

## **CURRENT RESEARCH IN EVIDENCE-BASED ART PROGRAMS**

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### **PRESENTATION OUTLINE:**

#### **1. The Role of Art in Healthcare Projects and the Path to Research**

Just 20 years ago Hospitals looked very different. They were sterile environments focused on promoting cure rather than fostering care. In the last two decades hospitals have transformed and become “Health-Care” environments in the truest sense, where the role of the environment on healing has been investigated, appreciated and enhanced. Within this changing climate the role of art has been significant. Art has been used to enhance the quality of care by positively impacting patient, staff and family perceptions. Today, almost every hospital invests in Art-programs, because we now have research to show that not only can Art improve the image of the hospital, but it can, in fact, aid in healing.

#### **2. Overview of the Evidence-base on the effect of Art on Healing**

There is a growing body of evidence today on the role of art in healing. Studies have now linked the effect of Art to measurable health outcomes such as reduction in stress, pain perception, and anxiety, and increase in satisfaction and restoration. Health outcomes have been addressed at three levels<sup>1</sup>:

- i. Clinical Indicators:  
Observable signs and symptom's relating to the patients' conditions such as length of hospital stay, blood pressure, intake of pain medication etc.  
Example: Patients with a view of nature spent a shorter time in the hospital than those with a view of a brick wall view (7.96 days compared with 8.70 days per patient), had fewer negative notes made about them (1.13 per patient compared with 3.96 per patient) and requested significantly fewer doses of analgesics in the period between two and five days after surgery, when patients are most in control of their own pain relief<sup>2</sup>. In another example ceiling mounted pictures shown to highly stressed pre-surgical patients on gurneys, resulted in lower blood pressure, when the images were of serene nature scenes<sup>3</sup>.
- ii. Patient/Family/Staff based outcomes  
Such as patient ratings of perceived pain, patient satisfaction with healthcare services and staff satisfaction with working conditions.  
Example: Adult patients in a procedure room reported better pain control when exposed to a nature scene with nature sound in the ceiling<sup>4</sup>. Murals (as

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<sup>1</sup> Ulrich R. and Gilpin, L. (2003). Healing Arts. In Frampton, S., Gilpin, L, and Charmel P.A., (eds). Putting Patients First.

<sup>2</sup> Ulrich, R.S. (1984). “View Through a Window May Influence Recovery from Surgery”. Science.

<sup>3</sup> Ross, R.G. (1990). “Picture Perception and Patient Stress: A Study of Anxiety Reducing and Postoperative Stability”. Unpublished paper, Department of Psychology, University of California Davis.

<sup>4</sup> Diette, G. B., Lechtzin, N., Haponik, E., Devrotes, A., & Rubin, H. R. (2003). Distraction therapy with nature sights and sounds reduces pain during flexible bronchoscopy: A complementary approach to routine analgesia. Chest, 123(3), 941-948.

distraction) resulted in a significant decrease in reported pain intensity, pain quality and anxiety by burn patients<sup>5</sup>.

iii. Economic Outcomes

Such as cost of patient care, staff turnover, philanthropy to the hospital etc. While art interventions have been a part of many renovation projects, and economic outcomes have been shown post the evidence-based design intervention, there is no evidence to isolate the effect of Art on Economic Outcomes. Based on clinical and patient/family/staff based outcomes, it is fair to hypothesize that there will be an economic outcome of simple art interventions. However, this is an area of inquiry that is wide open.

**3. Investing in Research: Impetus, Process and Outcome.**

a. Need for new research in Evidence-Based Art

While the body of work that is in place on evidence-based healing art is powerful it is still very nascent and narrow in scope. There are very few scholars in this field, and it is a timely opportunity where there is precedent, but at the same time the field is wide open for investigation.

Most of the research on Healing Art has focused on immediate restoration upon viewing appropriate art, and on the argument that appropriate art is nature based, and familiar, rather than abstract and interpretive. Areas such as examination rooms, ICUs, and waiting rooms have received considerable attention. But some fundamental questions still warrant answers- for example, what is the impact factor of Art as compared to other elements of the Physical Environment, on a patient/ staff member's perception? Is Art one of the primary elements noticed in an environment, and if so, what makes it so? If indeed Art serves as a focus of attention, then a sustained investigation into what is appropriate art becomes critical.

The need for sustained investigation is illustrated by how, even within nature art, the particular patient area must guide the use of evidence-based art. For example a nature scene with water features in a sunny, green context may be great for an emergency waiting room, but the same image would be almost traumatic for an ultrasound waiting where patients wait with a full bladder!

Most of the studies on evidence-based art have focused on restoration (from stress, pain or anxiety), and physiological measures have been used to investigate an immediate effect upon exposing patients to appropriate art. There is very little research on the long-term effects of art, on restoration, satisfaction and productivity. For example there is little investigation on Art for Patient Rooms where the immediate restoration effect must be complemented by a sustained level of engagement or interest. Initial restoration (short-term) may result in boredom or under-stimulation (long-term). In a study with scientists working in isolated and confined areas nature images were found to sustain interest, preference and relaxation through out the year in Antarctic research stations<sup>6</sup>, but is this also the case in patient rooms or nursing homes? This area is yet to be investigated.

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<sup>5</sup> Miller, A. C., Hickman, L. C., & Lemasters, G. K. (1992). A distraction technique for control of burn pain. *Journal of Burn Care and Rehabilitation*, 13, 576-580.

<sup>6</sup> Clearwater, Y.A and Coss, R.G. (1999) "Functional Aesthetics to Enhance Well-being in Isolated and Confined Settings" in A.A. Harrison, Y.A. Clearwater, and C. McKay (eds), *From Antarctica to Outer Space: Life in Isolation and Confinement*. New York: Springer-Verlag.

Another area that is untouched is Art for long-term patients suffering from dementia or other cognitive disorders. Patients who are not suffering from short-term pain or stress, but long-term cognitive dysfunction or disconnect, may react differently to art than most main-stream patients. We have also found anecdotal evidence on the effect of Art on the Perception of Quality of Care, and this can be investigated further. There is very little evidence on specific components/ elements of Art: There are studies on the effect of shape of trees, or near or distant focal points in paintings, but the effect of colors, composition, horizon lines, body postures etc. is yet to be investigated.

Finally, in a growingly diverse population, it is timely to investigate the role of culture and ethnicity on Art preferences. This is an area that has been addressed in the past, but warrants a detailed investigation, based upon which guidelines for evidence-based art can be modified, if needed.

b. Need for careful interpretation of the existing research

Perhaps the biggest challenge in undertaking Healthcare Art projects is the misinterpretation of the existing evidence on the subject. Architects and Designers often interpret the evidence-base to signify no more than a green patina on an existing ideology of design choices. They are often quick to generalize from the limited evidence-base that is available on the subject. Part of this approach comes from the fact that no research on Art in Healthcare has been undertaken in the industry, from those invested in Art, and interested in understanding the nuances of appropriate art, rather than broad guidelines for exclusion. Also, Art has been seen as an independent component, rather than an integral component of the designed environment- reducing the perceived relevance of the evidence-base. While hospital administrations increasingly require an evidence-based approach, there is no real system in place to evaluate how rigorous the approach is. Investing in research, and in collaborative research where art and architectural issues are addressed together, may be the only way to address issues of both content and communication.

c. Investing in Research

In Feb 2006 American Art Resources started an in-house research unit with the following objectives:

1. Initiate contacts in Hospitals and other Care-centers to undertake research
2. Write Resource Sketches and Literature Reviews
3. Develop research proposals for collaborative projects
4. Develop grant proposals
5. Develop Surveys and Interview Outlines
6. Undertake Fieldwork (collecting surveys, conducting interviews, conducting observation studies)
7. Qualitative and Quantitative Analysis of collected data
8. Research reports on Case Studies and Research Papers for peer-reviewed forums.
9. Public Presentations of Research.
10. Development and maintenance of a Resource Database and Evidence-based Design and Evidence-based Art.

The Research Unit was to function independently in the pursuit of new knowledge, at the same time be a service available to our clients if they sought specific information on a subject. Our very first project was with St. Lukes Episcopal on the Art-Cart program and the art preferences of patients for art in their patient-rooms.

**4. Research Project: Study of the Art-Cart Program and the Art-Preferences of Patients in St. Lukes Hospital.**

**Art-Cart Study: St. Luke's**

A qualitative study was undertaken on the Art-Cart program in St.Lukes- one of the oldest Art-Cart programs in hospitals. The Auxiliary Department is in charge of the program where volunteers visit all patient rooms once in 2 weeks, to give them a choice of art-work to be placed on the walls.

The study involved extensive observation over a period of 3-4 weeks including participant observation as a volunteer. The study also included in-depth interviews with the founder of the program and four active volunteers who had more than 5 years experience.

During the study we evaluated the logistics of undertaking an art-cart program, the response from patients, and how art became a facilitator of conversation between the patient and the volunteer, impacting the impression of "care" by the St. Luke's system. Some of the key findings were:

1. Paintings become a means for patients to interact with volunteers, and thus provide social support
2. Choice in paintings gives patients, however fleeting, a perceived sense of control
3. Patients explore the narrative scope in paintings, and make stories around the pictures to discuss with friends and family. This is true for caregivers as well
4. Landscapes, non-threatening animals and flowers are popular  
Patients appreciate the service and make positive comments of the quality of care at St.Lukes. It is a service that comes as a pleasant surprise to them.

Finally, in conjunction with the following study patients were asked a few questions about the importance of Art, the Art-Cart program and having a choice in the Art they viewed. This is the matrix of results:

	Very Important	Important	No Difference	Not Important	Not at all Important
Art	60%	38.2%	1.8%	0%	0%
Art-Cart	51%	42%	7%	0%	0%
Choice of Art	40%	40%	19%	1%	0%

**Art- Preference Study: St. Luke's**

A more in-depth and multi-method study was undertaken to evaluate the Artwork preferred by patients in the hospital room. A survey with 17 pictures was developed which contained 7 best-selling pictures from three independent art-vendors, 7 counter images with Evidence-based elements, and 3 images that followed principles derived from prior evidence, as well as what was seen in the Art-Cart observation. Best-selling images were used to not only investigate if well-art preferences differ from patient preferences, but also to adequately represent non-evidence based art, which has been an underlying concern with a large body of evidence on Healing Arts.

67 respondents took this survey. Respondents were patients in the hospital rooms with a period of stay varying from 2 to 14 days. As they gave their responses to questions about feelings, and preferences, they also made comments about the paintings. which were recorded.

A quantitative analysis of the survey results (t-tests) yielded statistically significant results for the popularity of nature images, over “best-selling” abstract/ unique images. The study also showed a preference for landscapes over figurative art, or art containing animals, also images of animals or human figures that were within a nature setting and realistic, were preferred to those that were more stylized. A pair analysis comparing the “popular” art images with the less famous, but less ambiguous and more positive images also showed statistically significant results, biased towards the latter.

Simple nature scenes were preferred to the work of masters like Van Gogh and Chagall.

The qualitative study provided another dimension to analyze the quantitative data. Based on the comments, particular “elements” that were preferred, or generated a positive feedback, can now be evaluated. Preliminary analysis shows that while preferred to abstract scenes, not all nature scenes were equally appropriate. We also noticed that while best-selling images elicited a greater number of comments, this was not indicative of the ranked preference. Thus an image might be evocative and elicit response, but this does not imply that it can restore stress, or engage the patient appropriately, within his/her high-stress settings.

#### **5. The truth about doing research in a private firm and the need for collaboration**

It is not easy to do research as a private firm. In the end only a collaborative model can be truly successful. In this section we will discuss the overall experience of undertaking research in the last 9 months, the “value” of research in a private firm, the trials and tribulations of making a foray into what has been a strictly academic domain, and finally the need to work within a model where different stakeholders (Designers, Art Consultants and Academicians) come together in collaborative projects where individual agendas are secondary to contributing to the global body of knowledge.