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GRIMES v. KENNEDY KRIEGER INSTITUTE INC (2001)

Court of Appeals of Maryland.

Ericka GRIMES v. KENNEDY KRIEGER INSTITUTE, INC.

Myron Higgins, a minor, etc., et al., v. Kennedy Krieger Institute, Inc.

Nos. 128, 129, Sept. Term, 2000.

Decided: August 16, 2001

Argued before ELDRIDGE, RAKER, WILNER, CATHELL, HARRELL, BATTAGLIA and ROBERT L. KARWACKI (retired, specially assigned), JJ. Kenneth W. Strong, Baltimore, for appellant, in No. 128, Sept. Term, 2000. Suzanne C. Shapiro (Saul E. Kerpelman & Associates, P.A., on brief), Baltimore, for appellants, in No. 129, Sept. Term, 2000. Michael I. Joseph (S. Allen Adelman and Susan B. Boyce of Godard, West, Adelman, Sheff & Smith, LLC, on brief), Rockville, for appellees. Deborah Thompson Eisenberg, Marc E. Steinberg, Tara Andrews, Baltimore, brief of the Public Justice Center, the National Health Law Program, and the East Harbor Village Center for appellants, amici curiae. Angus R. Everton, Morgan Shelsby Carlo Downs & Everton, P.A., Hunt Valley, brief of the National Center for Lead-Safe Housing for appellees, amicus curiae. Shale D. Stiller, George A. Nilson, William L. Reynolds and Evelyn W. Pasquier of Piper, Marbury, Rudnick & Wolfe, LLP, Baltimore; S. Allan Adelman and Michael I. Joseph of Godard, West, Adelman, Sheff and Smith, LLC, Rockville, for appellee, on reconsideration. C. Christopher Brown of Brown, Goldstein and Levy, LLP, Baltimore, for National Center for Lead-Safe Housing, on reconsideration. J. Joseph Curran, Jr., Attorney General of Maryland and Jack Schwartz, Assistant Attorney General of Maryland for University of Maryland Baltimore, on reconsideration. Deborah Thompson Eisenberg and Marc Steinberg, Baltimore, for Public Justice Center, on reconsideration. Ralph S. Tyler and Joseph H. Young of Hogan & Hartson, LLP, Baltimore, for American Medical Colleges, Association of American Universities, Johns Hopkins University and University of Maryland Medical System Corp., on reconsideration. Vera Hassner Sharav of New York, NY, and Howard Fishman, Philadelphia, PA, for Alliance for Human Research Protection, on reconsideration.

Prologue

We initially note that these are cases of first impression for this Court. For that matter, precious few courts in the United States have addressed the issues presented in the cases at bar.[1] In respect to nontherapeutic research using minors, it has been noted that "consent to research has been virtually unanalyzed by courts and legislatures." Robert J. Katerberg, Institutional Review Boards, Research on Children, and Informed Consent of Parents: Walking the Tightrope Between Encouraging Vital Experimentation and Protecting Subjects' Rights, 24 J.C. & U.L. 545, 562, quoting National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, Report and Recommendations [National Commission]: Research Involving Children 79-80 (1977). Our research reveals this statement remains as accurate now as it was in 1977.

In these present cases, a prestigious research institute, associated with Johns Hopkins University, based on this record, created a nontherapeutic research program [2] whereby it required certain classes of homes to have only partial lead paint abatement modifications performed, and in at least some

instances, including at least one of the cases at bar, arranged for the landlords to receive public funding by way of grants or loans to aid in the modifications. The research institute then encouraged, and in at least one of the cases at bar, required, the landlords to rent the premises to families with young children. In the event young children already resided in one of the study houses, it was contemplated that a child would remain in the premises, and the child was encouraged to remain, in order for his or her blood to be periodically analyzed. In other words, the continuing presence of the children that were the subjects of the study was required in order for the study to be complete. Apparently, the children and their parents involved in the cases sub judice were from a lower economic strata and were, at least in one case, minorities.

The purpose of the research was to determine how effective varying degrees of lead paint abatement procedures were. Success was to be determined by periodically, over a two-year period of time, measuring the extent to which lead dust remained in, or returned to, the premises after the varying levels of abatement modifications, and, as most important to our decision, by measuring the extent to which the theretofore healthy children's blood became contaminated with lead, and comparing that contamination with levels of lead dust in the houses over the same periods of time. In respect to one of the protocols presented to the Environmental Protection Agency and/or the Johns Hopkins Joint Committee on Clinical Investigation, the Johns Hopkins Institutional Review Board (IRB), the researchers stated: "To help insure that study dwellings are occupied by families with young children, City Homes [3] will give priority to families with young children when renting the vacant units following R & M [Repair and Maintenance] interventions."

The same researchers had completed a prior study on abatement and partial abatement methods that indicated that lead dust remained and/or returned to abated houses over a period of time. In an article reporting on that study, the very same researchers said: "Exposure to lead-bearing dust is particularly hazardous for children because hand-to-mouth activity is recognized as a major route of entry of lead into the body and because absorption of lead is inversely related to particule size." Mark R. Farfel & J. Julian Chisolm, Health and Environmental Outcomes of Traditional and Modified Practices for Abatement of Residential Lead-Based Paint,-80 American Journal of Public Health-1240, 1243 (1990). After publishing this report, the researchers began the present research project in which children were encouraged to reside in households where the possibility of lead dust was known to the researcher to be likely, so that the lead dust content of their blood could be compared with the level of lead dust in the houses at periodic intervals over a two-year period.

Apparently, it was anticipated that the children, who were the human subjects in the program, would, or at least might, accumulate lead in their blood from the dust, thus helping the researchers to determine the extent to which the various partial abatement methods worked. There was no complete and clear explanation in the consent agreements signed by the parents of the children that the research to be conducted was designed, at least in significant part, to measure the success of the abatement procedures by measuring the extent to which the children's blood was being contaminated. It can be argued that the researchers intended that the children be the canaries in the mines but never clearly told the parents. (It was a practice in earlier years, and perhaps even now, for subsurface miners to rely on canaries to determine whether dangerous levels of toxic gasses were accumulating in the mines. Canaries were particularly susceptible to such gasses. When the canaries began to die, the miners knew that dangerous levels of gasses were accumulating.)

The researchers and their Institutional Review Board apparently saw nothing wrong with the search protocols that anticipated the possible accumulation of lead in the blood of otherwise healthy children as a result of the experiment, or they believed that the consents of the parents of the children made the research appropriate. Institutional Review Boards (IRB) are oversight entities within the institutional family to which an entity conducting research belongs. In research experiments, an IRB can be required in some instances by either federal or state regulation, or sometimes by the conditions attached to governmental grants that are used to fund research projects.[4] Generally, their primary functions are to assess the protocols of the project to determine whether the project itself is appropriate, whether the consent procedures are adequate, whether the methods to be employed meet proper standards, whether reporting requirements are sufficient, and the assessment of various other aspects of a research project. One of the most important objectives of such review is the review of the potential safety and the health hazard impact of a research project on the human subjects of the experiment, especially on vulnerable subjects such as children. Their function is not to help researchers seek funding for research projects.

In the instant case, as is suggested by some commentators as being endemic to the research community as a whole, infra, the IRB involved here, the Johns Hopkins University Joint Committee on Clinical Investigation, in part, abdicated that responsibility, instead suggesting to the researchers a way to miscast the characteristics of the study in order to avoid the responsibility inherent in nontherapeutic research involving children. In a letter dated May 11, 1992, the Johns Hopkins University Joint Committee on Clinical Investigation (the IRB for the University), charged with insuring the safety of the subjects and compliance with federal regulations, wrote to Dr. Farfel, the person in charge of the research:

"A number of questions came up. Please respond to the following points[:]

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2. The next issue has to do with drawing blood from the control population, namely children growing up in modern urban housing. Federal guidelines are really quite specific regarding using children as controls in projects in which there is no potential benefit [to the particular children]. To call a subject a normal control is to indicate that there is no real benefit to be received [by the particular children]. So we think it would be much more acceptable to indicate that the 'control group' is being studied to determine what exposure outside the home may play in a total lead exposure; thereby, indicating that these control individuals are gaining some benefit, namely learning whether safe housing alone is sufficient to keep the blood-lead levels in acceptable bounds. We suggest that you modify . consent form[s] . accordingly." [Emphasis added.]

While the suggestion of the IRB would not make this experiment any less nontherapeutic or, thus, less regulated, this statement shows two things: (1) that the IRB had a partial misperception of the difference between therapeutic and nontherapeutic research and the IRB's role in the process and (2) that the IRB was willing to aid researchers in getting around federal regulations designed to protect children used as subjects in nontherapeutic research. An IRB's primary role is to assure the safety of human research subjects-not help researchers avoid safety or health-related requirements. The IRB, in this case, misconceived, at least partially, its own role.

The provisions or conditions imposed by the federal funding entities, pursuant to federal regulations, are conditions attached to funding. As far as we are aware, or have been informed, there are no federal or state (Maryland) statutes that mandate that all research be subject to certain conditions. Certain international "codes" or "declarations" exist (one of which is supposedly binding but has never been so held) that, at least in theory, establish standards. We shall describe them, infra. Accordingly, we write on a clean slate in this case. We are guided, as we determine what is appropriate, by those international "codes" or "declarations," as well as by studies conducted by various governmental entities, by the treatises and other writings on the ethics of using children as research subjects, and by the duties, if any, arising out of the use of children as subjects of research.

Otherwise healthy children,[5] in our view, should not be enticed into living in, or remaining in, potentially lead-tainted housing and intentionally subjected to a research program, which contemplates the probability, or even the possibility, of lead poisoning or even the accumulation of lower levels of lead in blood, in order for the extent of the contamination of the children's blood to be used by scientific researchers to assess the success of lead paint or lead dust abatement measures. Moreover, in our view, parents, whether improperly enticed by trinkets, food stamps, money or other items, have no more right to intentionally and unnecessarily place children in potentially hazardous nontherapeutic research surroundings, than do researchers. In such cases, parental consent, no matter how informed, is insufficient.

While the validity of the consent agreement and its nature as a contract, the existence or nonexistence of a special relationship, and whether the researchers performed their functions under that agreement pursuant to any special relationships are important issues in these cases that we will address, the very inappropriateness of the research itself cannot be overlooked. It is apparent that the protocols of research are even more important than the method of obtaining parental consent and the extent to which the parents were, or were not, informed. If the research methods, the protocols, are inappropriate then, especially when the IRB is willing to help researchers avoid compliance with applicable safety requirements for using children in nontherapeutic research, the consent of the parents, or of any consent surrogates, in our view, cannot make the research appropriate or the actions of the researchers and the Institutional Review Board proper.

The research relationship proffered to the parents of the children the researchers wanted to use as measuring tools, should never have been presented in a nontherapeutic context in the first instance. Nothing about the research was designed for treatment of the subject children. They were presumed to be healthy at the commencement of the project. As to them, the research was clearly nontherapeutic in nature. The experiment was simply a "for the greater good" project.[6] The specific children's health was put at risk, in order to develop low-cost abatement measures that would help all children, the landlords, and the general public as well.

It was noted in Richard W. Garnett, Why Informed Consent? Human Experimentation and the Ethics of Autonomy, 36 Catholic Lawyer 455, 490 (1996) that:

"Most research poses no problems and is easily legitimated and justified, but the subject's consent to those experiments is not, by itself, a reliable indicator that they are justified, nor is it itself what justifies them."

In Olmstead v. United States, 277 U.S. 438, 479, 48 S.Ct. 564, 572-73, 72 L.Ed. 944, 957 (1928), Justice Brandis, dissenting, noted:

"Experience should teach us to be most on our guard to protect liberty when the Government's purposes are beneficent. Men born to freedom are naturally alert to repel invasion of their liberty by evil-minded rulers. The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding."

The research project at issue here, and its apparent protocols, differs in large degree from, but presents similar problems as those in the Tuskegee Syphilis Study conducted from 1932 until 1972 (The Tuskegee Syphilis Study, 289 New England Journal of Medicine 730 (1973)), the intentional exposure of soldiers to radiation in the 1940s and 50s (Jaffee v. United States, 663 F.2d 1226 (3d Cir.1981), cert. denied, 456 U.S. 972, 102 S.Ct. 2234, 72 L.Ed.2d 845 (1982)), the tests involving the exposure of Navajo miners to radiation (Begay v. United States, 591 F.Supp. 991 (1984), aff'd, 768 F.2d 1059 (9th Cir.1985,)[7] and the secret administration of LSD to soldiers by the CIA and the Army in the 1950s and 60s (United States v. Stanley, 483 U.S. 669, 107 S.Ct. 3054, 97 L.Ed.2d 550 (1987)); (Central Intelligence Agency v. Sims, 471 U.S. 159, 105 S.Ct. 1881, 85 L.Ed.2d 173 (1985)). The research experiments that follow were also prior instances of research subjects being intentionally exposed to infectious or poisonous substances in the name of scientific research. They include the Tuskegee Syphilis Study, aforesaid, where patients infected with syphilis were not subsequently informed of the availability of penicillin for treatment of the illness, in order for the scientists and researchers to be able to continue research on the effects of the illness, the Jewish Hospital study,[8] and several other post-war research projects. Then there are the notorious use of "plague bombs" by the Japanese military in World War II where entire villages were infected in order for the results to be "studied"; [9] and perhaps most notorious, the deliberate use of infection in a nontherapeutic project in order to study the degree of infection and the rapidity of the course of the disease in the Rose and Mrugowsky typhus experiments at Buchenwald concentration camp during World War II. These programs were somewhat alike in the vulnerability of the subjects; uneducated African-American men, debilitated patients in a charity hospital, prisoners of war, inmates of concentration camps and others falling within the custody and control of the agencies conducting or approving the experiments. In the present case, children, especially young children, living in lower economic circumstances, albeit not as vulnerable as the other examples, are nonetheless, vulnerable as well.

It is clear to this Court that the scientific and medical communities cannot be permitted to assume sole authority to determine ultimately what is right and appropriate in respect to research projects involving young children free of the limitations and consequences of the application of Maryland law. The Institutional Review Boards, IRBs, are, primarily, in-house organs. In our view, they are not designed, generally, to be sufficiently objective in the sense that they are as sufficiently concerned with the ethicality of the experiments they review as they are with the success of the experiments. This has been the subject of comment in a constitutional context, in dissent, in a case involving the use of psychiatric medication on mental patients without their consent. In Washington v. Harper, 494 U.S. 210, 237, 110 S.Ct. 1028, 1045, 108 L.Ed.2d 178, 208 (1990), Justice Stevens said:

"The Court has undervalued respondent's liberty interest; has misread the Washington involuntary medication Policy ., and has concluded that a mock trial before an institutionally biased tribunal constitutes 'due process of law.' " [Citation omitted.]

In footnote two of his dissent, Justice Stevens noted:

"([T]he Constitution's promise of due process of law guarantees at least compensation for violations of the principle stated by the Nuremberg Military Tribunals 'that the "voluntary consent of the human subject is absolutely essential . to satisfy moral, ethical and legal concepts[.']" '); ([T]he Fourteenth Amendment protects the 'freedom to care for one's health and person[.]')"

494 U.S. at 238, 110 S.Ct. at 1045, 108 L.Ed.2d at 208.

As can be seen from the letter from the Johns Hopkins University Joint Committee on Clinical Investigation, supra, to the researchers in this case, Justice Steven's doubts as to the effectiveness of such in-house review to assess the ethics of research were warranted. Here, the IRB, whose primary function was to insure safety and compliance with applicable regulations, encouraged the researchers to misrepresent the purpose of the research in order to bring the study under the label of "therapeutic" and thus under a lower safety standard of regulation. The IRB's purpose was ethically wrong, and its understanding of the experiment's benefit incorrect.

The conflicts are inherent. This would be especially so when science and private industry collaborate in search of material gains. Moreover, the special relationship between research entities and human subjects used in the research will almost always impose duties.

In respect to examining that special relationship, we are obliged to further examine its nature and its ethical constraints. In that regard, when contested cases arise, the assessment of the legal effect of research on human subjects must always be subject to judicial evaluation. One method of making such evaluations is the initiation of appropriate actions bringing such matters to the attention of the courts, as has been done in the cases at bar. It may well be that in the end, the trial courts will determine that no damages have been incurred in the instant cases and thus the actions will fail for that reason. In that regard, we note that there are substantial factual differences in the Higgins and in the Grimes cases. But the actions, themselves, are not defective on the ground that no legal duty can, according to the trial courts, possibly exist. For the reasons discussed at length in the main body of the opinion, a legal duty normally exists between researcher and subject and in all probability exists in the cases at bar. Moreover, as we shall discuss, the consents of the parents in these cases under Maryland law constituted contracts creating duties. Additionally, under Maryland law, to the extent parental consent can ever be effective in research projects of this nature, the parents may not have been sufficiently informed and, therefore, the consents ineffective and, based on the information contained in the sparse records before this court, the research project, may have invaded the legal rights of the children subjected to it.

I. The Cases

We now discuss more specifically the two cases before us, and the relevant law.

Two separate negligence actions involving children who allegedly developed elevated levels of lead dust in their blood while participating in a research study with respondent, Kennedy Krieger Institute, Inc., (KKI) are before this Court. Both cases allege that the children were poisoned, or at least exposed to the risk of being poisoned, by lead dust due to negligence on the part of KKI. Specifically, they allege that KKI discovered lead hazards in their respective homes and, having a duty to notify them, failed to warn in

a timely manner or otherwise act to prevent the children's exposure to the known presence of lead. Additionally, plaintiffs alleged that they were not fully informed of the risks of the research.

In the first case, Number 128, appellant, Ericka Grimes, by her mother Viola Hughes, appeals from a ruling of the Circuit Court for Baltimore City granting KKI's motion for summary judgment based on the sole ground that as a matter of law there was no legal duty, under the circumstances here present, on the part of KKI, owed to the appellants. In the second case, Number 129, appellant, Myron Higgins, by his mother Catina Higgins, and Catina Higgins, individually, appeal from a ruling of the Circuit Court for Baltimore City granting KKI's motion for summary judgment based on the ground that KKI had no legal duty to warn them of the presence of lead dust. The parties, in their respective appeals, presented almost identical issues to the Court of Special Appeals. Prior to consideration by that court, we granted certiorari to address these similar issues. We rephrase the issues in both cases in the language presented by appellants in Case Number 129:

"Was the trial court incorrect in ruling on a motion for summary judgment that as a matter of law a research entity conducting an ongoing non-therapeutic scientific study does not have a duty to warn a minor volunteer participant and/or his legal guardian regarding dangers present when the researcher has knowledge of the potential for harm to the subject and the subject is unaware of the danger?"10

We answer in the affirmative. The trial court was incorrect. Such research programs normally create special relationships and/or can be of a contractual nature, that create duties. The breaches of such duties may ultimately result in viable negligence actions. Because, at the very least, there are viable and genuine disputes of material fact concerning whether a special relationship, or other relationships arising out of agreements, giving rise to duties existed between KKI and both sets of appellants, we hold that the Circuit Court erred in granting KKI's motions for summary judgment in both cases before this Court. Accordingly, we vacate the rulings of the Circuit Court for Baltimore City and remand these cases to that court for further proceedings consistent with this opinion.

II. Facts & Procedural Background

A. The Research Study

In 1993, The Environmental Protection Agency (EPA) awarded Contract 68-D4-0001, entitled "Evaluation of Efficacy of Residential Lead Based Paint Repair and Maintenance Interventions" to KKI. KKI was to receive $200,000 for performing its responsibilities under the contract. It was thus a compensated researcher. The purpose of this research study was "to characterize and compare the short and long-term efficacy of comprehensive lead-paint abatement and less costly and potentially more cost-effective Repair and Maintenance interventions for reducing levels of lead in residential house dust which in turn should reduce lead in children's blood." As KKI acknowledged in its Clinical Investigation Consent Form, "[L]ead poisoning in children is a problem in Baltimore City and other communities across the country. Lead in paint, house dust and outside soil are major sources of lead exposure for children. Children can also be exposed to lead in drinking water and other sources." Lead poisoning poses a distinct danger to young children. It adversely effects cognitive development, growth, and behavior. Extremely high levels have been known to result in seizures, coma, and even death. See Centers for Disease Control and Prevention. Recommendations for Blood Lead Screening of Young Children Enrolled in Medicaid: Targeting a Group at High Risk, 49 Morbidity and Mortality Weekly Report 1 (Dec. 8, 2000).

Dr. Mark R. Farfel Sc.D., Director of KKI's Lead Abatement Department, testified in his deposition:

"The scientific goal of the study is to document the longevity of various lead base paint abatement strategies, factored in terms of reducing lead exposure in house dust and the children's blood lead levels.11

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A. Our study design called for collection of blood lead, venous blood lead from participating children.

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. [S]tudy protocol called for serial blood lead levels corresponding with the dust collection campaigns. [T]he study goal was to get a baseline, two months, six months, twelve months, eighteen months evaluation.

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. . . The study protocol, the data collection protocol was to get close in time the environmental measurements and the venous blood lead." [Emphasis added.]

The research study was sponsored jointly by the EPA and the Maryland Department of Housing and Community Development (DHCD). It was thus a joint federal and state project. The Baltimore City Health Department and Maryland Department of the Environment also collaborated in the study. It appears [12] that, because the study was funded and sponsored in part by a federal entity, certain federal conditions were attached to the funding grants and approvals. There are certain uniform standards required in respect to federally funded or approved projects. We, however, are unaware of, and have not been directed to, any federal or state statute or regulation that imposes limits on this Court's powers to conduct its review of the issues presented. None of the parties have questioned this Court's jurisdiction in these cases. Moreover, 45 Code Federal Regulations (C.F.R.) 46.116(e) specifically provides: "The informed consent requirements in this policy are not intended to preempt any applicable federal, state, or local laws which require additional information to be disclosed in order for informed consent to be legally effective." Those various federal or state conditions, recommendations, etc., may well be relevant at a trial on the merits as to whether any breach of a contractual or other duty occurred, or whether negligence did, in fact, occur; but have no limiting effect on the issue of whether, at law, legal duties, via contract or "special relationships" are created in Maryland in experimental nontherapeutic research involving Maryland children.

The research study included five test groups, each consisting of twenty-five houses. The first three groups consisted of houses with a considerable amount of lead dust present therein [13] and each group received assigned amounts of maintenance and repair. The fourth group consisted of houses, which at one time had lead present in the form of lead based paint but had since received a supposedly complete abatement of lead dust. The fifth group consisted of modern houses, which had never had a presence of lead dust. The aim of the research study was to analyze the effectiveness of different degrees of partial lead paint abatement in reducing levels of lead dust present in these houses. The ultimate aim of the research was to find a less than complete level of abatement that would be relatively safe, but economical, so that Baltimore landlords with lower socio-economical rental units would not abandon the units. The research study was specifically designed, in part, to do less than comprehensive lead paint

abatement in order to study the potential effectiveness, if any, over a period of time, of lesser levels of repair and maintenance on the presence of lead dust by measuring the presence of lead in the blood of theretofore (as far as the record of the cases reveals) healthy children. In essence, the study at its inception was designed not only to test current levels of lead in the blood of the children, but the increase or decrease in future lead levels in the blood that would be affected by the various abatement programs. It appears that this study was also partially motivated, as we have indicated, supra, by the reaction of property owners in Baltimore City to the cost of lead dust abatement. The cost of full abatement of such housing at times far exceeded the monetary worth of the property-in other words, the cost of full abatement was simply too high for certain landlords to be able to afford to pay or be willing to pay. As a result, some lower level rental properties containing lead based paint in Baltimore had been simply abandoned and left vacant. The study was attempting to determine whether a less expensive means of rehabilitation could be available to the owners of such properties.

One way the study was designed to measure the effectiveness of such abatement measures was to measure the lead dust levels in the houses at intervals and to compare them with the levels of lead found, at roughly the same intervals, in the blood of the children living in the respective houses. The project required that small children be present in the houses. To facilitate that purpose, the landlords agreeing to permit their properties to be included in the studies were encouraged, if not required, to rent the properties to tenants who had young children.

In return for permitting the properties to be used and in return for limiting their tenants to families with young children, KKI assisted the landlords in applying for and receiving grants or loans of money to be used to perform the levels of abatement required by KKI for each class of home.

The research study was to be composed of two main components and a total of five groups of study houses.[14] The first component of the study concerned the first three groups of houses. Houses in each group received different amounts of repair and maintenance.[15] The following three groups of houses within the first component of the research study were:

Group 1-Repair & Maintenance Level I-Properties receiving a minimal level of repair and maintenance ($1,650.00).

Group 2-Repair & Maintenance Level II-Properties receiving a greater level of repair and maintenance ($3,500.00).

Group 3-Repair & Maintenance Level III-Properties receiving an even greater level of repair and maintenance ($6,000.00-$7,000.00).

Repair & Maintenance Level I interventions were capped by DHCD at $1,650 and included wet-scraping of peeling and flaking lead-based paint and paint of unknown composition on all interior surfaces, including walls, trim, and doors; repainting of treated surfaces; installation of window well caps; repainting of all exterior window trim, repainting of all interior window sills; vacuuming of all horizontal surfaces and window components with a high efficiency particulate (HEPA) vacuum; and wet cleaning all horizontal surfaces. Level II interventions were capped by DHCD at $3,500 and included all the elements of Level I intervention plus two key additional elements: use of sealants and paints to make floors smoother and more easily cleanable, and in-place window and door treatments to reduce abrasion of lead-painted surfaces. Level III interventions were capped by DHCD at $6,000-$7,000 and

added window replacement and encapsulation of exterior door trim with aluminum, and the use of coverings on some floors and stairs to make them smooth and more easily climbable.[16]

Measurements of lead in the blood of the children and vacuum dust samples from the houses were to be obtained at the following times: pre-intervention, immediately post intervention, and one, three, six, twelve, eighteen, and twenty-four months post intervention. Measurements of lead in the exterior soil were to be obtained at pre-intervention, immediately post intervention, and twelve and twenty-four months post intervention. Measurements of lead in drinking water were to be obtained at pre-intervention, and twelve and twenty-four months post intervention. Additionally, the parents of the child subjects of the study were to fill out a questionnaire at enrollment and at six-month intervals.

The second component of the research study was composed of two control groups:

Group 4-Properties identified as having previously been completely abated of lead paint which were to receive no additional repair and maintenance.

Group 5-Modern Urban Dwellings-Properties constructed after 1980 and presumed not to have lead-based paint which were to receive no repair and maintenance.

The study called for similar collection and evaluation of blood, dust samples, soil, and drinking water for lead content at similar time intervals as the first component. Measurements of lead in blood of the children and in vacuum dust samples in these houses were to be obtained at enrollment and six, twelve, eighteen, and twenty-four months post enrollment. Measurements of lead in the exterior soil and drinking water were to be obtained at enrollment, and at twelve and twenty-four months post enrollment. The participants in the fourth and fifth groups were instructed to fill out a questionnaire at enrollment and at six-month intervals.

The research study was to collect data from all five groups over a period of two years. There were two sets of criteria for enrollment in the research study-one for the properties and one for the residents. With respect to the properties involved in the first three test groups, the researchers were looking for structurally sound properties that had been built prior to 1941 [17] or had documented lead-based paint in the unit based upon XRF testing.[18] As Dr. Farfel testified in his deposition, “We were basically looking for the two-story, six-room rowhouse in Baltimore City with 8 to 10 windows in a structurally sound condition.” Once a property was selected for use in the study, it was randomly assigned a repair and maintenance intervention level of I, II, or III.[19]

With respect to the occupants, the researchers recruited families that had at least one small child. Dr. Farfel testified:

“For the family participant side, we were looking for families that obviously were willing to cooperate with the study by signing informed consent statements. We were looking for families that had at least one child under the age of 48 months and older than five months at the start of the study. These children were not to be mentally retarded or severely handicapped in any way that would limit their physical movement.

We were also excluding children that had sickle cell anemia, to the best of our knowledge, had sickle cell anemia.

We asked the families if they had any immediate plans to move. If they did, then they weren't eligible because we were interested in following the family over a period of years."

In summary, KKI conducted a study of five test groups of twenty-five houses each.[20] The first three groups consisted of houses known to have lead present. The amount of repair and maintenance conducted increased from Group 1 to Group 2 to Group 3. The fourth group consisted of houses, which had at one time lead present but had since allegedly received a complete abatement of lead dust. The fifth group consisted of modern houses, which had never had the presence of lead dust. The twenty-five homes in each of the first three testing levels were then to be compared to the two control groups: the twenty-five homes in Group 4 that had previously been abated and the 25 modern homes in Group 5. The research study was specifically designed to do less than full lead dust abatement in some of the categories of houses in order to study the potential effectiveness, if any, of lesser levels of repair and maintenance.

If the children were to leave the houses upon the first manifestation of lead dust, it would be difficult, if not impossible, to test, over time, the rate of the level of lead accumulation in the blood of the children attributable to the manifestation. In other words, if the children were removed from the houses before the lead dust levels in their blood became elevated, the tests would probably fail, or at least the data that would establish the success of the test-or of the abatement results, would be of questionable use. Thus, it would benefit the accuracy of the test, and thus KKI, the compensated researcher, if children remained in the houses over the period of the study even after the presence of lead dust in the houses became evident.

B. Case No. 128

Appellant, Ericka Grimes, resided at 1713 N. Monroe Street in Baltimore, Maryland (the Monroe Street property) with members of her family from the time of her birth on May 30, 1992, up until the summer of 1994. Her mother, Viola Hughes, had lived in the property since the Summer of 1990. In March 1993, representatives of KKI came to Ms. Hughes's home and successfully recruited her to participate in the research study. After a discussion regarding the nature, purpose, scope, and benefits of the study, Ms. Hughes agreed to participate and signed a Consent Form dated March 10, 1993.

Nowhere in the consent form was it clearly disclosed to the mother that the researchers contemplated that, as a result of the experiment, the child might accumulate lead in her blood, and that in order for the experiment to succeed it was necessary that the child remain in the house as the lead in the child's blood increased or decreased, so that it could be measured. The Consent Form states in relevant part:

"PURPOSE OF STUDY:

As you may know, lead poisoning in children is a problem in Baltimore City and other communities across the country. Lead in paint, house dust and outside soil are major sources of lead exposure for children. Children can also be exposed to lead in drinking water and other sources. We understand that your house is going to have special repairs 21 done in order to reduce exposure to lead in paint and dust. On a random basis, homes will receive one of two levels of repair. We are interested in finding out how well the two levels of repair work. The repairs are not intended, or expected, to completely remove exposure to lead.

We are now doing a study to learn about how well different practices work for reducing exposure to lead in paint and dust. We are asking you and over one hundred other families to allow us to test for lead in and around your homes up to 8 to 9 times over the next two years provided that your house qualifies for the full two years of study. Final eligibility will be determined after the initial testing of your home. We are also doing free blood lead testing of children aged 6 months to 7 years, up to 8 to 9 times over the next two years. We would also like you to respond to a short questionnaire every 6 months. This study is intended to monitor the effects of the repairs and is not intended to replace the regular medical care your family obtains.

.

BENEFITS

To compensate you for your time answering questions and allowing us to sketch your home we will mail you a check in the amount of $5.00. In the future we would mail you a check in the amount of $15 each time the full questionnaire is completed. The dust, soil, water, and blood samples would be tested for lead at the Kennedy Krieger Institute at no charge to you. We would provide you with specific blood-lead results. We would contact you to discuss a summary of house test results and steps that you could take to reduce any risks of exposure." [Emphasis added.]

Pursuant to the plans of the research study, KKI collected dust samples in the Monroe Street property on March 9, 1993, August 23, 1993, March 9, 1994, September 19, 1994, April 18, 1995, and November 13, 1995.[22] The March 9, 1993 dust testing revealed what the researchers referred to as "hot spots" where the level of lead was "higher than might be found in a completely renovated [abated] house." This information about the "hot spots" was not furnished to Ms. Hughes until December 16, 1993, more than nine months after the samples had been collected and, as we discuss, infra, not until after Ericka Grimes's blood was found to contain elevated levels of lead.

KKI drew blood from Ericka Grimes for lead content analysis on April, 9, 1993, September 15, 1993, and March 25, 1994. Unlike the lead concentration analysis in dust testing, the results of the blood testing were typically available to KKI in a matter of days. KKI notified Ms. Hughes of the results of the blood tests by letters dated April 9, 1993, September 29, 1993, and March 28, 1994, respectively. The results of the April 9, 1993 test found Ericka Grimes blood to be less than 9 Pg/dL, which placed her results in the "normal" range according to classifications established by the Centers for Disease Control (CDC).[23] However, on two subsequent retests, long after KKI had identified "hot spots," but before KKI informed Ms. Hughes of the "hot spots," Ericka Grimes's blood lead level registered Class III-32 µ> g/dL on September 15, 1993 and 22 µg/dL on March 25, 1994. Ms. Hughes and her daughter vacated the Monroe Street property in the Summer of 1994, and, therefore, no further blood samples were obtained by KKI after March 25, 1994.

In her Complaint filed in the Circuit Court for Baltimore City, Ms. Hughes sought to hold KKI liable for negligence for failing to warn of, or abate, lead-paint hazards that KKI allegedly discovered in the Monroe Street property during the research study. Specifically, she alleged:

"3. As part of the [Research] Study, [appellant's] mother agreed to allow [KKI] to periodically inspect the Monroe Street property for the presence of lead-paint hazards. Upon inspection, [KKI] discovered the existence of lead-paint hazards within [appellant's] home, but failed to inform and/or warn

[appellant] and her mother of such hazards and failed to take any action to abate said hazards. As a consequence, [appellant] and her mother continued to reside in the home unaware of the hazards and unaware of the dangers to which [appellant] was being exposed."

KKI filed a Third Party Complaint against JJB, Inc., (JJB) the owners of the Monroe Street property. Appellant filed an Amended Complaint to add JJB as an additional defendant alleging negligence and violations of the Maryland Consumer Protection Act. KKI filed a Motion for Summary Judgment on the grounds that it did not owe any duty to appellant that it had breached. On July 26, 2000, the Circuit Court for Baltimore City granted KKI's motion and entered judgment in favor of KKI. Appellant dismissed her claims against JJB and filed a Notice of Appeal on September 12, 2000. On February 8, 2001, prior to consideration by the Court of Special Appeals, we issued a Writ of Certiorari.

On appeal, appellant seeks review of the Circuit Court's decision granting KKI summary judgment. She contends that KKI owed a duty of care to appellant based on the nature of its relationship with appellant and her mother arising out of: (1) a contract between the parties; (2) a voluntary assumption by KKI; (3) a "special relationship" between the parties; and (4) a Federal regulation. She argues that KKI's failure to notify her of the lead dust hazards in the Monroe Street property until after more than nine months had passed since the samples had been collected, and until after Ericka Grimes's blood was found to be lead poisoned, constituted negligence on the part of KKI in the performance of its duties to Ericka arising out of the nature of the relationship between the parties.

C. Case No. 129

In 1993, Mr. Polakoff, a professional owner and operator of rental properties, had been recruited as a landlord by KKI through the Property Owners Association, to volunteer the Federal Street property to the research study. His property met the researchers' criteria, which we discussed, supra-that it was a structurally sound property, built prior to 1941, that had documented levels of lead-based paint in the unit. In December of 1993, KKI had Mr. Polakoff's property tested by an outside contractor and it tested positive for lead paint and dust throughout the house. Once accepted into the program, Mr. Polakoff's property was randomly assigned a Repair & Maintenance Level II intervention and subsequently underwent the repairs associated with Level II intervention, discussed, supra, by Environmental Restoration, Inc. (Environmental). Mr. Polakoff applied for a $3,500 loan from the Maryland Department of the Environment to pay for the repairs, which was granted. The repairs were completed in approximately April 1994.[24]

Appellant, Myron Higgins, was born on December 23, 1989. According to Ms. Catina Higgins's deposition testimony, during the Spring of 1994 she was looking for a home in which to reside with her several small children. She located the property known as 1906 East Federal Street (the Federal Street property) in an advertisement in the local newspaper listing the property as a rental for $315 per month. She rented the property from CFOD-2 Limited Partnership.[25] She signed a lease for the property on May 13, 1994 and moved in shortly thereafter.

On May 17, 1994, KKI collected and analyzed immediate post intervention samples of dust using an experimental Cyclone dust collector.[26] A composite sample of dust from the first floor was 533 µg/ft 2,[27] a composite sample of the first floor windowsill was 2274 µg/ft 2, and a composite sample of the interior entrance was 1530 µg/ft 2. On July 25, 1994, pursuant to the protocols of the research study, a second series of dust samples were obtained from the Federal Street property. While several of the first floor

lead dust levels dropped in value, this second sample found that lead dust in the second floor area, which had registered figures under the clearance level in the first sampling, were markedly increased.

After the Higgins family moved into the partially abated, vacant Federal Street property, KKI approached Ms. Higgins and requested that she and her son participate in the research study. Her participation and consent, in addition to the landlord's previous consent for abatement of the property, was necessary to permit KKI to enter the property to collect future dust samples from the Federal Street property and to obtain blood samples from her son. On May 24, 1994, Ms. Higgins agreed to participate and signed a Consent Form regarding her and her child's participation in the study. As in Case No. 128 the consent form did not contain a clear disclosure that the researchers contemplated that, as a result of the experiment, the child subjects might, and perhaps were anticipated to, accumulate some level of lead contamination of their blood, and that the lead content of the children's blood would be one of the methods by which the study would determine the effectiveness of the various abatement procedures.

Pursuant to the protocols of the research study, KKI collected dust samples in the Federal Street property on May 17, 1994, July 25, 1994, and November 3, 1994. KKI informed Ms. Higgins of the dust sample results by letters dated June 24, 1994, September 14, 1994, and February 7, 1995, respectively. Although KKI had recorded high levels of lead concentration in the dust samples collected by the Cyclone vacuum during the May 17, 1994 visit, KKI failed to disclose this information to Ms. Higgins in the letter dated June 24, 1994.[28] Instead, KKI relied on the results obtained from the dust wipe samples collected and informed her that there was no area in her house where the lead level was higher than what might have been found in a completely renovated house. The dust samples collected by dust wipe methodology in July and November showed areas above the clearance levels and KKI did inform Ms. Higgins of these elevated levels in the subsequent letters. Ms. Higgins contends that KKI knew of the presence of high levels of lead-based paint and dust in the Federal Street property as early as December of 1993, that even after Level II intervention it still had high levels as of June 24, 1994, and that it was not until she received a letter dated September 14, 1994 that KKI specifically informed Ms. Higgins of the fact that her house had elevated lead levels.

KKI drew blood from Myron Higgins for lead content analysis on June 8, 1994, July 29, 1994, and November 9, 1994. KKI notified Ms. Higgins of the results of the blood tests by letters dated July 18, 1994, August 2, 1994, and December 6, 1994, respectively. The results of the tests were 17.5 µg/dL, 21 µ>>>>g/dL, and 11 µg/dL, respectively. The first and third tests placed him in the CDC Class IIA while the second test placed him in CDC Class III. KKI told Ms. Higgins that it had informed the BCHD of the second result and that she "should provide the test result to [her] child's primary health care provider right away."

Ms. Higgins contends that KKI was negligent in its failure to inform her of its knowledge of the high levels of lead dust recorded by both XRF testing in December 1993, prior to her moving into the unit and prior to the abatement modification, and from the samples collected via the Cyclone vacuum in May 1994. Ms. Higgins asserts that this withholding of information combined with KKI's letter dated June 24, 1994 informing her solely of the lower results of the samples collected by dust wipe methodology was misleading to her as a participant in the study. She implies that it gave her a false sense of security that there were no potential lead-based paint or dust hazards in her house.

Appellants, Myron Higgins, by his mother Catina Higgins, and Catina Higgins, individually, filed suit in the Circuit Court for Baltimore City on February 26, 1995 against Mr. Polakoff. Appellants amended their

Complaint to add Chase Management, Inc., and CFOD-2 Limited Partnership as defendants to this lawsuit.[29] On April 29, 1999, Appellants further amended their Complaint to add KKI and Environmental as additional defendants. In her Complaint filed in the Circuit Court for Baltimore City, Ms. Higgins sought to hold KKI liable for negligence on several different grounds. Specifically, she alleged:

"8. Both [KKI] and Environmental were negligent in undertaking to abate, paint and repair the premises prior to and/or during the children's occupancy and doing so in an unreasonable, incomplete, unworkmanlike and/or illegal manner.

9. Both [KKI] and Environmental were negligent in performing the lead abatement in such a fashion as to increase, rather than decrease, the children's exposure to lead, including, but not limited to, performing the abatement using methods, which foreseeably increased the lead dust in the premises, performing improper or inadequate cleanup, leaving lead debris on the premises or in the vicinity of the premises accessible to the child.

10. Both [KKI] and Environmental failed to warn [appellants] or the adult caretaker of the lead hazard, which [KKI] and Environmental or their agents knew or should have known or had reason to know existed in the premises.

11. And [KKI and Environmental] were otherwise negligent."

KKI filed a Motion for Summary Judgment on the grounds that it did not owe any duty to appellants.[30] On April 5, 2000, the Circuit Court granted KKI's motion and entered judgment in favor of KKI. On May 4, 2000, appellants filed a Motion to Reconsider, which the Circuit Court denied on May 25, 2000. Appellants dismissed their claims against Polakoff, Chase Management and CFOD-2 Limited Partnership and filed a Notice of Appeal on July 20, 2000. On February 8, 2001, prior to consideration by the Court of Special Appeals, we issued a Writ of Certiorari.

D. The Trial Courts' Findings

In Case No.128 (Grimes), the trial court, in granting KKI's motion for summary judgment, stated:

"Whether or not there is a duty, the Court has to look at several factors. [1] . The Court does not find that there is a contract as a matter of law. The Court does not find the necessary elements of a contract, that is mutual assent, offer, acceptance, and consideration, so as to find a binding legal agreement by and between the parties.

[2] . The Court does not so find a special relationship to exist in connection with the relationship between Kennedy Krieger Institute and the plaintiff and minor plaintiff. I do not find that there is a special relationship as at least expressed by our courts of appeal so as to justify a duty owed by Defendant Kennedy Krieger to the plaintiff.

. The Court does not so find that a duty was created as a matter of law by the statute."

In case No.129 (Higgins), KKI argued "plaintiff cannot prove that Kennedy Krieger owed any duty to the plaintiff in this case that would arise to civil liability." In granting KKI's motion for summary judgment, the trial court stated:

"On the first instance, I see no duty at all on the part of KKI to inspect or test this premises or to test the individual.

KKI was sort of an institutional volunteer in the community. Coming in to collect dust and blood samples, the next thing you know they get sued and I think that there is absolutely no duty on the part of KKI simply because it came in to then assume a higher standard of . [responsibility] in respect to these facts.

KKI was not the owner of the property, not an agent for the owner, it didn't [accept] other properties from the landlord. It did not prefer the properties to the landlord.

There is no basis to suggest that KKI was anything more than an institutional volunteer in that community. It certainly cannot be raised by virtue of a consent form to take a blood test. It cannot be raised to the level of a standard of duty under the law." [Emphasis added.]

On appeal, appellants seek review of the circuit courts' decisions granting KKI's respective summary judgment motions. They contend, contrary to the trial courts' findings, that KKI owed a duty to warn appellants of the presence of lead-based paint and dust because: (1) a "special relationship" existed between the parties; (2) of the contractual duty created by the consent agreement; (3) the danger was foreseeable; and (4) a Federal regulation exists, which created such a duty. Specifically, they contend that KKI had an affirmative duty to give appellants complete and accurate information concerning the risks and hazards of participating in the study-to include the XRF results and the Cyclone vacuum results.

III. Discussion

A. Standard of Review

We resolve these disputes in the context of the trial court's granting of the appellee's motions for summary judgment in the two distinct cases. The threshold issues before this Court are whether, in the two cases presented, appellee, KKI, was entitled to summary judgment as a matter of law on the basis that no contract existed and that there is inherently no duty owed to a research subject by a researcher. Perhaps even more important is the ancillary issue of whether a parent in Maryland, under the law of this State, can legally consent to placing a child in a nontherapeutic research study that carries with it any risk of harm to the health of the child. We shall resolve all of these primary issues.

"In reviewing a grant of a summary judgment, we are first concerned with whether a genuine dispute of material fact exists" and then whether the movant is entitled to summary judgment as a matter of law. Williams v. Mayor & City Council of Baltimore, 359 Md. 101, 113, 753 A.2d 41, 47 (2000); Hartford Ins. Co. v. Manor Inn of Bethesda, Inc., 335 Md. 135, 144, 642 A.2d 219, 224 (1994); Gross v. Sussex, Inc., 332 Md. 247, 255, 630 A.2d 1156, 1160 (1993); Beatty v. Trailmaster Prods., Inc., 330 Md. 726, 737, 625 A.2d 1005, 1011 (1993); Arnold Developer, Inc. v. Collins, 318 Md. 259, 262, 567 A.2d 949, 951 (1990); Bachmann v. Glazer & Glazer, Inc., 316 Md. 405, 408, 559 A.2d 365, 366 (1989); King v. Bankerd, 303 Md. 98, 110-11, 492 A.2d 608, 614 (1985). "A material fact is a fact the resolution of which will somehow affect the outcome of the case." King, 303 Md. at 111, 492 A.2d at 614 (citing Lynx, Inc. v. Ordnance Prods., Inc., 273 Md. 1, 327 A.2d 502, 509 (1974)). "[A] dispute as to facts relating to grounds upon which the decision is not rested is not a dispute with respect to a material fact and such dispute does not prevent the entry of summary judgment." Salisbury Beauty Schs. v. State Bd. of Cosmetologists, 268 Md. 32, 40, 300 A.2d 367, 374 (1973).

This Court also has stated that "[t]he standard of review for a grant of summary judgment is whether the trial court was legally correct." Goodwich v. Sinai Hosp. of Baltimore, Inc., 343 Md. 185, 204, 680

A.2d 1067, 1076 (1996); see also Murphy v. Merzbacher, 346 Md. 525, 530-31, 697 A.2d 861, 864 (1997); Manor Inn, 335 Md. at 144, 642 A.2d at 224; Gross, 332 Md. at 255, 630 A.2d at 1160; Heat & Power Corp. v. Air Prods. & Chems., Inc., 320 Md. 584, 592, 578 A.2d 1202, 1206 (1990). As we have said:

"Concerning summary judgment, Maryland Rule 2-501(e) provides: 'The court shall enter judgment in favor of or against the moving party if the motion and response show that there is no genuine dispute as to any material fact and that the party in whose favor judgment is entered is entitled to judgment as a matter of law.' In determining whether a party is entitled to judgment under this rule, the court must view the facts, including all inferences, in the light most favorable to the opposing party. Beard v. American Agency, 314 Md. 235, 246, 550 A.2d 677 (1988); Kramer v. Bally's Park Place, 311 Md. 387, 389, 535 A.2d 466 (1988); Liscombe v. Potomac Edison Co., 303 Md. 619, 621-22, 495 A.2d 838 (1985). The trial court will not determine any disputed facts, but rather makes a ruling as a matter of law. Scroggins v. Dahne, 335 Md. 688, 691, 645 A.2d 1160 (1994); Southland Corp. v. Griffith, 332 Md. 704, 712, 633 A.2d 84 (1993); Beatty v. Trailmaster, 330 Md. 726, 737, 625 A.2d 1005 (1993). The standard of appellate review, therefore, is whether the trial court was legally correct. See, e.g., Southland, supra, 332 Md. at 712, 633 A.2d 84."

Baltimore Gas & Electric Co. v. Lane, 338 Md. 34, 42-43, 656 A.2d 307, 311 (1995), overruled on other grounds by Baltimore Gas & Electric Co. v. Flippo, 348 Md. 680, 705 A.2d 1144 (1998); see also Dobbins v. Washington Suburban Sanitary Comm'n, 338 Md. 341, 344, 658 A.2d 675, 676-77 (1995). As we said in Ashton v. Brown, 339 Md. 70, 660 A.2d 447 (1995):

"In reviewing the grant of summary judgment, this Court must consider the facts reflected in the pleadings, depositions, answers to interrogatories and affidavits in the light most favorable to the non-moving parties, the plaintiffs. Even if it appears that the relevant facts are undisputed, 'if those facts are susceptible to inferences supporting the position of the party opposing summary judgment, then a grant of summary judgment is improper.' "

Id. at 79, 660 A.2d at 452 (quoting Clea v. Mayor & City Council of Baltimore, 312 Md. 662, 677, 541 A.2d 1303, 1310 (1988)).

The purpose of the summary judgment procedure is not to try the case or to decide the factual disputes, but to decide whether there is an issue of fact, which is sufficiently material to be tried. See Goodwich, 343 Md. at 205-06, 680 A.2d at 1077; Coffey v. Derby Steel Co., 291 Md. 241, 247, 434 A.2d 564, 567-68 (1981); Berkey v. Delia, 287 Md. 302, 304, 413 A.2d 170, 171 (1980). Thus, once the moving party has provided the court with sufficient grounds for summary judgment, the nonmoving party must produce sufficient evidence to the trial court that a genuine dispute to a material fact exists. See, e.g., Hoffman Chevrolet, Inc. v. Washington County Nat'l Sav. Bank, 297 Md. 691, 712, 467 A.2d 758, 769 (1983). With these considerations in mind, we turn to the instant cases.

B. General Discussion

Initially, we note that we know of no law, nor have we been directed to any applicable in Maryland courts, that provides that the parties to a scientific study, because it is a scientific, health-related study, cannot be held to have entered into special relationships with the subjects of the study that can create duties, including duties, the breach of which may give rise to negligence claims. We also are not aware

of any general legal precept that immunizes nongovernmental "institutional volunteers" or scientific researchers from the responsibility for the breaches of duties arising in "special relationships." Moreover, we, at the very least, hold that, under the particular circumstances testified to by the parties, there are genuine disputes of material fact concerning whether a special relationship existed between KKI and Ericka Grimes, as well as between KKI and Ms. Higgins and Myron Higgins. Concerning this issue, the granting of the summary judgment motions was clearly inappropriate. When a "special relationship" can exist as a matter of law, the issue of whether, given certain facts, a special relationship does exist, when there is a dispute of material fact in that respect, is a decision for the finder of fact, not the trial judge. We shall hold initially that the very nature of nontherapeutic scientific research on human subjects can, and normally will, create special relationships out of which duties arise. Since World War II the specialness or nature of such relationships has been frequently of concern in and outside of the research community.

As a result of the atrocities performed in the name of science during the Holocaust, and other happenings in the World War II era, what is now known as The Nuremberg Code evolved. Of special interest to this Court, the Nuremberg Code, at least in significant part, was the result of legal thought and legal principles, as opposed to medical or scientific principles, and thus should be the preferred standard for assessing the legality of scientific research on human subjects. Under it, duties to research subjects arise.

"Following the Doctors' Trial (the 'Medical Case'), which included charges of conducting lethal studies of the effects of high altitude and extreme cold, the action of poisons, and the response to various induced infections, the court issued 'The Nuremberg Code' as a summary of the legal requirements for experimentation on humans. The Code requires that the informed, voluntary, competent, and understanding consent of the research subject be obtained. Although this principle is placed first in the Code's ten points, the other nine points must be satisfied before it is even appropriate to ask the subject to consent.

The Nuremberg Code is the 'most complete and authoritative statement of the law of informed consent to human experimentation.' It is also 'part of international common law and may be applied, in both civil and criminal cases, by state, federal and municipal courts in the United States.' However, even though the courts in the United States may use the Nuremberg Code to set criminal and civil standards of conduct, none have used it in a criminal case and only a handful have even cited it in the civil context. Even where the Nuremberg Code has been cited as authoritative, it has usually been in dissent, and no United States court has ever awarded damages to an injured experimental subject, or punished an experimenter, on the basis of a violation of the Nuremberg Code. There have, however, been very few court decisions involving human experimentation. It is therefore very difficult for a 'common law' of human experimentation to develop. This absence of judicial precedent makes codes, especially judicially-crafted codes like the Nuremberg Code, all the more important." [Footnotes omitted.] [Emphasis added.]

George J. Annas, Mengele's Birthmark: The Nuremberg Code in United States Courts, 7 Journal of Contemporary Health Law & Policy 17, 19-21 (Spring, 1991) (citing in part to J. Appleman, Military Tribunals and International Crimes 141; 1 Trials of War Criminals Before Nuremberg Military Tribunals Under Control Council Law No. 10, 11-14 (1946-1949); 2 Trials of War Criminals Before Nuremberg

Military Tribunals Under Control Council Law No. 10, 181-82 (1946-1949); G. Annas, L. Glantz & B. Katz, Informed Consent to Human Experimentation: The Subject's Dilemma 21 (1977)).[31]

"Why wasn't the Nuremberg Code immediately adopted by United States courts as setting the minimum standard of care for human experimentation? One reason, perhaps, is that there was little opportunity. As remains true today, almost no experiments resulted in lawsuits in the 1940's, 50's, and 60's. A second reason may be that the Nazi experiments were considered so extreme as to be seen as irrelevant to the United States. This may explain why our own use of prisoners, the institutionalized retarded, and the mentally ill to test malaria treatments during World War II was generally hailed as positive, making the war 'everyone's war.' Likewise, in the late 1940's and early 1950's, the testing of new polio vaccines on institutionalized mentally retarded children was considered appropriate. Utilitarianism was the ethic of the day. Noting that the Code applied primarily to the type of outrageous nontherapeutic experiments conducted during the war, physician groups tended to find the Code too 'legalistic' and irrelevant to their therapeutic experiments, and set about to develop an alternative code to guide medical researchers. The most successful and influential has been the World Medical Association's (WMA) Declaration of Helsinki." [see infra.]

Mengele's Birthmark, supra, at 24 (footnotes omitted). In his conclusions the author noted:

"However, since American judges promulgated the [Nuremberg] Code under both natural and international law standards, it is disturbing that we have not taken it more seriously in areas where there is no question that it has direct application.

. We have yet to succeed in eradicating our birthmark that impels us to trample human rights and welfare when either society's welfare seems in jeopardy, or the promise of 'progress' is dangled before us. Neither Alymer nor Mengele will be called to account in a world that puts expediency over ethics, and exalts progress over human rights."

Id. at 43-44 (footnotes omitted).

Karine Morin in her article, The Standard of Disclosure in Human Subject Experimentation, 19 Journal of Legal Medicine 157 (June 1998), after discussing the history of informed consent as it developed in medical practice, describes nontherapeutic experimental research, differentiating it from therapeutic medical treatment. She stated that "any manipulation, observation, or other study of a human being-or of anything related to that human being that might subsequently result in manipulation of that human being-done with the intent of developing new knowledge and which differs in any form from customary medical (or other professional) practice." Id. at 166 (quoting from a paper by Robert Levine to the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research). She then states further: "Research is usually described in a formal protocol that sets forth an objective and a set of procedures designed to reach that objective." Id. at 167.

In respect to the difference between research involving treatment and nontherapeutic research, she further notes that:

"[P]ractice represents the utilization of knowledge, while research amounts to its creation. Because experimentation takes place in the realm of the unknown, or at least the 'scientifically unproven,' several aspects distinguish it from treatment: risks may be unforeseeable; assumptions are not supported by scientific evidence and expertise is therefore more vulnerable than it is in clinical practice; a subject's

consent cannot be based on anticipated benefits; and researchers and subjects may have conflicting interests."

Id. at 213, (footnotes omitted) (citing Delgado & Leskovac, Informed Consent in Human Experimentation: Bridging the Gap Between Ethical Thought and Current Practice, 34 UCLA L. Rev. 67, 69 (1986)).

Morin, in respect to nontherapeutic research, also postulates that:

"It is essential to recognize that society's interest in knowledge may not coincide with an individual subject's interest; the individual subject stands to gain nothing and lose everything, including his or her right of self-determination.

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. Some analysts contend that IRB review tends to focus exclusively on consent requirements, rather than fully evaluating the merits of the research. Yet, it is important to recognize that, even before consent becomes an issue, the scientific merits and the acceptability of risks need to be appraised. As at least one author has argued, this aspect of the review may be jeopardized if members who have institutional allegiances are caught between the desire to promote the interests of the institution and the need to protect the subject.

C. Investigator-Subject Relationship

Another notable difference between treatment and experimentation lies in the relationship between physician-patient and investigator-subject.

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. Indeed, as discussed in relation to the notion of uncertainty, the nature of the information held by the investigator can be very different from that of the information held by a treating physician.

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Other than through the difference that relates to the disclosure of information, the relationship between investigator and subject is unique in terms of the purpose for which information is gathered. Data are collected to confirm or revoke a hypothesis, independently of the subject. Finally, investigators' motivations differ from those of treating physicians. The experiment is driven by the investigator's dedication to the advancement of knowledge, and often by a commitment to those who have funded the research; it is also driven by society's interest in future benefits that will flow from medical discoveries. As one author remarks; 'the price of a bad outcome is exacted from the individual who suffers the untoward reaction, whereas the benefit of the breakthrough is available to society as a whole.' "

Id. at 215-18 (emphasis added) (footnotes omitted). In arguing that a fuller disclosure should be made when consent is sought for nontherapeutic research, as opposed to therapeutic research, Morin notes:

"Furthermore, as long as courts continue to interpret the doctrine of informed consent in experimentation as it applies in the context of treatment, the uniqueness of the protection needed for human research subjects will be overlooked. Failing to recognize that subjects who volunteer for the sake of the advancement of science are differently situated from the patients who stand to benefit from

treatment results in an analysis that misconceives the purpose of disclosure. Beyond informing the patient as to means available to treat him or her, a subject must become a voluntary and willing participant in an endeavor that may yield no direct benefit to him or her, or worse, that may cause harm."

Id. at 220.

Just recently the research community has been subjected to question as a result of genetic experimentation on a Pennsylvania citizen. Jesse Gelsinger consented to participate in a research project at the University of Pennsylvania's Institute of Human Gene Therapy. After Gelsinger's death, the U.S. Food and Drug Administration ordered a halt to eight human gene therapy experiments at the Institute. Additionally, other similar projects were halted elsewhere. The FDA took the action after a "discovery of a number of serious problems in the Institute's informed consent procedures and, more generally, a lapse in the researchers' ethical responsibilities to experimental subjects." Jeffrey H. Barker, Human Experimentation and the Double Facelessness of a Merciless Epoch, 25 New York University Review of Law and Social Change 603, 616 (1999).

Gelsinger had a different type of ornithine transcarbamylase deficiency (OTC) disease, than that addressed by the research. His particular brand of the disease was under control. There was no possibility that the research being conducted would directly benefit him. It was thus, as to him, as it was to the children in the case at bar, nontherapeutic; a way to study the affects on the subjects (in the present case, the children) in order to measure the success of the experiment. In Gelsinger's case, the research was to test the efficiency of disease vectors. In other words, weakened adenovirus (common-cold viruses) were used to deliver trillions of particles of a particular OTC gene into his artery and thus to his liver. Gelsinger experienced a massive and fatal immune system reaction to the introduction of the common-cold virus.

There were problems with the extent of the informed consent there obtained. Barker noted that:

"Is this just a case of rogue experimenters giving a bad name to all genetic research? Not at all. The program in Philadelphia is (or at least was) one of the most prestigious in the world and the researchers there were first-rate. Rather, the problems with that program are indicative of systemic problems with genetic research and informed consent as a protection of the autonomy of research subjects.

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Why are there such serious problems with informed consent in some of these trials, and why is there almost total noncompliance with regulations concerning serious side effects? The answers to these questions are related. Informed consent has suffered from pressure to get results-as quickly as possible. Informed consent procedures, properly followed, are troublesome, time-consuming, costly, and may even threaten proprietary information valuable to the biotech companies. The ethical face of the research subject can be obscured by such factors.

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... Researchers, under competitive pressure and also financial pressure from corporate backers, operate under a paternalistic approach to research subjects, asserting professional expertise and arguing

experimental necessity while minimizing the right to self-determination-a key aspect of the exercise of autonomy-of their subjects. The result is a greater or lesser degree of ethical effacement."

Id. at 617-20.[32]

Because of the way the cases sub judice have arrived, as appeals from the granting of summary judgments, there is no complete record of the specific compensation of the researchers involved. Although the project was funded by the EPA, at the request of KKI the EPA has declined to furnish such information to the attorney for one of the parties, who requested it under the federal Freedom of Information Act. Whether the research's character as a co-sponsored state project opens the records under the Maryland Public Information Act has apparently not been considered. Neither is there in the record any development of what pressures, if any, were exerted in respect to the researchers obtaining the consents of the parents and conducting the experiment. Nor, for the same reason, is there a sufficient indication as to the extent to which the Institute has joined with commercial interests, if it has, for the purposes of profit, that might potentially impact upon the researcher's motivations and potential conflicts of interest-motivations that generally are assumed, in the cases of prestigious entities such as John Hopkins University, to be for the public good rather then a search for profit.

We do note that the institution involved, the respondent here, like the Wendell Johnson Speech and Hearing Center, is a highly respected entity, considered to be a leader in the development of treatments, and treatment itself, for children infected with lead poisoning. With reasonable assurance, we can note that its reputation alone might normally suggest that there was no realization or understanding on the Institute's part that the protocols of the experiment were questionable, except for the letter from the IRB requesting that the researchers mischaracterize the study.

We shall further address both the factual and legal bases for the findings of the trial courts, holding, ultimately, that the respective courts erred in both respects.

C. Negligence

It is important for us to remember that appellants allege that KKI was negligent. Specifically, they allege that KKI, as a medical researcher, owed a duty of care to them, as subjects in the research study, based on the nature of the agreements between them and also based on the nature of the relationship between the parties. They contend specifically that KKI was negligent because KKI breached its duty to: (1) design a study that did not involve placing children at unnecessary risk; (2) inform participants in the study of results in a timely manner; and (3) to completely and accurately inform participants in the research study of all the hazards and risks involved in the study.

In order to establish a claim for negligence under Maryland law, a party must prove four elements: "(1) that the defendant was under a duty to protect the plaintiff from injury, (2) that the defendant breached that duty, (3) that the plaintiff suffered actual injury or loss[33] and (4) that the loss or injury proximately resulted from the defendant's breach of the duty." (Emphasis added.) Rosenblatt v. Exxon, 335 Md. 58, 76, 642 A.2d 180, 188 (1994) (citing Faya v. Almaraz, 329 Md. 435, 448, 620 A.2d 327, 333 (1993) and Lamb v. Hopkins, 303 Md. 236, 241, 492 A.2d 1297, 1300 (1985)); see Brown v. Dermer, 357 Md. 344, 356, 744 A.2d 47, 54 (2000); Richwind Joint Venture 4 v. Brunson, 335 Md. 661, 670, 645 A.2d 1147, 1151 (1994); Manor Inn, 335 Md. at 147-48, 642 A.2d at 225; Southland Corp., 332 Md. 704, 712, 633 A.2d 84, 88 (1993). Because this is a review of the granting of the two summary judgments based

solely on the grounds that there was no legal duty to protect the children, we are primarily concerned with the first prong-whether KKI was under a duty to protect appellants from injury.

We noted in West Virginia Central Railroad Co. v. Fuller, 96 Md. 652, 666, 54 A. 669, 671 (1903):

"[T]here can be no negligence where there is no duty that is due; for negligence is the breach of some duty that one person owes to another. It is consequently relative and can have no existence apart from some duty expressly or impliedly imposed. In every instance before negligence can be predicated of a given act, back of the act must be sought and found a duty to the individual complaining, the observance of which duty would have averted or avoided the injury. As the duty owed varies with circumstances and with the relation to each other of the individuals concerned, so the alleged negligence varies, and the act complained of never amounts to negligence in law or in fact; if there has been no breach of duty."

See Dermer, 357 Md. at 357, 744 A.2d at 54.

In Ashburn v. Anne Arundel County, 306 Md. 617, 627-28, 510 A.2d 1078, 1083 (1986), we also analyzed this first element of whether a duty existed:

" 'Duty' in negligence has been defined as 'an obligation, to which the law will give recognition and effect, to conform to a particular standard of conduct toward another.' Prosser and Keeton [on Torts] § 53 [(W. Keeton 5th ed.1984)]. There is no set formula for this determination. As Dean Prosser noted, 'duty is not sacrosanct in itself, but is only an expression of the sum total of those considerations of policy which lead the law to say that the particular plaintiff is entitled to protection.' Id. In broad terms, these policies include: 'convenience of administration, capacity of the parties to bear the loss, a policy of preventing future injuries, [and] the moral blame attached to the wrongdoer.' Id. As one court suggested, there are a number of variables to be considered in determining if a duty exists to another, such as:

the foreseeability of harm to the plaintiff, the degree of certainty that the plaintiff suffered the injury, the closeness of the connection between the defendant's conduct and the injury suffered, the moral blame attached to the defendant's conduct, the policy of preventing future harm, the extent of the burden to the defendant and consequences to the community of imposing a duty to exercise care with resulting liability for breach, and the availability, cost and prevalence of insurance for the risk involved.

Tarasoff v. Regents of University of California, 17 Cal.3d 425, 434, 131 Cal.Rptr. 14, 22, 551 P.2d 334, 342 (1976).

Perhaps among these the factor deemed most important is foreseeability. See id. However, 'foreseeability' must not be confused with 'duty.' The fact that a result may be foreseeable does not itself impose a duty in negligence terms." [Some alterations in original.]

See also Dermer, 357 Md. at 357, 744 A.2d at 54; Rosenblatt, 335 Md. at 76-77, 642 A.2d at 189. With regard to the connection between the harm and the relationship between the parties, we recently stated in Walpert, Smullian & Blumenthal, P.A. v. Katz, 361 Md. 645, 658, 762 A.2d 582, 589 (2000) (quoting Jacques v. First Nat'l Bank, 307 Md. 527, 534-35, 515 A.2d 756, 759-60 (1986)):

" 'Where the failure to exercise due care creates a risk of economic loss only, courts have generally required an intimate nexus between the parties as a condition to the imposition of tort liability. This intimate nexus is satisfied by contractual privity or its equivalent. By contrast, where the risk created is

one of personal injury, no such direct relationship need be shown, and the principal determinant of duty becomes foreseeability.' "

Furthermore, as we stated in Almaraz, 329 Md. at 449, 620 A.2d at 333, "legal scholars have long agreed that the seriousness of potential harm, as well as its probability, contributes to a duty to prevent it." As we emphasized in Bobo v. State, 346 Md. 706, 714-15, 697 A.2d 1371, 1375-76 (1997):

"Two of the relevant factors to consider in determining whether such a duty should be recognized are 'the nature of the harm likely to result from a failure to exercise due care, and the relationship that exists between the parties.' Jacques v. First Nat'l Bank, 307 Md. 527, 534, 515 A.2d 756, 759 (1986). Such a relationship may be established in a number of ways: (1) by statute or rule; (2) by contractual or other private relationship; or (3) indirectly or impliedly by virtue of the relationship between the tortfeasor and a third party." [Some citations omitted.]

The relationship that existed between KKI and both sets of appellants in the case at bar was that of medical researcher and research study subject. Though not expressly recognized in the Maryland Code or in our prior cases as a type of relationship which creates a duty of care, evidence in the record suggests that such a relationship involving a duty or duties would ordinarily exist, and certainly could exist, based on the facts and circumstances of each of these individual cases. Once we have determined that the facts and circumstances of the present cases, considered in a light most favorable to the nonmoving parties, are susceptible to inferences supporting the position of the party opposing summary judgment, we are mandated to hold that the granting of summary judgment in the lower court was improper. In addition to the trial courts' erroneous conclusions on the law, the facts and circumstances of both of these cases are susceptible to inferences that a special relationship imposing a duty or duties was created in the arrangements in the cases sub judice, and, ordinarily, could be created in similar research programs involving human subjects.

IV. The Special Relationships

A. The Consent AgreementContract

Both sets of appellants signed a similar Consent Form prepared by KKI in which KKI expressly promised to: (1) financially compensate (however minimally) appellants for their participation in the study; [34] (2) collect lead dust samples from appellants' homes, analyze the samples, discuss the results with appellants, and discuss steps that could be taken, which could reduce exposure to lead; and (3) collect blood samples from children in the household and provide appellants with the results of the blood tests. In return, appellants agreed to participate in the study, by: (1) allowing KKI into appellants' homes to collect dust samples; (2) periodically filling out questionnaires; and (3) allowing the children's blood to be drawn, tested, and utilized in the study. If consent agreements contain such provisions, and the trial court did not find otherwise, and we hold from our own examination of the record that such provisions were so contained, mutual assent, offer, acceptance, and consideration existed, all of which created contractual relationships imposing duties by reason of the consent agreement themselves (as well, as we discuss elsewhere, by the very nature of such relationships).

By having appellants sign this Consent Form, both KKI and appellants expressly made representations, which, in our view, created a bilateral contract between the parties. At the very least, it suggests that appellants were agreeing with KKI to participate in the research study with the expectation that they

would be compensated, albeit, more or less, minimally, be informed of all the information necessary for the subject to freely choose whether to participate, and continue to participate, and receive promptly any information that might bear on their willingness to continue to participate in the study. This includes full, detailed, prompt, and continuing warnings as to all the potential risks and hazards inherent in the research or that arise during the research. KKI, in return, was getting the children to move into the houses and/or to remain there over time, and was given the right to test the children's blood for lead. As consideration to KKI, it got access to the houses and to the blood of children that had been encouraged to live in a "risk" environment. In other words, KKI received a measuring tool-the children's blood. Considerations existed, mainly money, food coupons, trinkets, bilateral promises, blood to be tested in order to measure success. "Informed consent" of the type used here, which imposes obligation and confers consideration on both researcher and subject (in these cases, the parents of the subjects) may differ from the more one-sided "informed consent" normally used in actual medical practice. Researcher/subject consent in nontherapeutic research can, and in this case did, create a contract.[35]

B. The Sufficiency of the Consent Form

The consent form did not directly inform the parents of the fact that it was contemplated that some of the children might ingest lead dust particles, and that one of the reasons the blood of the children was to be tested was to evaluate how effective the various abatement measures were.

A reasonable parent would expect to be clearly informed that it was at least contemplated that her child would ingest lead dust particles, and that the degree to which lead dust contaminated the child's blood would be used as one of the ways in which the success of the experiment would be measured. The fact that if such information was furnished, it might be difficult to obtain human subjects for the research, does not affect the need to supply the information, or alter the ethics of failing to provide such information. A human subject is entitled to all material information. The respective parent should also have been clearly informed that in order for the measurements to be most helpful, the child needed to stay in the house until the conclusion of the study. Whether assessed by a subjective or an objective standard, the children, or their surrogates, should have been additionally informed that the researchers anticipated that, as a result of the experiment, it was possible that there might be some accumulation of lead in the blood of the children. The "informed" consent was not valid because full material information was not furnished to the subjects or their parents.

C. Special Relationship

In Case Number 128, Ms. Hughes signed a Consent Form in which KKI agreed to provide her with "specific blood-lead results" and discuss with her "a summary of house test results and steps that [she] could take to reduce any risks of exposure." She contends that this agreement between the parties gave rise to a duty owed by KKI to provide her with that information in a timely manner. She signed the Consent Form on March 10, 1993. The project began almost simultaneously. KKI collected dust samples in the Monroe Street property on March 9, 1993, August 23, 1993, March 9, 1994, September 19, 1994, April 18, 1995, and November 13, 1995. The March 9, 1993 dust testing revealed what the researchers referred to as "hot spots," where the level of lead was "higher than might be found in a completely renovated house." As we indicated, supra, this information was not furnished to Ms. Hughes until December 16, 1993, more than nine months after the samples had been collected and not until after Ericka Grimes's blood was found to contain elevated levels of lead. She contends that not

only did KKI have a duty to report such information in a timely manner but that it breached this duty by delaying to such a time that her daughter was allowed to contract lead poisoning. Looking at the relevant facts of Case Number 128, they are susceptible to inferences supporting the position of appellant, Ericka Grimes, and, moreover, that, if true, would create a "special relationship" out of which duties would be created. Therefore, for this reason alone, the grant of summary judgment was improper.

In Case Number 129, Ms. Higgins also signed a Consent Form in which KKI agreed to provide her with "specific blood-lead results" in respect to her child and to discuss with her "a summary of house test results and steps that [she] could take to reduce any risks of exposure." She contends that this agreement between the parties gave rise to a duty owed by KKI to provide her with complete and accurate information. Pursuant to the plans of the research study, KKI collected dust samples in the Federal Street property on May 17, 1994, July 25, 1994, and November 3, 1994. KKI informed Ms. Higgins of the dust sample results by letters dated June 24, 1994, September 14, 1994, and February 7, 1995, respectively. Although KKI had recorded high levels of lead concentration in the dust samples collected by the Cyclone vacuum during the May 17, 1994 visit, KKI failed to disclose this information to Ms. Higgins in the letter dated June 24, 1994. Instead, KKI relied on the results obtained from the dust wipe samples collected and informed her that there was no area in her house where the lead level was higher than what might have been found in a completely renovated house.

Ms. Higgins contends that KKI knew of the presence of high levels of lead-based paint and dust in the Federal Street property as early as December of 1993, that even after Level II intervention such high levels still existed as of June of 1994, and that it was not until she received a letter dated September 14, 1994 that KKI specifically informed Ms. Higgins of the fact that her house had elevated lead levels. This was after her child, Myron, was diagnosed with elevated levels of lead in his blood.

Specifically, Ms. Higgins contends that KKI was negligent in its failure to inform her of its knowledge of the high levels of lead dust recorded by both XRF testing in December 1993 and from the samples collected via the Cyclone vacuum in May 1994 and that this withholding of information combined with KKI's letter dated June 24, 1993, informing her solely of the lower results of the samples collected by dust wipe methodology, was misleading to her as a participant in the study. KKI does not argue the facts as appellant presents them. Instead, it argues that no duty to inform existed because although the Cyclone readings were high, they were not an indication of a potential hazard because the clearance levels were based on dust wipe methodology and the dust wipe results were not above the clearance levels. Looking at the relevant facts of Case Number 129, they are susceptible to inferences supporting the position of appellant, Ms. Higgins. Accordingly, for this reason alone, the grant of summary judgment was improper.

As we indicated earlier, the trial courts appear to have held that special relationships out of which duties arise cannot be created by the relationship between researchers and the subjects of the research. While in some rare cases that may be correct, it is not correct when researchers recruit people, especially children whose consent is furnished indirectly, to participate in nontherapeutic procedures that are potentially hazardous, dangerous, or deleterious to their health. As opposed to compilation of already extant statistics for purposes of studying human health matters, the creation of study conditions or protocols or participation in the recruitment of otherwise healthy subjects to interact with already existing, or potentially existing, hazardous conditions, or both, for the purpose of creating statistics from

which scientific hypotheses can be supported, would normally warrant or create such special relationships as a matter of law.

It is of little moment that an entity is an institutional volunteer in a community. If otherwise, the legitimacy of the claim to noble purpose would always depend upon the particular institution and the particular community it is serving in a given case. As we have indicated, history is replete with claims of noble purpose for institutions and institutional volunteers in a wide variety of communities.

Institutional volunteers may intend to do good or, as history has proven, even to do evil and may do evil or good depending on the institution and the community they serve. Whether an institutional volunteer [36] in a particular community should be granted exceptions from the application of law is a matter that should be scrutinized closely by an appropriate public policy maker. Generally, but not always, the legislative branch is appropriately the best first forum to consider exceptions to the tort laws of this State-even then it should consider all ramifications of the policy-especially considering the general vulnerability of subjects of such studies-in this case, small children. In the absence of the exercise of legislative policymaking, we hold that special relationships, out of which duties arise, the breach of which can constitute negligence, can result from the relationships between researcher and research subjects.

D. The Federal Regulations

A duty may be prescribed by a statute, or a special relationship creating duties may arise from the requirement for compliance with statutory provisions. Although there is no duty of which we are aware prescribed by the Maryland Code in respect to scientific research of the nature here present, federal regulations have been enacted that impose standards of care that attach to federally funded or sponsored research projects that use human subjects. See 45 C.F.R. Part 46 (2000). 45 C.F.R. Part 46, Subpart A, is entitled "Basic HHS[37] Policy for Protection of Human Research Subjects" and Subpart D of the regulation is entitled "Additional Protections for Children Involved as Subjects in Research." 45 C.F.R. section 46.101(a) (2000) provides:

"Sec. 46.101

(a) Except as provided in paragraph (b) of this section, this policy applies to all research involving human subjects conducted, supported or otherwise subject to regulation by any federal department or agency which takes appropriate administrative action to make the policy applicable to such research. This includes research conducted by federal civilian employees or military personnel, except that each department or agency head may adopt such procedural modifications as may be appropriate from an administrative standpoint. It also includes research conducted, supported, or otherwise subject to regulation by the federal government outside the United States." [Emphasis added.]

As we discussed, supra, this study was funded, and co-sponsored, by the EPA and presumably was therefore subject to these federal conditions. These conditions, if appropriate administrative action has been taken, require fully informed consent in any research using human subjects conducted, supported, or otherwise subject to any level of control or funding by any federal department or agency. 45 C.F.R. section 46.116 provides in relevant part:

"Sec. 46.116 General requirements for informed consent.

Except as provided elsewhere in this policy, no investigator may involve a human being as a subject in research covered by this policy unless the investigator has obtained the legally effective informed consent of the subject or the subject's legally authorized representative. An investigator shall seek such consent only under circumstances that provide the prospective subject or the representative sufficient opportunity to consider whether or not to participate and that minimize the possibility of coercion or undue influence. The information that is given to the subject or the representative shall be in language understandable to the subject or the representative. No informed consent, whether oral or written, may include any exculpatory language through which the subject or the representative is made to waive or appear to waive any of the subject's legal rights, or releases or appears to release the investigator, the sponsor, the institution or its agents from liability for negligence.

(a) Basic elements of informed consent. Except as provided in paragraph (c) or (d) of this section, in seeking informed consent the following information shall be provided to each subject:

.

(2) A description of any reasonably foreseeable risks or discomforts to the subject;

.

(4) A disclosure of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to the subject;

.

(6) For research involving more than minimal risk, an explanation as to whether any compensation and an explanation as to whether any medical treatments are available if injury occurs and, if so, what they consist of, or where further information may be obtained;

.

(b) Additional elements of informed consent. When appropriate, one or more of the following elements of information shall also be provided to each subject:

(1) A statement that the particular treatment or procedure may involve risks to the subject (or to the embryo or fetus, if the subject is or may become pregnant) which are currently unforeseeable;

.

(5) A statement that significant new findings developed during the course of the research which may relate to the subject's willingness to continue participation will be provided to the subject .” [Emphasis added.]

Subpart D of the regulation concerns children involved as subjects in research. 45 C.F.R. section 46.407 therefore additionally provides:

“Sec. 46.407 Research not otherwise approvable which presents an opportunity to understand, prevent, or alleviate a serious problem affecting the health or welfare of children. HHS will conduct or fund research that the IRB does not believe meets the requirements of Sec. 46.404, Sec. 46.405, or Sec. 46.406 only if:

(a) The IRB finds that the research presents a reasonable opportunity to further the understanding, prevention, or alleviation of a serious problem affecting the health or welfare of children; and

(b) The Secretary,[38] after consultation with a panel of experts in pertinent disciplines (for example: science, medicine, education, ethics, law) and following opportunity for public review and comment, has determined either:

(1) That the research in fact satisfies the conditions of Sec. 46.404, Sec. 46.405, or Sec. 46.406, as applicable, or

(2) The following:

(i) The research presents a reasonable opportunity to further the understanding, prevention, or alleviation of a serious problem affecting the health or welfare of children;

(ii) The research will be conducted in accordance with sound ethical principles;

(iii) Adequate provisions are made for soliciting the assent of children and the permission of their parents or guardians, as set forth in Sec. 46.408." [Emphasis added.]

These federal regulations, especially the requirement for adherence to sound ethical principles, strike right at the heart of KKI's defense of the granting of the Motions for Summary Judgment. Fully informed consent is lacking in these cases. The research did not comply with the regulations. There clearly was more than a minimal risk involved. Under the regulations, children should not have been used for the purpose of measuring how much lead they would accumulate in their blood while living in partially abated houses to which they were recruited initially or encouraged to remain, because of the study.

In the case of Whitlock v. Duke University, 637 F.Supp. 1463 (M.D.N.C.1986), affirmed by, 829 F.2d 1340 (4th Cir.1987), the United States District Court for the Middle District of North Carolina decided that in determining what duty a researcher owes to a subject of nontherapeutic experimentation, it would analyze a duty consistent with 45 C.F.R. section 46.116. Id. at 1471. That court held that a researcher has a duty to inform the subject of all risks that are reasonably foreseeable. Whitlock involved a subject who suffered organic brain damage from decompression experiments. The District Court ultimately held (and was affirmed by the Court of Appeals for the Fourth Circuit) that although a heightened duty existed between a researcher and an adult research participant requiring the researcher to disclose all foreseeable risks, in Whitlock there was no evidence presented that the risk of organic brain damage was foreseeable.

That result is clearly distinguishable from the present cases, where the risks associated with exposing children to lead-based paint were not only foreseeable, but were well known by KKI, and, in fact, it had to have been reasonably foreseeable by KKI that the children's blood might be contaminated by lead because the extent of contamination of the blood of the children would, in significant part, be used to measure the effectiveness of the various abatement methods. Moreover, in the present cases, the consent forms did not directly inform the parents that it was possible, even contemplated, that some level of lead, a harmful substance depending upon accumulation, might contaminate the blood of the children.

Clearly, KKI, as a research institution, is required to obtain a human participant's fully informed consent, using sound ethical principles. It is clear from the wording of the applicable federal regulations that this requirement of informed consent continues during the duration of the research study and applies to new or changing risks. In this case, a special relationship out of which duties might arise might be created by reason of the federally imposed regulations. The question becomes whether this duty of informed consent created by federal regulation, as a matter of state law, translates into a duty of care arising out of the unique relationship that is researcher-subject, as opposed to doctor-patient. We answer that question in the affirmative. In this State, it may, depending on the facts, create such a duty.

Additionally, the Nuremberg Code, intended to be applied internationally, and never expressly rejected in this country, inherently and implicitly, speaks strongly to the existence of special relationships imposing ethical duties on researchers who conduct nontherapeutic experiments on human subjects. The Nuremberg Code specifically requires researches to make known to human subjects of research "all inconveniences and hazards reasonably to be expected, and the effects upon his health or person which may possibly come from his participation in the experiment." (Emphasis added.) The breach of obligations imposed on researchers by the Nuremberg Code, might well support actions sounding in negligence in cases such as those at issue here. We reiterate as well that, given the facts and circumstances of both of these cases, there were, at the very least, genuine disputes of material facts concerning the relationship and duties of the parties, and compliance with the regulations.

V. The Ethical Appropriateness of the Research

The World Medical Association in its Declaration of Helsinki [39] included a code of ethics for investigative researchers and was an attempt by the medical community to establish its own set of rules for conducting research on human subjects. The Declaration states in relevant part:

"III. Non-therapeutic biomedical research involving human subjects

(Non-clinical biomedical research)

1. In the purely scientific application of medical research carried out on a human being, it is the duty of the physician to remain the protector of the life and health of that person on whom biomedical research is being carried out.

2. The subjects should be volunteers-either healthy persons or patients for whom the experimental design is not related to the patient's illness.

3. The investigator or the investigating team should discontinue the research if in his/her or their judgement it may, if continued, be harmful to the individual.

4. In research on man, the interest of science and society should never take precedence over considerations related to the well being of the subject." [Emphasis added.]

Adopted in Declaration of Helsinki, World Medical Assembly (WMA) 18th Assembly (June 1964), amended by 29th WMA Tokyo, Japan (October, 1975), 35th WMA Venice, Italy (October 1983), and the 41st WMA Hong Kong (September 1989).

The determination of whether a duty exists under Maryland law is the ultimate function of various policy considerations as adopted by either the Legislature, or, if it has not spoken, as it has not in respect

to this situation, by Maryland courts. In our view, otherwise healthy children should not be the subjects of nontherapeutic experimentation or research that has the potential to be harmful to the child. It is, first and foremost, the responsibility of the researcher and the research entity to see to the harmlessness of such nontherapeutic research. Consent of parents can never relieve the researcher of this duty. We do not feel that it serves proper public policy concerns to permit children to be placed in situations of potential harm, during nontherapeutic procedures, even if parents, or other surrogates, consent. Under these types of circumstances, even where consent is given, albeit inappropriately, policy considerations suggest that there remains a special relationship between researchers and participants to the research study, which imposes a duty of care. This is entirely consistent with the principles found in the Nuremberg Code.

Researchers cannot ever be permitted to completely immunize themselves by reliance on consents, especially when the information furnished to the subject, or the party consenting, is incomplete in a material respect. A researcher's duty is not created by, or extinguished by, the consent of a research subject or by IRB approval. The duty to a vulnerable research subject is independent of consent, although the obtaining of consent is one of the duties a researcher must perform. All of this is especially so when the subjects of research are children. Such legal duties, and legal protections, might additionally be warranted because of the likely conflict of interest between the goal of the research experimenter and the health of the human subject, especially, but not exclusively, when such research is commercialized. There is always a potential substantial conflict of interest on the part of researchers as between them and the human subjects used in their research. If participants in the study withdraw from the research study prior to its completion, then the results of the study could be rendered meaningless. There is thus an inherent reason for not conveying information to subjects as it arises, that might cause the subjects to leave the research project. That conflict dictates a stronger reason for full and continuous disclosure.

In research, the study participant's “well-being is subordinated to the dictates of a research protocol designed to advance knowledge for the sake of future patients.” Jay Katz, Human Experimentation and Human Rights, 38 St. Louis U. L.J. 7, 8 (1993). In a recent report, the National Bioethics Advisory Commission recognized that this conflict between pursuit of scientific knowledge and the well-being of research participants requires some oversight of scientific investigators:

“However noble the investigator's intentions, when research involves human participants, the uncertainties inherent in any research study raise the prospect of unanticipated harm. In designing a research study an investigator must focus on finding or creating situations in which one can test important scientific hypotheses. At the same time, no matter how important the research questions, it is not ethical to use human participants without appropriate protections. Thus, there can be a conflict between the need to test hypotheses and the requirement to respect and protect individuals who participate in research. This conflict and the resulting tension that can arise within the research enterprise suggest a need for guidance and oversight.”

National Bioethics Advisory Commission, Ethical and Policy Issues in Research Involving Human Participants, 2-3 (Dec. 19, 2000) (emphasis added). When human subjects are used in scientific research, the rights of the human subjects are afforded the protection of the courts when such subjects seek redress for any wrongs committed.

A special relationship giving rise to duties, the breach of which might constitute negligence, might also arise because, generally, the investigators are in a better position to anticipate, discover, and understand the potential risks to the health of their subjects. Practical inequalities exist between researchers, who have superior knowledge, and participants "who are often poorly placed to protect themselves from risk." Id. at 3. "[G]iven the gap in knowledge between investigators and participants and the inherent conflict of interest faced by investigators, participants cannot and should not be solely responsible for their own protection." Id. at 3-4.

This duty requires the protection of the research subjects from unreasonable harm and requires the researcher to completely and promptly inform the subjects of potential hazards existing from time to time because of the profound trust that participants place in investigators, institutions, and the research enterprise as a whole to protect them from harm. "Faced with seemingly knowledgeable and prestigious investigators engaged in a noble pursuit, participants may simply assume that research is socially important or of benefit to them individually; they may not be aware that participation could be harmful to their interests." Id.

As is evident from the cases discussed in this opinion, abuses with regard to the protection of human subjects in experimental research still occur in this country. This is also recognized by the federal government's attempts to insure the protections of human research subjects. See Donna Shalala, Ph.D.,Protecting Research Subjects-What Must Be Done, 343 New England Journal of Medicine 11 (September 14, 2000).

The purpose of the study in the case at bar was, in the words of Dr. Mark R. Farfel Sc.D., Director of KKI's Lead Abatement Department "to document the longevity of various lead base paint abatement strategies, factored in terms of reducing lead exposure in house dust and the children's blood lead levels." In other words, the purpose of the experiment was to determine whether there was a less expensive way than full abatement that would be cost-effective in reducing lead poisoning in children from a lower economic background. The study, by its design, placed and/or retained children in areas where they might come into contact with elevated levels of lead dust. Clearly, KKI contemplated that at least some of the children would develop elevated blood lead levels while participating in the study. At 45 C.F.R. section 46.111 Criteria for IRB approval of research, the regulations require IRBs to encourage the safety aspects of research rather than encouraging noncompliance with regulations: "(b) When some or all of the subjects . such as children ., [are] economically or educationally disadvantaged persons additional safeguards have been included . to protect the rights and welfare of these subjects." (Emphasis added.)

While we acknowledge that foreseeability does not necessarily create a duty, we recognize that potential harm to the children participants of this study was both foreseeable and potentially extreme. A "special relationship" also exists in circumstances where such experiments are conducted.

VI. Parental Consent for Children to Be Subjects of Potentially Hazardous Nontherapeutic Research

The issue of whether a parent can consent to the participation of her or his child in a nontherapeutic health-related study that is known to be potentially hazardous to the health of the child raises serious questions with profound moral and ethical implications. What right does a parent have to knowingly expose a child not in need of therapy to health risks or otherwise knowingly place a child in danger, even if it can be argued it is for the greater good? The issue in these specific contested cases does not relate

primarily to the authority of the parent, but to the procedures of KKI and similar entities that may be involved in such health-related studies. The issue of the parents' right to consent on behalf of the children has not been fully presented in either of these cases, but should be of concern not only to lawyers and judges, but to moralists, ethicists, and others. The consenting parents in the contested cases at bar were not the subjects of the experiment; the children were. Additionally, this practice presents the potential problems of children initiating actions in their own names upon reaching majority, if indeed, they have been damaged as a result of being used as guinea pigs in nontherapeutic scientific research. Children, it should be noted, are not in our society the equivalent of rats, hamsters, monkeys, and the like. Because of the overriding importance of this matter and this Court's interest in the welfare of children-we shall address the issue.

Most of the relatively few cases in the area of the ethics of protocols of various research projects involving children have merely assumed that a parent can give informed consent for the participation of their children in nontherapeutic research. The single case in which the issue has been addressed, and resolved, a case with which we agree, will be discussed further, infra.

It is not in the best interest of a specific child, in a nontherapeutic research project, to be placed in a research environment, which might possibly be, or which proves to be, hazardous to the health of the child. We have long stressed that the “best interests of the child” is the overriding concern of this Court in matters relating to children. Whatever the interests of a parent, and whatever the interests of the general public in fostering research that might, according to a researcher's hypothesis, be for the good of all children, this Court's concern for the particular child and particular case, over-arches all other interests. It is, simply, and we hope, succinctly put, not in the best interest of any healthy child to be intentionally put in a nontherapeutic situation where his or her health may be impaired, in order to test methods that may ultimately benefit all children.

To think otherwise, to turn over human and legal ethical concerns solely to the scientific community, is to risk embarking on slippery slopes, that all to often in the past, here and elsewhere, have resulted in practices we, or any community, should be ever unwilling to accept.

We have little doubt that the general motives of all concerned in these contested cases were, for the most part, proper, albeit in our view not well thought out. The protocols of the research, those of which we have been made aware, were, in any event, unacceptable in a legal context. One simply does not expose otherwise healthy children, incapable of personal assent (consent), to a nontherapeutic research environment that is known at the inception of the research, might cause the children to ingest lead dust. It is especially troublesome, when a measurement of the success of the research experiment is, in significant respect, to be determined by the extent to which the blood of the children absorbs, and is contaminated by, a substance that the researcher knows can, in sufficient amounts, whether solely from the research environment or cumulative from all sources, cause serious and long term adverse health effects. Such a practice is not legally acceptable.

In Hart v. Brown, 29 Conn.Supp. 368, 289 A.2d 386 (1972), that court was faced, prospectively, with whether to approve the transplant of a kidney from one seven-year-old identical twin to the other twin. The medical information presented to the court indicated that without the transplant the recipient twin would have to undergo an extensive period of dialysis treatment with the expectation of only a 50% chance that she could survive that treatment for more than five years; the donor twin was expected to live a normal and productive life with one kidney. There were severe rejection problems with the

transplant of a kidney from the parents that would have subjected the recipient twin to the possible side effects of immuno-suppressive drugs.

The parents brought an action in behalf of the recipient twin against the doctor and the hospital that had refused to perform the operation absent a court order that the parents or a guardian had the right to consent to the operation. The action, therefore, sought a declaratory judgement concerning whether the parents or a guardian ad litem had the right to consent to the transplant on behalf of the donor twin.

The court first appointed as guardian ad litems an attorney to represent the donor twin, and another person to represent the recipient twin. After citing three unreported cases from the State of Massachusetts, and the case of Strunk v. Strunk, 445 S.W.2d 145 (Ky.1969), the Connecticut court adopted the "doctrine of substituted judgment." It upheld the giving of the consent of the parents, but only after noting the extensive process that the parties and the court had undertaken. The court noted:

"One of the legal problems in this matter presents a balancing of the rights of the natural parents and the rights of minor children-more directly, the rights of the donor child. Because of the unusual circumstances of this case and the fact of great medical progress in this field, it would appear that the natural parents would be able to substitute their consent for that of their minor children after a close, independent and objective investigation of their motivation and reasoning. This has been accomplished in this matter by the participation of a clergyman, the defendant physicians, and attorney guardian ad litem for the donor, the guardian ad litem for the donee, and, indeed, this court itself.

A further question before this court is whether it should abandon the donee to a brief medically complicated life and eventual death or permit the natural parents to take some action based on reason and medical probability in order to keep both children alive.

There is authority in our American jurisdiction that nontherapeutic operations can be legally permitted on a minor as long as the parents or other guardians consent to the procedure."

Hart at 375-76, 289 A.2d at 390. The court then cited the cases of Strunk v. Strunk, supra; Bonner v. Moran, 75 U.S.App.D.C. 156, 126 F.2d 121 (1941) and the unreported Massachusetts cases.

Bonner was an unusual case that involved the grafting of skin from a minor donor cousin to a badly burned donee cousin. In that case, the court did not answer whether a parent, or other appropriate relative or guardian, could give consent for a nontherapeutic (as to the donor cousin) procedure. The issue was whether their consent was necessary under the circumstances, in that the donor cousin had apparently donated the skin without any express consent (and may have already done so when an aunt improperly consented as a surrogate). The trial court found that the minor cousin was sufficiently mature so as to be able to assent to the procedure, thus avoiding a determination as to whether a parent, or appropriate relative, could have given surrogated consent. The trial court gave a "mature minor" instruction to the jury.[40] The trial court's decision was ultimately overturned. The appellate court, reversing, stated:

"We are constrained, therefore, to feel that the court below should, in the circumstances we have outlined, have instructed that the consent of the parent was necessary. But by his own testimony, it clearly appears that he [the physician] failed to explain, even to the infant, the nature or extent of the proposed first operation."

Bonner, 75 U.S.App.D.C. at 156, 126 F.2d at 123. As is clear, that court did not say that parental consent would always be sufficient itself, only that it was a necessary ingredient in the equation.

In the Strunk case, the proposed donor was a mentally incompetent adult. Her parents sought permission of the court to consent to having one of the incompetent adult's kidneys transplanted to her twenty-six-year-old brother. The court granted permission to the parents, adopting the "doctrine of substituted judgment."

What is of primary importance to be gleaned in the Hart and Strunk cases is not that the parents or guardians consented to the procedures, but that they first sought permission of the courts, and received that permission, before consenting to a nontherapeutic procedure in respect to some of their minor children, but that was therapeutic to other of their children.

In the case sub judice, no impartial judicial review or oversight was sought by the researchers or by the parents. Additionally, in spite of the IRB's improper attempt to manufacture a therapeutic value, there was absolutely no such value of the research in respect to the minor subjects used to measure the effectiveness of the study. In the absence of a requirement for judicial review, in such a circumstance, the researchers, and their scientific based review boards would be, if permitted, the sole judges of whether it is appropriate to use children in nontherapeutic research of the nature here present, where the success of an experiment is to be measured, in substantial part, by the degree to which the research environments cause the absorption of poisons into the blood of children. Science cannot be permitted to be the sole judge of the appropriateness of such research methods on human subjects, especially in respect to children. We hold that in these contested cases, the research study protocols, those of which we are aware, were not appropriate.

When it comes to children involved in nontherapeutic research, with the potential for health risks to the subject children in Maryland, we will not defer to science to be the sole determinant of the ethicality or legality of such experiments. The reason, in our view, is apparent from the research protocols at issue in the case at bar. Moreover, in nontherapeutic research using children, we hold that the consent of a parent alone cannot make appropriate that which is innately inappropriate.

In T.D. v. New York State Office of Mental Health, 165 Misc.2d 62, 626 N.Y.S.2d 1015 (1995), that court was presented with a dispute as between which state agency had control over the approval of experiments using persons generally incapable of giving consent. Most were mental patients and included both adult and minor subjects. The trial court agreed with the representatives of the subjects, granting a partial summary judgement to that effect. In its opinion, it stated:

"The plaintiffs seek a declaratory judgment as to the validity of the OMH regulations promulgated November 7, 1990 (14 NYCRR 527.10) which set forth the procedures to be followed for the nonconsensual participation by mental patients in potentially high-risk experiments. It is important to note at the outset that this action is not a broad-based challenge by the plaintiffs to any and all research performed on human subjects. It is limited to those procedures which may cause stroke, heart attack, convulsions, hallucinations, or other diseases and disabilities including death, and which, while possibly shedding light on possible future treatments to others, offer no direct therapeutic benefit to the participating subject. Plaintiffs contend that their challenge affects only approximately 10 studies which utilize incapable individuals or children, involve more than a minimal risk.

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What is most objected to are the provisions for substituted . decision makers. Courts tread cautiously when third parties are relied on to make decisions for an incapable patient. When the proposed medical course does not involve an emergency and is not for the purpose of bettering the patient's condition, or ending suffering, it may be doubtful if a surrogate decision maker-a guardian, a committee, a health-care proxy holder, a relative, or even a parent could properly give consent to permitting a ward to be used in experimental research with no prospect of direct therapeutic benefit to the patient himself. 'Parents may be free to become martyrs themselves. But it does not follow they are free, in identical circumstances, to make martyrs of their children before they have reached the age of full and legal discretion when they can make that choice for themselves.' (Prince v. Massachusetts, 321 U.S. 158, [170, 64 S.Ct. 438, 88 L.Ed. 645 (1944)].)"

Id. at 65-71, 626 N.Y.S.2d at 1017-21 (citations omitted) (some emphasis added).

The intermediate appellate court of New York, affirmed and modified the trial court's declaration, finding additional sections of the statute at issue inappropriate. In respect to the reasonableness of accepting parental consent for minors to participate in potentially harmful, nontherapeutic research, that court stated:

"We also find unacceptable the provisions that allow for consent to be obtained on behalf of minors for participation in greater than minimal risk [41] nontherapeutic research from the minor's parent or legal guardian, or, where no parent or guardian is available, from an adult family member involved in making treatment decisions for the child.

We are not dealing here with parental choice among reasonable treatment alternatives, but with a decision to subject the child to nontherapeutic treatments and procedures that may cause harmful permanent or fatal side effects. It follows therefore that a parent or guardian, . may not consent to have a child submit to painful and/or potentially life-threatening research procedures that hold no prospect of benefit for the child . We do not limit a parent or legal guardian's right to consent to a child's participation in therapeutic research that represents a valid alternative and may be the functional equivalent of treatment."

T.D. v. New York State Office of Mental Health, 228 A.D.2d 95, 123-24, 650 N.Y.S.2d 173, 191-92 (1996). We concur with that assessment.

Additionally, there are conflicting views in respect to nontherapeutic research, as to whether consent, even of a personcapable of consenting, can justify a research protocol that is otherwise unjustifiable.

"This 'justifying' side of consent raises some timeless and thorny questions. What if people consent to activities and results which are repugnant, or even evil? Even John Stuart Mill worried about consensual slavery. Today, we wonder whether a woman's consent to appear in graphic, demeaning, or even violent pornography justifies or immunizes the pornographer. If she appears to consent to a relationship in which she is repeatedly brutalized, does her consent stymie our efforts to stop the brutality or punish the brute?

These problems make us squirm a little, just as they did Mill. We have three ways out: We can say, first, 'Yes, consent justifies whatever is consented to-you consented, so case closed;' second, 'This particular

consent is deficient-you did not really consent and so the result or action is not justified;' or third, 'You consented, but your consent cannot justify this action or result.'.

Note the subtle yet crucial difference between these three options: In the first, consent is king, while the third option assumes a moral universe shaped and governed by extra-consensual considerations. The second option, however, reflects the tension between the other two. We might block the consented-to action, but we pay lip service to consent's justifying role by assuring ourselves that had the consent been untainted, had it been 'informed,' it would have had moral force. In fact, we pay lip service precisely because we often silently suspect that consent cannot and does not always justify. Rather than admit that the consent does not and could not justify the act, we denigrate the consent and, necessarily, the consenter as well.

This is cheating; it is a subterfuge designed to hide our unease and to allow us to profess simultaneous commitment to values that often conflict."

Garnett, Why Informed Consent? Human Experimentation and the Ethics of Autonomy, 36 Catholic Lawyer 455, 458-60 (1996) (footnotes omitted). The article continues:

"We should worry about the behavior of the experimenter, about our own culpability, and not about the subject's choosing capacities.

Such restrictions on consent, which aim at objective behaviors and results rather than at subjective decision-making processes, are common in the criminal law. For example, guilty pleas must usually be supported by a factual basis, and be knowing and voluntary. We recognize that defendants might quite rationally plead guilty to crimes they did not commit and that prosecutors might be willing to accept such pleas. However, because such pleas embroil the legal system in a monstrous falsehood, we refuse to accept them while admitting that they might indeed be in the defendant's correctly perceived best interests.

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Similarly, in contract and consumer law, we often balance our general preference for unfettered respect for consensual arrangements against other concerns. One purpose of these rules is undeniably to substitute the supposedly better judgment of the legislature and the judiciary about what is really in a person's best interest.

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. The Nuremberg Code explicitly recognized the need to place non-paternalistic limits on the scope of experiments. The Code asks more of an experiment, a researcher, or society than mere consent."

Id. at 494-97.[42] Based on the record before us, no degree of parental consent, and no degree of furnished information to the parents could make the experiment at issue here, ethically or legally permissible. It was wrong in the first instance.

VII. Conclusion

We hold that in Maryland a parent, appropriate relative, or other applicable surrogate, cannot consent to the participation of a child or other person under legal disability in nontherapeutic research or studies in which there is any risk of injury or damage to the health of the subject.

We hold that informed consent agreements in nontherapeutic research projects, under certain circumstances can constitute contracts; and that, under certain circumstances, such research agreements can, as a matter of law, constitute "special relationships" giving rise to duties, out of the breach of which negligence actions may arise. We also hold that, normally, such special relationships are created between researchers and the human subjects used by the researchers. Additionally, we hold that governmental regulations can create duties on the part of researchers towards human subjects out of which "special relationships" can arise. Likewise, such duties and relationships are consistent with the provisions of the Nuremberg Code.

The determination as to whether a "special relationship" actually exists is to be done on a case by case basis. See Williams, 359 Md. at 150, 753 A.2d at 68. The determination as to whether a special relationship exists, if properly pled, lies with the trier of fact. We hold that there was ample evidence in the cases at bar to support a fact finder's determination of the existence of duties arising out of contract, or out of a special relationship, or out of regulations and codes, or out of all of them, in each of the cases.

We hold that on the present record, the Circuit Courts erred in their assessment of the law and of the facts as pled in granting KKI's motions for summary judgment in both cases before this Court. Accordingly, we vacate the rulings of the Circuit Court for Baltimore City and remand these cases to that court for further proceedings consistent with this opinion.[43]

CASE NO. 128: RULING OF THE CIRCUIT COURT FOR BALTIMORE CITY GRANTING APPELLEE'S MOTION FOR SUMMARY JUDGMENT IS VACATED AND CASE REMANDED TO THAT COURT FOR PROCEEDINGS CONSISTENT WITH THIS OPINION; COSTS TO BE PAID BY KKI.

CASE NO. 129: RULING OF THE CIRCUIT COURT FOR BALTIMORE CITY GRANTING APPELLEE'S MOTION FOR SUMMARY JUDGMENT IS VACATED AND CASE REMANDED TO THAT COURT FOR PROCEEDINGS CONSISTENT WITH THIS OPINION; COSTS TO BE PAID BY KKI.

These appeals present the narrow question of whether the Circuit Courts erred in granting summary judgments to appellee, the Kennedy Krieger Institute, a research entity, on the ground that, as a matter of law, it owed no duty to warn appellants, Ericka Grimes and Myron Higgins, et al., human subjects participating in its research study. I concur in the judgment of the Court only and join in the Court's judgment that the Circuit Courts erred in granting summary judgments to appellee. These cases should be remanded for further proceedings.

I concur in the Court's judgment because I find that appellants have alleged sufficient facts to establish that there existed a special relationship between the parties in these cases, which created a duty of care that, if breached, gives rise to an action in negligence. See Ashburn v. Anne Arundel County, 306 Md. 617, 630-31, 510 A.2d 1078, 1083 (1986). I would hold that a special relationship giving rise to a duty of care, the breach of which would be the basis for an action in negligence, existed in these cases and would remand the cases at bar to the Circuit Courts for further proceedings. I agree with the majority that this duty includes the protection of research subjects from unreasonable harm and requires the researcher to inform research subjects completely and promptly of potential hazards resulting from participation in the study. See maj. op. at 846, 848-849, 858. As a result of the existence of this tort duty, I find it unnecessary to reach the thorny question, not even raised by any of the parties, of whether the informed consent agreements in these cases constitute legally binding contracts. See maj. op. at

818 (stating that "the consents of the parents in these cases under Maryland law constituted contracts creating duties"); id. at 843 (stating that "we hold from our own examination of the record that such provisions were so contained, mutual assent, offer, acceptance, and consideration existed, all of which created contractual relationships imposing duties by reason of the consent agreements themselves ."); id. at 858 (stating that "[w]e hold that informed consent agreements in nontherapeutic research projects, under certain circumstances can constitute contracts .").

I have some concern with the mixed message sent by the majority as to whether the existence of a tort duty arising from a special relationship existed is a question of law for the court or a question to be determined by the trier of fact. For example, the majority states that "the creation of study conditions or protocols or participation in the recruitment of otherwise healthy subjects to interact with . hazardous conditions . would normally warrant or create . special relationships as a matter of law." Maj. op. at 70, at 93-93 (emphasis added). The majority also concludes that "informed consent agreements in nontherapeutic research projects ., under certain circumstances, . can, as a matter of law, constitute 'special relationships' giving rise to duties, out of the breach of which negligence actions may arise." Id. at 94, at 113 (emphasis added).

On the other hand, citing Williams v. Baltimore, 359 Md. 101, 753 A.2d 41 (2000), the majority ultimately concludes that the determination as to whether a duty of care existed between the parties is a question to be determined by the trier of fact on a case-by-case basis. See maj. op. at 113. I disagree with that conclusion. The holding in Williams relied upon Ashburn, which stated only that "[i]n order for such a [special] relationship to be found between police and perpetrator, it must be alleged that there was some type of ongoing custodial relationship between the police officer and the actor." Ashburn, 306 Md. at 631 n. 2, 510 A.2d at 1085 n. 2. Prior to Williams, Maryland case law established that existence of a duty of care is a legal question to be determined by the trial court, in the first instance, and this Court on appeal. See Rosenblatt v. Exxon Co., 335 Md. 58, 76, 642 A.2d 180, 189 (1994) (stating that "the question whether Exxon owed a duty to Rosenblatt is an issue of law, to be determined by the court"); Jacques v. First Nat'l Bank, 307 Md. 527, 533, 515 A.2d 756, 759 (1986) (stating that "the duty with which we are here concerned is a duty imposed by law as a matter of sound policy, for the violation of which a person may be held to respond in damages in tort."); cf. W. Page Keeton et al., Prosser and Keeton on Torts § 45, at 320 (5th ed.1984). I see no principled reason to create an express exception to this rule for tort duties arising out of special relationships, particularly in cases like those sub judice where there are no material facts relating to the existence of a special relationship in dispute. In contrast, it is the question of whether such duty was breached in the two cases presented that is a factual determination to be made by the finder of fact after a trial on the merits on remand. Cf. maj. op. at 26 n. 21, at 57 n. 21.

As I have indicated, this case presents a narrow question of whether a duty in tort exists between the plaintiffs and the defendants. The majority recites the standard of review on summary judgment, and iterates that "[t]he purpose of the summary judgment procedure is not to try the case or to decide the factual disputes, but to decide whether there is an issue of fact, which is sufficiently material to be tried." Maj. op. at 48, at 73. Nonetheless, the majority appears to have decided the issue of whether such duty of care was, in fact, breached as a matter of law, without a hearing or a trial on the merits.

I cannot join in the majority's sweeping factual determinations that the risks associated with exposing children to lead-based paint were foreseeable and well known to appellees and that appellees

contemplated lead contamination in participants' blood, see id. at 848-849, 852; that the children's health was put at risk, see id. at 815-816; that there was no complete and clear explanation in the consent agreements that the research to be conducted was designed to measure the success of the abatement procedures by measuring the extent to which the children's blood was being contaminated and that a certain level of lead accumulation was anticipated, see id. at 812-813, 824, 828, 848-849; that the parental consent was ineffective, see id. at 818, 848; that the consent form was insufficient because it lacked certain specific warnings, see id. at 844; that the consent agreements did not provide that appellees would provide repairs in the event of lead dust contamination subsequent to the original abatement measures, see id. at 858 n. 43; that the Institutional Review Board involved in these cases abdicated its responsibility to protect the safety of the research subjects by misconstruing the difference between therapeutic and nontherapeutic research and aiding researchers in circumventing federal regulations, see id. at 813-814, 817; that Institutional Review Boards are not sufficiently objective to regulate the ethics of experimental research, see id. at 817; that it is never in the best interest of any child to be placed in a nontherapeutic research study that might be hazardous to the child's health, see id. at 852-853; that there was no therapeutic value in the research for the child subjects involved, see id. at 854-855; that the research did not comply with applicable regulations, see id. at 848; or that there was more than a minimal risk involved in this study, see id. at 848. I do not here condone the conduct of appellee, and it may well be that the majority's conclusions are warranted by the facts of these cases, but the record before us is limited. Indeed, the majority recognizes that the record is "sparse." Maj. op. at 818. The critical point is that these are questions for the jury on remand and are not properly before this Court at this time.

I emphasize that we are deciding the propriety of granting summary judgment. Therefore, upon remand, appellee is free to offer evidence to support its position.

Unfortunately, the majority chooses to go far beyond the narrow question presented in these appeals and addresses a number of ancillary issues in dicta. I cannot join the majority in holding that, in Maryland, a parent or guardian cannot consent to the participation of a minor child in a nontherapeutic research study in which there is any risk of injury or damage to the health of the child without prior judicial approval and oversight. See id. at 814, 817-818, 850-851, 855, 858. Nor can I join in the majority's holding that the research conducted in these cases was per se inappropriate, unethical, and illegal, see id. at 814-815, 817-818, 848-849, 853, 855, 857. Such sweeping holdings are far beyond the question presented in these appeals, and their resolution by the Court, at this time, is inappropriate. I also do not join in what I perceive as the majority's wholesale adoption of the Nuremberg Code into Maryland state tort law. See id. at 849-850, 851. Finally, I do not join in the majority's comparisons between the research at issue in this case and extreme historical abuses, such as those of the Nazis or the Tuskegee Syphilis Study. See id. at 816-817.

Accordingly, I join the majority only in the judgment to reverse the Circuit Courts' granting of summary judgments to appellees.

ON MOTION FOR RECONSIDERATION

The Court has considered the motion for reconsideration and the submissions by the various amici curiae. The motion is denied, with this explanation.

Some of the issues raised in this case, in the briefs and at oral argument, were important ones of first impression in this State, and the Court therefore attempted to address those issues in a full and exhaustive manner. The case reached us in the context of summary judgments entered by the Circuit Court, which entailed rulings that the evidence presented by the plaintiffs, for purposes of the motions, even when taken in a light most favorable to them, was insufficient as a matter of law to establish the prospect of liability. We disagreed with that determination. Although we discussed the various issues and arguments in considerable detail, the only conclusion that we reached as a matter of law was that, on the record currently before us, summary judgment was improperly granted-that sufficient evidence was presented in both cases which, if taken in a light most favorable to the plaintiffs and believed by a jury, would suffice to justify verdicts in favor of the plaintiffs. Thus, the cases were remanded for further proceedings in the Circuit Court. Every issue bearing on liability or damages remains open for further factual development, and any relevant evidence not otherwise precluded under our rules of evidence is admissible.

Much of the argument in support of and in opposition to the motion for reconsideration centered on the question of what limitations should govern a parent's authority to provide informed consent for the participation of his or her minor child in a medical study. In the Opinion, we said at one point that a parent "cannot consent to the participation of a child . in nontherapeutic research or studies in which there is any risk of injury or damage to the health of the subject." As we think is clear from Section VI of the Opinion, by "any risk," we meant any articulable risk beyond the minimal kind of risk that is inherent in any endeavor. The context of the statement was a non-therapeutic study that promises no medical benefit to the child whatever, so that any balance between risk and benefit is necessarily negative. As we indicated, the determination of whether the study in question offered some benefit, and therefore could be regarded as therapeutic in nature, or involved more than that minimal risk is open for further factual development on remand.

I respectfully dissent from the order denying the motions for reconsideration. I adhere to the views previously expressed in my concurring opinion filed herein on August 16, 2001.

The majority's discussion of the ability of a parent or guardian to consent to the participation of a minor child in a nontherapeutic research study and the discussion regarding the ethics of the research conducted in these cases involve serious public policy considerations. The statements are a declaration of public policy that, in the posture of this case, are best left to the General Assembly. See Gaver v. Harrant, 316 Md. 17, 28-29, 557 A.2d 210, 217 (1989); Harrison v. Mont. Co. Bd. of Educ., 295 Md. 442, 460, 456 A.2d 894, 903 (1983). Inasmuch as these issues were never raised by the pleadings or the parties below, this Court had no basis to address these very complex issues; if a change is to be made in the State's policy of regulating research studies, unless clearly presented to the court, it should be made by legislative enactment. See Md. Nat'l Bk. v. United Jewish App., 286 Md. 274, 407 A.2d 1130 (1979). This matter merits the close scrutiny of the General Assembly. See Cotham and Maldonado v. Board, 260 Md. 556, 273 A.2d 115 (1971).

FOOTNOTES

1. We note that we have found only one case fairly close on one point we address later; that being a New York case that we discuss in the main body of our opinion.

2. At least to the extent that commercial profit motives are not implicated, therapeutic research's purpose is to directly help or aid a patient who is suffering from a health condition the objectives of the research are designed to address-hopefully by the alleviation, or potential alleviation, of the health condition.Nontherapeutic research generally utilizes subjects who are not known to have the condition the objectives of the research are designed to address, and/or is not designed to directly benefit the subjects utilized in the research, but, rather, is designed to achieve beneficial results for the public at large (or, under some circumstances, for profit).

3. City Homes apparently was a nonprofit entity affiliated with the Enterprise Foundation, that owned and/or managed low income housing in Baltimore City.

4. In respect to research conducted or supported by any federal agency, Institutional Review Boards, among other requirements, must furnish the agency with: (1) a list of IRB members, their degrees, representative capacity, experience, and employment relationships between the member and the research entity. Each IRB is required to have at least five members of varying backgrounds; there must be racial, gender, and cultural diversity. Each IRB has to contain at least one scientific member and one non-nonscientific member and one member who is not affiliated with the institution in any way. No member of an IRB can have a conflicting interest. 45 C.F.R. Subtitle A, sections 46.103 and 46.107.

5. As far as is known from the record, the children involved at the inception of the study were healthy, although appellee was unwilling to so concede at oral argument.

6. The ultimate goal was to find the cost of the minimal level of effective lead paint or lead dust abatement costs so as to help landlords assess, hopefully positively, the commercial feasibility of attempting to abate lead dust in marginally profitable, lower rent-urban housing, in order to help preserve such housing in the Baltimore housing market. One of the aims was to evaluate low-cost methods of abatement so that some landlords would not abandon their rental units. For those landlords, complete abatement was not deemed economically feasible. The project would be able to assess whether a particular level of partial abatement caused a child's blood lead content to be elevated beyond a level deemed hazardous to the health of children.The tenants involved, presumably, would be from a lower rent-urban class. At least one of the consenting parents in one of these cases was on public assistance, and was described by her counsel as being a minority. The children of middle class or rich parents apparently were not involved."Indeed, the literature on the law and ethics of human experimentation is replete with warnings that all subjects, but especially vulnerable subjects, are at risk of abuse by inclusion [as research subjects]. Those vulnerable subjects included prisoners, who are subject to coercion, [see The Prisoner's Cases: Clay v. Martin, 509 F.2d 109 (1975); Bailey, Dingee, Neuser & Munney v. Lally, 481 F.Supp. 203 (1979); Valenti v. Prudden, 58 A.D.2d 956, 397 N.Y.S.2d 181 (1977)]; children and the elderly . and racial minorities, ethnic minorities, and women [see the silicone injections/informed consent case of Retkwa v. Orentreich, 154 Misc.2d 164, 584 N.Y.S.2d 710 (1992)], whom history shows to be the most frequent victims of abuses in human experimentation."R. Alta Charo, Protecting us to Death: Women, Pregnancy and Clinical Research Trials, 38 St. Louis U.L.J. 135, 135 (Fall, 1993); see also In re Cincinnati Radiation Litigation, 874 F.Supp. 796, 800 (1995) ("The experiments utilized terminal cancer patients. The complaint alleges that most of the patients selected were African-American and, in the vernacular of the time, charity patients."); Lainie Ross, Children as Research Subjects: A Proposal to Revise the Current Federal Regulations Using a Moral Framework, 8 Stan. L. & Policy Rev. 159, 164 (Winter 1997) ("The failures in the informed consent process lead to

serious inequities in research, specifically for the poor and less educated who bear most of the research burden. Studies show that the process of informed consent serves as a social filter: Better educated and wealthier individuals are more likely to refuse to participate and are underrepresented in most research. The problem is perpetuated in pediatrics, where parents who volunteer their children were found to be significantly less educated and underrepresented in the professional and managerial occupations compared to their non-volunteering counterparts." (footnote omitted)).

7. The Navajo miners had been already working in the uranium mines when the study commenced. Unlike the present case, the Navajos were not recruited by the researchers to be placed in the environment being tested for unhealthy substances.

8. Generally known as the Jewish Chronic Disease Hospital study where chronically ill and debilitated patients were injected with cancer cells without their consent. See Zeleznik v. Jewish Chronic Disease Hosp., 47 A.D.2d 199, 366 N.Y.S.2d 163 (1975). And see Application of Hyman, 42 Misc.2d 427, 248 N.Y.S.2d 245, rev'd Hyman v. Jewish Chronic Disease Hospital, 21 A.D.2d 495, 251 N.Y.S.2d 818 (1964), rev'd 15 N.Y.2d 317, 206 N.E.2d 338, 258 N.Y.S.2d 397 (1965).

9. See generally A. Brockman, The Other Nuremberg: The Untold Story of the Tokyo War Crime Trials (1987); P. Williams & D. Wallace, Unit 731: Japan's Secret Biological Warfare in World War II (1989).

10. Appellant, in Case No.128, phrased the question in similar language: "Did the Circuit Court err in ruling that a research entity conducting a study does not owe a duty to a human subject participating in the study when the researcher obtains knowledge of the potential for harm to the participant who is unaware of the danger?"We resolve these issues in the context of the trial court's granting of the appellee's motions for summary judgment.

11. From the context, Dr. Farfel was referring to children in general when making this remark. The purpose of the study was manifestly not to reduce the level of lead in the blood of the children that were the subjects of the study, but to create a controlled research environment focusing on abatement of lead dust. The success of the various abatement procedures would be measured, in significant part, not by reducing the levels of lead in the children's blood, but by periodic measurements of the level of lead in their blood. Thus, it reasonably can be argued that it was not in KKI's interest for the children to leave the experiment prior to its conclusion.

12. These cases were decided below by pre-trial motions for summary judgment. The record is therefore not extensive.

13. For purposes of this study, the researchers considered lead in dust elevated if it was more than or equal to 200 micrograms per square foot for floors, more than or equal to 500 micrograms per square foot for window sills, and more than or equal to 800 micrograms per square foot for window wells. These were the maximum allowable levels or "clearance standards" that the Maryland Department of the Environment (MDE) had said must be met following full lead dust abatements. COMAR § 26.02.07.12. We note that these "clearance standards" only apply to fully abated houses wherein all the lead dust has been removed, not to houses, which have not been abated and still have lead dust present, as is the case in Groups 1, 2, and 3 discussed, infra. Additionally, the parties disagree as we discuss, infra notes 26 and 28, as to the appropriate method for obtaining and analyzing accurately such dust samples.

14. We have taken the liberty of referring to the test groups as Groups 1, 2, 3, 4, and 5 in an attempt to clarify the verbiage of this opinion due to the fact that the research study did not provide abbreviated names for Groups 4 and 5.

15. Although the EPA funded and co-sponsored the cost of the actual research, the funds provided for maintenance and repair of the houses were provided by loans made by DHCD through the Lead Paint Abatement Program established by the General Assembly. Maryland Code (1957, 1988 Repl.Vol., 1990 Cum.Supp.), Art. 83B §§ 2-301 through 2-313. On July 1, 1995, these loans were made through the Lead Hazard Reduction Loan Program as enacted by 1995 Maryland Laws, Chapter 335. See Maryland Code (1957, 1998 Repl.Vol.), Art. 83B §§ 2-1401 through 2-1411.

16. The descriptions of what repairs and maintenance were conducted at the different levels of intervention were provided by KKI's brief to this Court in Case Number 129.

17. For purposes of the study, lead dust was presumed to be present in buildings built prior to 1941. The same requirements controlled selection of Group 4 except that those properties had allegedly been fully abated.

18. XRF refers to "an x-ray fluorescence analyzer which measures the lead content in paint and other materials." COMAR § 26.16.01.02(27).

19. Actually, the random assignment was slightly more involved. Assignment was based on whether the property was currently being used as a residence. Occupied dwellings were assigned either Level I or Level II intervention at a ratio of 2:1. Vacant dwellings were assigned either Level III or Level II at a ratio of 2:1. The result was an equal distribution of houses into each of the three groups.

20. The record indicates that only 108 houses actually participated in the study as opposed to 125.

21. This Consent Form refers to repairs that were to be made to the Monroe Street property. KKI contends in its briefs to this Court that appellant's residence had already been completely abated as of October 15, 1990, and was not to be subjected to repairs and maintenance because it was a member of one of the control groups, Group 4. The evidence suggests and the parties appeared to agree during oral argument before this Court that the Monroe Street property was a member of Group 4. Regardless, because we are reviewing this matter in the context of the granting of summary judgment based upon a trial court determination that no duty existed as a matter of law and, on remand, the facts of each case will, of necessity, need to be addressed, we do not need to resolve to which group it was a member or whether there was, as a matter of fact, a breach of duty in that case, or even damages for that matter.

22. For some unexplained reason, processing the dust samples typically took several months. KKI notified Ms. Hughes of the dust sample results via letters dated December 16, 1993, December 17, 1993, May 19, 1994, October 28, 1994, July 19, 1995, and January 18, 1996, respectively. As we discussed, supra, appellant moved out of the Monroe Street property in the Summer of 1994, after the first three dust samples were both collected, and the results presented, to Ms. Hughes.

23. µg/dL is an abbreviation for micrograms per deciliter. A reading of 9 Pg/dL means that the child had 9 micrograms of lead for every deciliter of blood. See generally Jones v. Mid-Atlantic Funding Co., 362 Md. 661, 668-69 n. 12, 766 A.2d 617, 621 n. 12 (2001). At the time Ericka Grimes was tested for lead poisoning, the CDC used the following nomenclature to classify blood lead concentrations in

children:Class I (Normal)-less than or equal to 9 µg/dLClass IIA (Moderately elevated)-10-14 µg/dLClass IIB (Moderately elevated)-15-19 µg/dLClass III (Highly elevated)-20-44 µg/dLClass IV (Urgently elevated)-45-69 µg/dLClass V (Critically elevated)-greater than or equal to 70 µg/dLSee Preventing Lead Poisoning in Young Children, Centers for Disease Control (October 1, 1991).

24. Mr. Polakoff, a landlord, or a landlord's representative, testified in deposition about the properties that KKI recruited into the program:"Q. It's my understanding that this house was subject to a study out of Kennedy Institute-A. That is correct..A. I voluntarily put this property into . [the] study. After that [partial abatement], a tenant with . at least one child under the age of three would have to move into the property. The child and the property would be periodically tested-the children through blood tests..A. Well, they [KKI] actually solicited me and they were looking for vacant properties.Q. What you said is you were aware that this program was only to be a partial abatement?A. Yes."In an affidavit, Mr. Polokoff stated that KKI "would refer parents with young children to the Property."

25. She rented the property from CFOD-2 Limited Partnership, in which Chase Management, Inc., was a general partner. Mr. Lawrence Polakoff was the President of Chase Management, Inc. The property was vacant and had already received the level of lead dust abatement specified by the research protocols. In other words Ms. Higgens was being recruited into moving her child into a study site that was, intentionally, not completely abated.

26. The parties disagree as to the validity of the figures presented by these samples. Apparently, KKI used two different dust collecting methods, which resulted in drastically varied results. The results discussed above were obtained from dust samples collected by an experimental Cyclone vacuum dust collector. These samples all gave results, which indicated that the lead present therein was far above the accepted Maryland clearance levels. See, supra, note 13. However, according to KKI, the clearance levels are based on dust wipe collection not Cyclone collection. KKI presented evidence that additional samples were collected by the dust wipe technique and that these samples indicated a presence of lead below the Maryland clearance levels. Thus, KKI argues that there was no indication of a lead hazard in the Federal Street property and thus no duty to inform appellant of the Cyclone samples.But, in a prior related document, a May 18, 1992, renewal request for the study, KKI included the following renewal justification: "Prior to the start of the main study, we conducted a study of side-by-side dust samples collected by the Kennedy Institute's traditional wipe method and by the HVS3 cyclone device selected for use in the main study. We found that the HVS3 samples had higher lead loadings than the wipes for all surface types, . possibly attributable to its being more efficient at collecting dust in cracks and rough surfaces."As suggested at oral argument by KKI's representative, KKI's position is that lesser levels of lead do not constitute a hazard, even if they constitute a risk. The argument ignores the possibility of accumulation of lead in the blood of the children from various sources.

27. µg/ft 2 refers to micrograms per square foot.

28. KKI contends that it had no duty to inform Ms. Higgins of the high lead concentration results obtained from dust samples collected by the Cyclone vacuum dust collector. KKI argues that the Maryland clearance levels for lead concentration in dust are based solely on the dust wipe collection technique and not the Cyclone vacuum testing. Thus, because the Cyclone technique typically gives higher results, and because the dust wipe samples registered under the clearance levels, KKI argues that there was no potential hazard and thus no duty to inform appellants. We have addressed this

argument, supra, in footnote 26. Moreover, which process is appropriate, or whether both are, is in dispute. It is thus a matter to be resolved, if necessary, on remand.

29. In 1992, prior to Ms. Higgins beginning her tenancy at the Federal Street property, Polakoff transferred ownership of the property to CFOD-2, a limited partnership in which Chase was a general partner.

30. It continued to maintain this position at oral argument. In respect to the two cases, the following exchanges occurred:"[Case No. 128:]The Court: What you're saying is there's no danger to children from lead contained in dust?Respondent: Not that has ever been established by this Court.The Court: I know that, how about scientific studies, what do they show?Respondent: . Children do ingest lead through dust. But there's nothing in the record about how much is dangerous..The Court: . It is recognized that house dust is a hazard?Respondent: I agree, and that was the purpose of this study was to try to eliminate that hazard. But in terms of defining what that hazard is, the State has done so in statute and regulation. So why then should Kennedy have to have a higher duty than the landlord?The Court: Because you were testing for something the landlord was not obliged to abate, namely dust.The Respondent: But the results never came back to the level where it was defined as a hazard..The Court: There's no duty to warn the parent when you find out this information?The Respondent: Not unless it's of such a level that it's a hazard..The Court: . The consent form apparently said that Kennedy promised to test appellant's home for lead, discuss the results with her mother, discuss steps that could be taken to reduce risks. So how is that keyed to blood levels? My question is . If they're going to test the home for lead there's an agreement to discuss the results with the mother and if you find it in the dust isn't there an obligation to discuss that with the mother irrespective of whether there's any elevated blood levels?Respondent: The plaintiff in this case alleges that there was a lead hazard in the home that needed to be discussed. And there was no hazard in the home. Kennedy did say that they were going to inform the parents of the result of the dust tests. No indication as to when; if that would be during the study or afterwards.The Court: You don't think that a participant in the study, when an institute like Krieger comes in and says that I'm going to tell you, doesn't have a right to rely on that representation and believe that they're going to be told of that in a timely fashion, which would mean not at the end of the study but when it's determined?Respondent: I think the expectation would be that they would be told if there were any problems. And in this case .The Court: What's a problem?The Respondent: A problem is a lead hazard..Respondent: There was no standard at the time for what constitutes a hazard with respect to lead dust in homes.The Court: But Kennedy Krieger considered the hot spot levels, . and you intended that the occupants of the house act on that information because you gave them kits and you encouraged them to clean those areas better.Respondent: Sure. It's in the best interests of the children in the home to have .The Court: How is it in their best interest then not to advise the parent until 9 months after these tests were taken? [Past the time when] they could do something about it?Respondent: These tests . were not run immediately..The Court: . So the only benefit to the parent was the remuneration that was given for entering into this informed consent and allowing their children to be a part of this study?The Respondent: It sounds like Your Honor is looking at this informed consent as a contract where each side is getting something out of this. And that's not the case. The informed consent is just that. It's Kennedy informing the participant what it intends to do..The Respondent: There was some remuneration involved as an incentive to get the participants to enroll and continue to follow through..The Court: Kennedy had a reason not to tell these parents that their kids were exposed to something dangerous, because if they did the parents might leave and the kids wouldn't stay in the

study to be studied down the road. That's sort of what bothers me an awful lot. If you inform the participants in the study that a danger has arisen, the participants leave the house and they're no longer in the study and the study gets skewered. And it very specifically says in the consent agreement that they're going to test for lead dust . seven or eight times after the repairs are made and it very specifically says that the results of testing of the house will be shared with the parents. They assert that you didn't do it. That may very well be a factual matter, . a dispute as to facts . you went on a motion for summary judgment. If there's a dispute of material facts, I don't know how you win on a motion for summary judgment..The Respondent: . They were all told within the time frame of the study itself. Kennedy did nothing to hold back information to keep people in the study. They clearly told everybody if there was some lead in their dust during the study.The Court: When you talk about during the study you're talking about the last day, that includes the last day of the study, which is twenty-four months down the line..The Court: Under your theory, if the study went on for ten years, it would be O.K. to tell them on the last day after the ten years.The Respondent: I'm only dealing with the case at hand.The Court: Could you answer my question? .The Respondent: If the participant had no reason to expect that the results would be forthcoming sooner..The Court: So your position is the duty would not arise unless the level of the lead in the dust exceeded the level established by some other standard that wasn't reached here?The Respondent: Yes..The Court: Your contract was to protect her against a risk. Why wasn't that [hot spots] enough to require a warning? Are you saying that there's a difference in the words hazard and risk?The Respondent: There is. That was not what she complained of in her complaint..Respondent: . She claimed that there was a lead hazard and the hazard wasn't reported.The Court: And you're saying there wasn't a hazard even if there was a risk?Respondent: Yes. There's a risk with everything we do. In everything with life, there's a risk.The Court: You didn't get summary judgment on the ground there was insufficient allegation of a hazard.Respondent: Summary judgment was granted because the court.The Court: [It was granted because] there's no contract, no privity, no duty whatsoever, . no element of a cause of action. I just can't square that with your argument here.Respondent: I don't see that they're inconsistent.The Court: First of all, he found that there was no contract. He found that there was no governmental statute or regulation, which set up this duty. He found that also didn't he? . He also found no special relationship..Respondent: Kennedy needed the participants to stay in the study the full time or the results just weren't valid.The Court: Suppose instead of these folks being given five dollars and fifteen dollars, . for each event, suppose they were offered a thousand dollars for each event, would you say this was a contract? . Would you still argue this wasn't a contract?Respondent: Yes. Because either side could withdraw without any claim for breach of contract from the other.The Court: You can terminate the contract unilaterally. That doesn't mean that there isn't a contract prior to that point.[Case No. 129:]Respondent: To say that the appellant in this case did not get any benefit from the study is pretty disingenuous. What the appellant had the benefit of in this study of [was] being able to live in a home that had these repairs done to it.The Court: A child that has no lead paint, that is normal, moves into a house that has been partially abated and ends up with elevated lead paint levels and you say that's a benefit?Respondent: We don't know what this child's lead levels were before moving into this home, nor do we know where this child was poisoned.The Court: I thought your study required healthy children to be included in the study?Respondent: Because that was the only way to measure if the children did get poisoned as well as..Respondent: No, and this is why it doesn't bother me. Because these homes were in disrepair. Kennedy went in there and improved the home and in this case the home was improved so that it was below clearance standard. This home was made safe and Kennedy instructed the landlord, ‘Put children in these homes that we've made safe.’The

Court: ‘So we can test them [the children] to see how safe we've made them [the houses]?’Respondent: Yes.The Court: If they're safe, why test the children's blood?The Respondent: Because they had to see, they were testing to see which levels worked the best..The Court: Weren't they trying to see how they could do it most inexpensively?Respondent: Sure. Because there's a problem in Baltimore City with landlords.The Court: But that almost assumes that they realize that some of the partial abatements would not be successful. How can you deny that?Respondent: What they expected was that different levels of repair would have different levels of effectiveness over time. And that's what they were testing.The Court: To see which abatement they could use most cheaply? To try and abate more properties in Baltimore City.Respondent: Yeah. I don't disagree with that. And all of that was for the benefit of society at large and these children.”

31. The complete text of the Nuremberg Code is as follows:“1. The voluntary consent of the human subject is absolutely essential.This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, over-reaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs, or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.3. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.5. No experiment should be conducted where there is a prior reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.7. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.8. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seemed to him to be impossible.10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill and careful judgement required of him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.” [Emphasis added.]

32. In the past several months, the country has also learned of another research project approved by the scientific "community" and conducted by "institutional volunteers," that was performed without appropriate concern for the children that were used as subjects to attempt to prove a scientific hypothesis. The particular experiment was conducted by American scientists, and was discontinued, and then concealed in the post-World War II period because of concerns raised by students that it was a "monster experiment" that would, if discovered, be compared to the World War II experiments and would ruin the careers of the scientists and researchers involved. The leader of the experiment, a professor at the State University of Iowa, prior to the experiment being uncovered, even had a prestigious scientific institute named after him-the Wendell Johnson Speech and Hearing Center.Wendell Johnson was a stutterer. As his education and career advanced, he formulated hypotheses that stuttering is emphasized and conditioned in children by environmental causes rather than by genetic or inherited traits. He believed that criticism by parents, and others, during childhood years, caused children to lose confidence in their ability to communicate by speech, resulting, in the worst cases, in stuttering.At that point, Johnson was a scientist with a theory searching for subjects to prove it. Obviously, educated and/or knowledgeable parents would not, if aware of his methods, permit him to attempt to turn their children into stutterers.Accordingly, with the university's blessing, he approached a nearby state orphanage that had been utilized in other research by the university, and, under the guise of improving the speech of the orphans involved, had a research assistant begin the experiment.Over time, she conditioned several of the orphans who had not theretofore stuttered, to become stutterers. She was very successful. Thereafter, only minimal and unsuccessful efforts were made to cure the affected orphans of the stuttering that the scientists had induced.Shortly thereafter, when the project was compared to World War II experiments, it was terminated. No research was ever published, although in the speech pathology scientific community there was some knowledge of it. The study documents were concealed or destroyed and have not survived.The theretofore unstuttering orphans that had been conditioned to stutter remained stutterers for their entire lives, experiencing severe lifelong problems because of the experiment. It was not until a letter from one of the orphans caused the now aged research assistant to have an attack of conscience and she contacted the press, that the sixty-year-old experiment came to light. The University of Iowa, the successor to the State University of Iowa, confirmed the experiment in a recent apology.The nation was informed of the experiment in a series of articles by Jim Dyer in the San Jose (California) Mercury News beginning on June 10, 2001. A university spokesman termed the experiment "regrettable." He stated further: "This is not a study that should ever be considered defensible in any era." When it was suggested that its research and clinical institute should be renamed, the university spokesman stated: "In no way would I ever think of defending this study. In no way. It's more than unfortunate." Jim Dyer, A lifetime later, experiment on orphans haunts researcher, San Jose Mercury News (June 10, 2001); Jim Dyer, Orphans retain scars from long-ago experiment, San Jose Mercury News (June 11, 2001); Jim Dyer, University issues apology for 1939 experiment that induced orphans to stutter, San Jose Mercury News (June 14, 2001); Nancy Marshall, J. Dyer Discusses a 1930s Study on Stuttering, Weekly Edition: The Best of National Public Radio News (June 23, 2001).Similar to the research at issue in the case at bar, the children in the stuttering study were deliberately placed in a potentially harmful experimental environment for the good of science in order to test a theory that, if proven, might have helped many more children. The University of Iowa, however belatedly, has acknowledged the impropriety of that experiment and apologized for its involvement. KKI continues to assert the propriety of a study that is inherently

inappropriate-no less so than the stuttering research on vulnerable orphans in the Midwest sixty years ago.Inappropriate experimentation in this country involving children as subjects is not new.

33. We note that there was little suggestion of actual permanent injury to the children involved with these two cases. Our opinion is not directed to the matter of whether damages can be proven in the present cases.

34. The record reflects that in addition to the $5.00 and $15.00 sums mentioned in the consent form as periodic payments for participation in stages of the study, there was a stream of compensation flowing to the research subjects and the parents. Gifts, trinkets, coupons for food, etc., would be given to the subjects or their parents periodically. Moreover, the researchers informed the E.P.A., when seeking funding approval, that:"A number of incentives are planned both in the clinic and in the home of the type that were well received in the recently completed Maryland Lead in Soil Project, i.e. (1) coupons for things ranging from skating trips to groceries; (2) gifts for the children such as T-shirts in the summer, and hats and gloves during winter clinic appointments and (3) ongoing incentives for parents such as $10.00-$20.00 food coupons provided at each clinic visit for blood collection. Lastly, respondents will be reimbursed $15.00 each time they provide questionnaire information."

35. We make no determination as to whether informed consent in a therapeutic medical context can generate contractual obligations.

36. Moreover, it is not clear that KKI was a mere volunteer in any event. It received funding for developing and conducting the research. Whether it recognized a profit is unknown from the record. The "for profit" nature of some research may well increase the duties of researchers to insure the safety of research subjects, and may well increase researchers' or an institution's susceptibility for damages in respect to any injuries incurred by research subjects.

37. HHS refers to the Department of Health and Human Services.

38. We have found no indication in the record that the research protocols were approved by The Secretary. We again emphasize, however, that these cases were determined on summary judgment motions and the record is, accordingly, incomplete. Moreover, perhaps because of the limiting effect of summary judgment procedures early in the case, there is no indication that we can find in the record, or to which we were directed, that indicates that a "National Review" was conducted. The National Commission for the Protection of Human Rights of Biomedical and Behavior Research (National Commission) report, which is incorporated in the federal regulations at 45 C.F.R. section 46.407(b), requires "national review" where nontherapeutic research involving children entails risks over a minimal risk, which is defined as risks beyond that which a child confronts in every day life.

39. The Declaration of Helsinki was crafted by the international medical profession, as preferable to the Nuremberg Code crafted by lawyers and judges and adopted right after the Second World War. The Declaration, or, for that matter, the Nuremberg Code, have never been formally adopted by the relevant governmental entities, although the Nuremberg Code was intended to apply universally. The medical profession, and its ancillary research organs, felt that the Nuremberg Code was too restrictive because of its origins from the Nazi horrors of that era. Serious questions arise in this case under either code, even under the more general provisions of the Declaration of Helsinki apparently favored by doctors and scientists.

40. The doctrine of “mature minor” recognizes that some minors are sufficiently mature to consent.

41. Minimal risk has been defined as “meaning ‘that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the routine physical or psychological examinations or tests.’ ” Katerberg, Institutional Review Boards, Research on Children, and Informed Consent of Parents: Walking the Tightrope Between Encouraging Vital Experimentation and Protecting Subject's Rights, 24 Journal of College and University Law 545, 555 (Winter 1998), in part quoting from 45 Code Federal Regulations section 46.102(i).

42. “Categorical limitations on human research and experimentation, . [would] unavoidably slow us down. Many might die of AIDS who would otherwise be willing to take risks on the slight chance that the next miracle drug might really work. But these losses might be-like the occasionally guilty defendant going free-a price worth paying. The question is not so much whether we can afford to honor our commitment to human dignity, free from subterfuges, but whether we can afford not to, or whether we ought to. The lure of perfectionism and of the all-consuming pursuit of knowledge, both the conceit and the curiosity of the scientist, all conspire to tempt us to play fast and loose with the dignity of our research subjects and ourselves. Id. at 502.

43. The appellants also asserted that the consent agreements required KKI to again repair their homes if lead dust appeared after the original abatement measures were taken. The consent agreements do not so provide. In light of our opinion, we do not address this issue further.

CATHELL, Judge.

LEGAL NETWORK