 people were roughly divided into three groups. A third of the patients were told they might or might not be prayed for, and they actually *were* prayed for: that's group A. A third of the patients were told they might or might not be prayed for, and they *were not* prayed for: that's group B. And a third of the patients were told they definitely were going to be prayed for, and they *were* in fact prayed for: that's group C.

Here's how it looked from the inside: one Protestant and two Catholic prayer groups were going to do the praying. They were given a scripted prayer; they were told to pray for a good outcome of the surgery, and for few side effects following it. After they prayed this written scripted prayer, then they could pray any way they wanted to. They prayed for two weeks, for people whom they had never met – strangers praying for strangers. The prayers were begun on the eve of surgery, or the day of surgery. The people praying were given the first name and the initial of the last name of the individuals on their prayer list.

Here's what happened: Group A (the patients who were told they might or might not be prayed for and *were* prayed for) had a 52% complication rate after surgery. Group B (who were told that they might or might not be prayed for and they *were not* prayed for) had a statistically identical rate of complications: 51%. Here's the ringer in this study; it's this Group C. This is the group you would assume would do the best of all if prayer were effective, because they knew beforehand that they would be prayed for. This knowledge would have revved up the placebo effect, which would have added to whatever positive effect of prayer there may have been. But this group did the worst of all – a 59% post-op complication rate, which was statistically significant.

Well, this just stirred everybody up. The media had a field day with this strange outcome. I was on a book tour when this study was published, and the media made my life miserable for about two weeks. For about 48 hours this experiment was featured on CNN. Because Harvard has such immense prestige and gravitas, the skeptics adored saying things like, "The verdict is in. Harvard has proved that prayer doesn't work. As a matter fact, it might even hurt people."

If you were designing the study, there are several scenarios you could imagine that might get played out. If prayer is effective, then C would do the best of all – that's the group who knew they were going to get prayed for – because they would not only have the positive effect of prayer, but also the benefit of the placebo response. Moreover, A would have done better than B, because B was the group that wasn't prayed for, and A was. B would be expected to do the worst of all, because they were denied assigned prayer. Did that happen? No. So it looks like prayer isn't effective, right? Well, what if prayer really is not effective? Then you would have seen A, B, and C fare pretty equally, because there'd be

no effect from the prayer, although maybe C would have done a little bit better because they still would have had the placebo response going for them.

But everyone shied away from the possibility that prayer might harm somebody. What would this outcome have looked like? If prayer were harmful, B would have done the best of all, because they were not assigned prayer. But B did *not* do the best of all. So none of these possibilities were observed. So what in the world went on at Harvard?

If we unpack this study, what can we say about it? The first thing that just leaps out for me is that *nowhere in the world is prayer used the way it was used in this study*. People say that we pray for our loved ones, right? What does this mean? Well, for one thing, you know them, you care deeply about them, you love them, you're empathic towards them, you're emotionally bonded with them, and you have deep compassion for them. In the STEP study, strangers prayed for strangers. I think this cannot but reduce the level of empathy and compassion that's felt between the people involved. Also, what about telling two-thirds of these people that you may or may not be prayed for? In real life we pray for our loved ones unconditionally. Think about it this way: if your poor old mom is in the hospital, and is going to have coronary bypass surgery tomorrow, you do not go to her bedside tonight and say, "Well Mom, I know you're going to have your chest cracked open tomorrow, and you're going to have your heart operated on, but I just really don't know if I'm going to pray for you or not." This borders on lunacy. But *all* double-blind studies fall into this trap. No one in a double-blind prayer study knows for sure whether or not they're going to be prayed for. Also, a very strange feature of the Harvard study is that the placebo effect went missing. The researchers at Harvard have been among the greatest proponents of the placebo response in clinical studies of all therapies. So what happened to the venerable placebo response in the STEP study?

So, I have to conclude that STEP was essentially not a prayer study, because it failed to assess the way prayer is used in real life. They didn't examine prayer in the wild, the way we free-range humans use it. Even so, I've got to give Harvard credit: this is one of the most instructive prayer studies ever done, because it illustrates the pitfalls and mistakes that researchers can fall into when they try to subject prayer and distant healing intentions to randomized controlled double-blind study designs. As I've already mentioned, this study has had a profound chilling effect on research in this field, because now it really takes a courageous young researcher to say, "I want to do a prayer experiment, even though Harvard has proved it isn't effective."

It's interesting to speculate about what screwed up this study so sensationally. One possibility is what I've called the problem of extraneous prayer. Here's what one of the STEP co-authors said in a press release that was hurriedly issued from Harvard after the study was published: "One caveat [of

the study] is that with so many individuals receiving prayer from friends and family, as well as personal prayer, it may be impossible to disentangle the effects of study prayer from background prayer." I think that's right.

Then there are some profound randomization problems which were not apparent to me until a group in Florida recently looked at the demographic differences between these A, B, and C groups. Group C (that's the group that should have done best, because they had prayer in certainty, as well as the placebo response going for them) had a higher incidence, going into this study, of chronic obstructive lung disease, a higher smoking history, a higher requirement during surgery for three-vessel coronary bypass (not surprising since they had all of these risk factors going for them), and a lower rate of beta-blocker usage prior to surgery, which most people say is cardioprotective during heart surgery. So it may be that group C, because of these randomization differences, were destined to do worse – which, in fact, they did.

Then there are psychological factors, which I never seriously considered until a psychiatrist suggested them to me at a meeting (of all places) on the Harvard campus. He said, "If you tell somebody they may or may not be prayed for (which is what happened in group A and B), what do they do? They say, 'Boy, I may be missing out on prayer in this deal, so I'd better get things rolling – I'm going to pray fervently for myself, for one thing, and I'm going to recruit more prayer from my loved ones – my family, and my congregation down at the church or synagogue.'" So the individuals in groups A and B may have been so afraid they'd be denied prayer that they really dug in and recruited prayer, which may have exceeded the level of prayer in group C, the group that was officially assigned prayer. So they may have had more prayer going for them, and this may have accounted for the fact that they did better statistically than group C.

Then there's the experimenter effect: the impact of a person's belief system, worldview, assumptions, thoughts and intentions on the outcome of the experiment. Now, this possibility is considered laughable in conventional science, because it's assumed that the double-blind protocol protects the data from intrusion from people's thoughts and intentions and so on; what you think about something cannot penetrate the shielding that's inherent in the double-blind design. This is a fallacy; the data in parapsychology has shown for decades that you cannot opt out of the experiment as an experimenter. The experimenter effect has been proved to be one of the most consistent factors in psi research, and it is often quite robust.

So the question comes up: what did the people at Harvard think about remote healing going into this? What do you think? I believe I can confidently and conservatively say, from my friendships with quite a few Harvard faculty over the years, that the Harvard medical community as a whole is not enthusiastic toward the possibility that the effects of conscious intention and prayer can operate remotely,

at a distance, to change the course of illness. Many are quite open to the positive effects of one's thoughts and intentions on one's *own* body, but not on the body of a distant individual who does not even know that positive intentions or prayers are being directed toward her.

After the STEP study, a host of critics charged that the construct validity of these healing studies is simply hopeless. They say we should not even be doing these studies. Are there too many uncontrolled variables, like the experimenter effect, extraneous prayer, and so on, for these studies ever to work? Should we just bail out of this research agenda? It could be that the field is just too difficult. After all, Einstein hung a sign in his office at Princeton that said, "Everything that counts cannot be counted, and everything that can be counted does not count."

I don't think this field is too difficult—I just think we've been barking up the wrong tree. One of the huge problems in this field is that we have begun to worship the double-blind method inappropriately. We've fallen into what Edward Kelly and his group at the University of Virginia called "method-olatry." I apologize for this long quote, but this says it better than I can: "Laboratory research using random samples of subjects, control groups, and statistical modes of data analysis can be wonderfully useful, but obsession with this as the only valid means of acquiring new knowledge readily degenerates into 'methodolotry,' the methodological face of scientism . . . The experimental literature itself is replete with examples of supposedly 'rigorous' laboratory studies which were in fact performed under conditions that guaranteed their failure from the outset." I think this is a proper verdict for the STEP study at Harvard.

I have some suggestions about what we ought to do in the future. The main thing we should be doing is to *adapt the research method to the phenomenon, and not the phenomenon to the research method.* This is one of those "duh" things, but it's astonishing this is so often overlooked. The bottom line is that we should capture healing intentions and prayer the way they're used in real life.

What would a study that followed this precaution actually look like? There is an outstanding example, which unfortunately very few people know about. It was done by psychologist and researcher Jeanne Achterberg. Her book ***Rituals of Healing: Using Imagery for Health and Wellness***, was co-written with my wife Barbara, who collaborated with Jeanne for quite a while. Achterberg used functional magnetic resonance imagery (fMRI) to look at changes in the brain of recipients while healers were doing their thing.[9]

This study took place at the North Hawaii Community Hospital in Waimea, on the northern side of the big island. This hospital was built by Earl Backen, who invented the implantable cardiac pacemaker and established Medtronic, the world's largest manufacturer of medical devices. He and his wife Doris retired to the big island. Earl thought they might need a hospital one

day, and since there was no medical facility there, he built one.

Mr. Backen has a deep interest in healing, so he funded Dr. Achterberg's study. Jeanne moved to the big island, settled in, and integrated herself into the community of native Hawaiian healers. They took her into their confidence and shared with her their methods. After two years she was ready to go ahead with the study. She recruited eleven healers. Each was told, "Go out and select a subject you've worked with in the past, with whom you've worked successfully, and with whom you feel emotionally bonded – and, if they're willing, we will do a test between you and them." The healers were not just casually interested in healing; the average time they'd spent in healing work was 23 years. They used various healing methods, which they described as prayer, sending energy, having good intentions, or wishing the highest good. Some simply called their method "healing."

The subjects had their heads placed in the fMRI machine, and during randomized intervals, which could not be anticipated by the subjects, the healers did whatever they did while the fMRI machine was doing a brain scan. Something extraordinary happened: during the "send" conditions– and *not* in the "no send" conditions – the brains of the subjects lit up in specific parts, indicating increased metabolic activity and blood flow in specific areas. The brain areas that were affected were the frontal, precuneus, and anterior and middle cingulate regions. The statistical analysis indicated that there was only one chance in 10,000 that the results could be explained by chance.

This looks like real-life healing. The healer-healee pairs knew each other and were empathic and compassionate with one another. The study is vitally important. It was conducted in a place where healing was assumed to happen. Here, remote healing was not considered scientifically blasphemous or heretical. As a matter of fact, the big island is often referred to as the healing island. I believe this study embodies the research methodology we need in order for research in this field to go forward.

I have some additional considerations for the future I want to share with you. Let me emphasize: We need to think beyond the randomized, controlled, double-blind study design in testing healing, because it subverts the way prayer is used in real life. We ought to be *duplicating* in our studies the way prayer is used, not *subverting* it. Furthermore, we ought to encourage single case reports, including spontaneous remissions in which disease just up and goes away. These cases are not rare in the healing world, but they are dismissed as "statistical outliers" in double-blind studies. But they occur in real life, where people know each other, and they pray for each other, and send healing intentions absolutely unconditionally.

I suggest also that, prior to every healing study, the pre-existing beliefs and worldview of the experimenters be assessed and recorded as a formal part of the study. If

we did this – study after study, year after year – we would soon know with fair certainty whether or not experimenter effects are really important in this field.

As a corollary, studies involving healing ought not to be conducted in the full glare of the media. The Harvard STEP study was one of the most hyped studies I know of. My colleagues in this field and I knew about this study years before it even began. I got emails from researchers on both sides of the Atlantic wanting inside information about this study. What does this level of attention do? For one thing, it rallies the skeptics and the cynics. If there is such a thing as negative experimenter effects, you can be sure that they were flooding this study with negative intentions. If we did these studies in a more solitary way, without making a fuss out of them, we might be able to minimize that sort of thing.

We ought to give more consideration to the selection of healers. Some of the most successful studies on record, such as Elisabeth Targ's study with the patients with advanced AIDS, as well as the Achterberg study, have recruited veteran healers – people with a couple of decades of experience doing healing work. Other studies recruit healers who just happen to be interested in the study and say they believe in prayer, so they volunteer to do the praying. The reason researchers follow the latter approach is that they want to show that healing is a democratic, universal talent, not the possession of an elite few. That is a noble effort, and I agree with the premise that probably most everybody has *some* intrinsic healing ability. But if we want to give the experiments the very best possibility for a positive outcome, we ought to study people who are healing prodigies.

I don't see this as a complicated issue. Prodigies exist in practically every field of human endeavor, such as music, art, mathematics, and athletics. Why should the idea of healing prodigies be so offensive? If you want to determine whether human beings are capable of running a four-minute mile, you don't recruit subjects like me. You find the cream of the crop in athletes in order to answer that question. The mother of all questions in healing research is: "Is anything happening? Is there a healing effect at all?" Or are we fooling ourselves? If you want to get the answer, I suggest you get people who have tremendous experience with healing efforts.

But we have to be careful how we approach this idea of healer selection, because people who have been designing these studies – at least in one instance – have bordered on falling into religious favoritism and prejudice. The first study out of the box – the Byrd study – recruited only born-again Christians to do the intercessory prayer, because Dr. Byrd was a born-again Christian, and wanted to shed favorable light on his religion should the study come out positive, which it did. I'm troubled by this approach.

I will never forget a conversation I had with a close friend of mine, who was a faculty member at one of the major medical schools on the east coast. He had never heard of

healing experiments. After a talk I gave, he cornered me in the hall afterwards and said, "Larry, I know what we've got to do. We've got to have a contest." He was devout in his particular faith. He said, "We need to develop a quantitative lab experiment that you can control precisely, like monitoring the rate of growth of bacteria in test tubes. Then we will have healers representing all the different faiths come in to take the test by sending healing – and we'll see who's best."

I thought this was a joke. He was describing something like a play-off in sports, but this was a pray-off. He said, "I want to call this the Elijah test." He was a biblical scholar, and back in the Old Testament, Elijah called on Jehovah to come down and do something or other, in competition with hundreds of prophets of the pagan god. So the Elijah test was the first head-to-head test of intercessory prayer. Finally I asked him, "Why do you want to do this?" He lit up with incandescent zeal and said, "I just want to bring praise to the Lord." He was completely oblivious to the fact that this would almost certainly create tremendous enmity between faiths – or if he did realize it, he didn't care. I'm happy to report to you that the Elijah test has never gotten off the ground, and I hope it never does. In healing, we ought not to be promoting winners and losers.

We also ought to pay more attention to the actual techniques that are used in healing, and we don't do a very good job of that. For example, a lot of the tests just invite healers of many different schools and persuasions, and if there were one superior method, we would never know it. We should also pay more attention to whether there are certain conditions – certain pathologies – that are more susceptible to remote healing than others. We do that in conventional medicine; we all know that appendicitis is a lot easier to cure than a brain tumor – and even with brain tumors, some are more susceptible to therapy than others. We ought to get ready for some surprises, because some of the most susceptible diseases to remote healing and prayer may prove to be some of the worst illnesses imaginable.

I had my comeuppance on this topic from my dear departed friend Elisabeth Targ. When she was planning her study on advanced AIDS patients, she hadn't yet settled on the subject population. I was keenly interested in what illness she would choose to investigate. When I found out that she had chosen patients with advanced AIDS, my heart sank. I called her up and said, "Elisabeth, why advanced AIDS? Why didn't you pick the flu? You're going to give healing a bad name! We don't even have an adequate conventional therapy for advanced AIDS, and you're trying to cure these people with prayer and healing intentions." She started laughing at me over the telephone in this beautiful lilting laugh, and she said, "Oh Larry, you're such a wienie! I thought you believed in healing. Advanced AIDS is perfect. If we can make a difference, the skeptics won't be able to say that it was just the flu – it would have gone away anyway." She also said – I could see her shaking her finger at me over the telephone – "And there's another thing you

need to understand, young man – you don't understand that healers like a challenge. They would much rather work on somebody with advanced AIDS than somebody who has the flu." She turned out to be right. The study was profoundly positive, and I learned a humbling lesson.

We ought to determine whether some healing techniques are compatible or incompatible with conventional drugs and surgical procedures. Healers are all over the ballpark on this; some say it doesn't matter – healing goes with anything. Others say they can't do their healing work if the patient has had drugs and surgical procedures. We need an answer to this, and we haven't looked for it very well.

We need to try to understand, if we can, the interaction between meditation and healing and prayer. Dean Radin has discovered, as have other people, that profoundly skilled meditators do better, almost always, with parapsychological tasks. We need to know if skilled meditators make better healers. We don't really have the answer to this.

We need to try to find what, if any, differences exist between prayer and focused intentionality. The question here is when somebody responds to prayer, whether it's the focused intentionality of the person doing the praying that's causing the change, or if this is being mediated by a supreme being. I confess that I cannot conceive of a test that would distinguish between those two possibilities. Until we get some "God meters" that can give us some sort of readout there, I don't know how we would approach this.

We ought to pay more attention to what I've already called a tiered design, where you bring in a second prayer or healing group to pray not for the patients themselves, but for the overall success of the study. There have been two randomized controlled trials that have done this, with very interesting results. We also should consider a rotating healing design in these studies. This means that by the end of the study, all of the patients have been prayed for by all of the healers. This minimizes any differences in skills that may exist between the healers. The only study I know of which has done this is Elisabeth's positive study with advanced AIDS patients.

We ought to pay closer attention to the duration and frequency of the healing therapy, whatever it happens to be. It's almost embarrassing to look at some of the protocols, because they're all over the ballpark. There's one negative, failed study, looking at the effects of prayer in dialysis patients, in which the healers were prohibited from praying for more than five minutes. In Elisabeth Targ's study, the healers were required to pray a minimum of two hours a day. It's almost impossible to compare studies when the protocols are that different.

I think it's time to simply say that healing research may not be for everybody. This gets back to the old experimenter effect. I realize this violates the canons of conventional science, where we say that anybody can

research anything, provided they've got the skills to do so. This does not hold in an area that is profoundly susceptible to experimenter effects. Barbara McClintock, the Nobel Prize-winning geneticist who worked with genes and corn plants, once said that her success was due the fact that she had "a feeling for the organism." If prayer and healing researchers don't have a feeling for the organism, they ought to go do something else.

Anyone involved in healing research ought to familiarize him/herself with the accomplishments in the field of parapsychology. It's embarrassing; you can read the literature review sections in the published healing studies, and usually you will find nary a mention of any relevant intentionality research – even in biological systems—that has been done for decades by people in the field of parapsychology. There are any number of books that are available now, starting (I would suggest) with Dean Radin's two books: ***The Conscious Universe*** and ***Entangled Minds***, that make it easy for people to educate themselves about what's been done in psi.

We ought to put more emphasis on simple bench studies and proof of principle studies. The reason is that these can be controlled with a lot more specificity and elegance than huge human studies. Researchers should give up the goal of trying to hit a home run with what many people call a "killer study," an experiment that is so powerful and persuasive that it will sweep all of the opposition away. If you read about how science changes paradigmatically, as in Thomas Kuhn's book ***The Structure of Scientific Revolutions***, you find that science rarely changes because of one single, massive, convincing study. It changes because of the accumulation of individual data points, year after year, until finally the scales tip in favor of the new paradigm. The problem you run into with these "killer" type studies like the STEP study at Harvard is: what if they don't work? Then you really have a problem on your hands.

This may seem really censorious and cantankerous, but I think we need a "time out" in healing research. I would like to see a *temporary* moratorium, because currently the protocols in healing experiments wander all over the place. People don't benefit from scrutinizing prior studies to see what worked and what didn't. Amazingly, they even duplicate the methods that failed in prior studies. This is nuts. It also reveals laziness on the part of experimenters. Perhaps we need a healing summit that would bring together researchers who are interested in this field. We could put all of these studies under the microscope and examine what works and what doesn't.

Anyone who ventures into the field should be respectful of what they're doing. Again, Elisabeth Targ was my teacher here. She said to me once, "When I go into my lab to do a healing experiment, I feel as if I am walking on sacred ground." Elisabeth compared her experiments to invitations. She said, "When I do one of these studies, it's like I'm opening a window to the Absolute. If she chooses to enter, the experiment works – and if not, I go back to the drawing board to try to design a more pleasing invita-

tion." For Elisabeth, healing research was not a matter of manipulation and control, as it often is for some people. I think the inner life – the spiritual path – of the experimenter is of paramount importance. I have never known any healer who was able to turn out a positive study in this field who was not on a spiritual path, and who did not have a rich inner spiritual life.

We ought to stop being so timid about our accomplishments. This field did not exist forty years ago, and if somebody had told me then that within a few years we'd see randomized, controlled healing studies coming out of some of the major medical schools in the world – Harvard, Columbia, Duke, UC San Francisco, and others – I would have considered them a lunatic. But we've actually seen that, and we should be proud of it.

My friend Leland Kaiser, at the University of Colorado, talks about "edge runners." These are the people who have been out there on the edge taking great risks. This describes a lot of our heroes and heroines in the field of healing intentionality. These folks can get really discouraged, tired, and worn out, because they're always swimming upstream. Just a few weeks ago, I had an interesting conversation with one if the great healing researchers in our country. She was having a really bad day. She lamented to me, "Larry, we've learned nothing from all these healing experiments – it's like we're back where we started thirty years ago." So I had an opportunity to talk her down from that ledge. I told her that, in my opinion, we ought to be very proud of our accomplishments. We have shown that consciousness operates non-locally in space and time where healing is concerned. We have discovered implications of immortality and eternality because of the non-locality of consciousness in time. I suggested to her that we have made remarkable contributions to human welfare and knowledge, and she said, "Really?" I reminded her that she was one of the contributors.

But we also have to be realistic; the skeptics are not going to fold their tents and go away. Here's what Dean Radin has said about what lies ahead: "The implications of this field, of course, are heresies of the first order – but I believe that if the scientific evidence continues to compound, then the accusation of heresy is an inescapable conclusion that we will eventually have to face from the skeptics. I also believe that the implications of all of this are sufficiently remote from the ingrained ways of thinking that the first reaction to this work will be confidence that it is flat-out wrong; the second reaction will be horror that it may be right; and the third will be reassurance that it was obvious all along."

One of the things I admire most about ISSSEEM is that it has a way of honoring its own. This is really important in this strenuous, hazardous work that some of us have bitten off. I want to do my bit by honoring two people who have played a huge role in my life. One of the finest healers I've ever known was Charlotte "Charlie" Maguire, whose guiding principle in her life, as she put it, is that "love is the

essence of healing." Back in 1981, Charlie was was Ms. Corporate America. She was the Vice President, Director of Patient Care for nineteen major hospitals in Texas. But in 1981, she had the guts to say "I quit." She walked away from the corporate world with the gentle nudging of Norm Shealy, who had been one of the co-founders of the American Holistic Medical Association. So Charlotte founded the American Holistic Nurses Association, which today has grown to 4,000 members, and is a major champion for healing in the world. This organization has matured so greatly that The American Nurses Association has officially recognized holistic nursing as a subspecialty within nursing. That's a big deal.

Last April 22, my wife Barbie and I journeyed up to Charlotte's Buffalo Woman Ranch, which is outside the little town of Dove Creek in southwestern Colorado. We went to see her for the last time; she was dying from metastatic breast cancer. She was in terrible shape—she was totally bald, she was battered, beat up, tired––and beautiful. We all knew that this would be our last time to see each other. She and my wife have always been able to have a heart-to-heart conversation, so they got right with it. Barbie asked her, "Charlie, have you seen the other side?" She nodded yes, and Barbie said, "What's it like?" She said, "It's beautiful—it is so beautiful." Then she added, "I can't wait, Barbie, for you and Larry to join me there." I said, "Charlie, not so fast! There are some things that should not be rushed." A few days later she died in perfect peace.

Charlotte McGuire
1942-2008

I want also to bow deeply to someone I've already mentioned many times: Elisabeth Targ. I learned so much from Elisabeth; she was one of the greatest healers I've ever known. She died two years ago from a glioblastoma. Elisabeth had the distinction of being one of those people who can turn out a positive healing study. She did it largely because she *was* healing; she *embodied* healing. From her sickbed, she told us just before she died, "What I want

most is to return as the Virgin Mary's assistant, so I can help people learn how to love and to heal." So it's to these two remarkable women that I devote this session.

If there's a take home about this, keep in mind that we're engaged in endeavors that are sacred and precious. We ought to handle them with all the care we can. In order to drive that home, I want to finish with some images, and I will ask my friend Shin Terayama to accompany these images with music from his cello. These images remind me of the sacredness with which people can connect with the world. These images are called "holding the sun" images. If you Google "holding the sun," you can find most of them. Many of them are set to music on YouTube. The sun is a very potent healing image. My friend Shin devised a ritual from the rooftop of his apartment building in Tokyo when he was suffering from metastatic renal cancer. He would go up to the roof every morning and play his cello while the sun was rising and shining its first rays on him. The cancer went away. [Cello music plays . . .]

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