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Kristin Hughes Carnegie Mellon University, kh@cmu.edu

Susan K. Fidler Thomas Jefferson University Hospital

Ann McGaffey University of Pittsburgh Medical Center

Caryn Audenried Carnegie Mellon University

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Kristin Hughes

Carnegie Mellon University School of Design 110 Margaret Morrison Pittsburgh, PA 15232 kh@cmu.edu

Susan K. Fidler, MD

Primary Care Sports Medicine Fellowship, Thomas Jefferson University Hospital, Philadelphia, PA

Ann McGaffey, MD

University of Pittsburgh Medical Center St. Margaret Family Medicine Residency Program, Pittsburgh, PA

Caryn Audenried

Carnegie Mellon University School of Design, Pittsburgh, PA

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Fitwits: Designed to help physicians start conversations with families about obesity

ABSTRACT

Doctors in the Pittsburgh, Pennsylvania area often have difficulty speaking with children and parents about childhood obesity issues for a number of reasons. They have limited time in well-child appointments, they perceive a lack of effectiveness of these talks, and these discussions can seem confrontational to children and parents. This paper describes the creation, testing, and implementation of Fitwits MD, a tool that can be used by physicians to facilitate these discussions. Building on prior work developed in the Fitwits School Program, we ran participatory design sessions with health care providers from family medicine and pediatric institutions. The activities included redefining often misused and confusing terminology, role-playing as 9- to 12-year-old patients, open conversations about the barriers to weight discussion with families, and the issues providers believe are most important to convey to patients. Doctors used the Fitwits School Program games as inspiration to generate new games that might help them during a well-child visit.

During these sessions, doctors realized the difficulties they had in finding a common language and overcoming time and other barriers that limit the desired content. Doctors needed a tool to facilitate comfort between doctors and patients and develop a structure that gives key messages and conversational opportunities. The result is Fitwits MD, a structured tool for office discussion of obesity during well-child care. The Fitwits MD framework and language provide a conversation that is gratifying to early adolescents, caregivers, and health care providers alike.

Key Words: Co-design, participatory design, games, health communications, and education.

IDENTIFYING THE NEED FOR EFFECTIVE HEALTH COMMUNICATIONS

Fitwits addresses the growing issue of obesity in children and adolescents, with an emphasis on health promotion and education. Obesity is an escalating problem in the United States. ¹⁻⁷ In the last quarter century, the prevalence of obese individuals has tripled in children and adolescents. Recent Centers for Disease Control data estimates that an alarming 16.3% of children and adolescents are obese and 33% of children aged 6-11 years are overweight or obese. ^{1,2} Health and medical costs are rising. ¹⁻⁵ Physician organizations and national agencies have called for research, effective health messages, and policy changes in schools and communities. These groups stress annual body mass index (BMI) assessment and related counseling during well-child visits. ⁸⁻¹⁰ However, a minority of family physicians and pediatricians feel prepared to provide this counseling. In a recent survey, only 12% of pediatricians providing routine childcare felt high self-efficacy in managing obesity. Thirty-nine percent felt that physicians could potentially be highly effective in obesity management given the right tools and training. ¹¹ Physicians and health educators alike are looking for evidence-based educational programs, strategies, and practice-based tool kits. ⁹⁻¹²

WORKING TOWARD A COLLECTIVE SOLUTION

Fitwits is a relatively low-cost and low-tech program designed to reduce counseling barriers, to educate, and to stimulate conversations with children, parents, and providers in schools, medical offices, and the community. The Fitwits model was developed using a participatory design approach whereby all participants are involved in the design process and on-going assessment of the project.

The Fitwits School Program, the predecessor to Fitwits MD, was developed after several interviews with children, families, and doctors, which uncovered prevailing health beliefs and behaviors as well as varying definitions of nutrition, exercise, and wellness. The Fitwits School Program was launched in five East End Pittsburgh schools in October, 2008. Pre- and post-surveys showed an increase in children's knowledge and letters from students expressed excitement for this method of learning. The Pitwits School Program was launched in five East End Pittsburgh schools in October, 2008. Pre- and post-surveys showed an increase in children's knowledge and letters from students expressed excitement for this method of learning.

FITWITS MD

Fitwits MD is a set of cards developed to help physicians guide three-minute discussions on BMI, obesity prevention, exercise, nutrition, and portion at well-child office visits. Fitwits concepts are aimed specifically at children aged 9-12 but are meant to be engaging for the whole family. As noted by a local academic pediatrician, "A pediatrician's number one clinical dilemma is how to counsel families about preventing and managing childhood obesity." In fact, it is a dilemma for all who provide routine childcare. It was the challenge of the design team to lead family medicine and pediatric doctors through pre-planned activities to illuminate these counseling difficulties and construct a framework to communicate the cornerstones of obesity prevention visually and in simple language. To understand how to bring to light often misused and confusing terminology and barriers to weight discussion with families, we ran several participatory design workshops with a group of physicians.

PARTICIPATORY DESIGN WORKSHOPS

Overview

Twelve doctors, residents, and nutritionists attended our participatory design sessions, in

which they explored the barriers to discussing weight with families, the issues they believed were most important to convey to patients, and the types of physical aids that might help them during such interventions. Participants included faculty, a social worker, and a librarian from a family medicine residency program and pediatric senior residents who provide routine childcare in Pittsburgh communities, along with registered dieticians, a faculty member from a research university, and design students. The breadth of institutions brought together by design conforms to the 2020 Forecast, which calls for "distributed innovation." This means problem solving that extends beyond the boundaries of any one organization and collaboration through the "collective intelligence" of many individuals. ¹⁶

Figure 1

Take "note" of barriers

The sticky note activity (Figure 1) identified barriers to discussing weight, nutrition, and exercise with patients. Participants were provided with sticky notes identifying many possible barriers to in-office counseling. They placed them onto the wall along a continuum of most important to least important barriers. Additionally, participants were provided with blank notes to "write-in" their own suggestions and place them on the continuum.

Results showed that the two most important barriers are time constraints and the fact that many patients are unwilling to change. Other barriers included patient issues (low educational level, denial, lack of interest, and perceived benefits of obesity [e.g., strength, athletic advantage]), provider issues (lack of time, lack of training or knowledge, and lack of evidence-based intervention), and community factors (high cost of healthy food, limited access to healthy foods, lack of role models, and the absence of safe places for children to exercise in dangerous neighborhoods).

Defining the terms

Developing the Fitwits School Program helped us better understand the importance of clarifying confusing and misleading terms. We administered a vocabulary test, asking for definitions to nine health-related terms. The doctors provided a surprisingly large range of answers for most of the terms. They seemed to have varying degrees of understanding about many of the terms and reasons for why they would use, for example, the word "overweight" versus the word "obese." Another pair of terms with a range of definitions was "portions" and "servings." Both are poorly defined for children, and are often used interchangeably. In some cases "portion" was described vaguely as the amount of food or drink that is consumed. Some suggested a comparison to a volume measurement, object, or hand and one participant referred to the food pyramid. Some participants related serving size to recommended nutrition content at a meal, and one participant referred to food labels. Difficulties defining these two categories are reflective of true difficulties in teaching families and children how much food to eat at a meal.

The word lists included a wide range of definitions, euphemisms for possibly offensive words, inconsistencies, and misused terms. Many doctors defined "obesity" and "weight problem" using a BMI classification. Some explained that they prefer to use the terms "overweight" or "weight problem" with children to avoid "obesity," which they deemed an offensive term; one

writer shied away from saying "problem." Prior to the 2005 Institute of Medicine endorsement of the word "obesity" for the heaviest children, "overweight" was the preferred term for children. Many participants have not yet made this transition. A few also described "obese" as simply having too much weight or bigger than normal size. Everyone expressed surprise at some of the definitions provided by other participants. Clinical expertise did not translate into ability to consistently and simply impart knowledge to patients.

Participants then sorted the terms in order of importance. "Portion," "healthy food choices," and "wellness" were rated the most important topics to explain to patients and families. Interestingly, the importance of "obesity" varied widely, often below the median importance. "Energy," "nutrition," and "calories" were rated least important. The most important terms were often the hardest to define and describe, again identifying a disconnect between physicians and patients when providing health education.

Role-playing

Participants were split into doctor-patient pairs portraying 9- to 12-year-olds attending an annual well-child check-up. Prior to the workshop, the design team developed two three-minute role-playing scenarios. In the first, doctors received cue cards to help prompt questions regarding health and nutrition. In the second, we also provided a "physician tool" to the doctor roles (Figure 2). These booklets, flip-books, and flash cards were blank to encourage reflection on the form of the object and its use, rather than on content. After each scenario, roles were reversed and participants switched partners. We ran each scenario twice.

Figure 2

Many doctors made little progress in the allotted time, often starting slowly and awkwardly by asking patients about favorite foods and making light conversation. Participants were engaged but had trouble speaking clearly about obesity, continually reverting back to confusing "doctor speak." Some of the doctors used hand motions or played with the tools and aids provided. Participants noted that this activity was a good opportunity for them to practice under a time constraint, a major barrier identified earlier. The doctors struggled to be concise and efficient, to include key subjects, and to be open to conversation in a short time frame.

Make-believe exam room

Participants spent break time in our mock exam room where various prototypes had been placed, such as posters, hanging-files containing blank index cards, and a computer screen to simulate a touchscreen or electronic patient record. We encouraged them to imagine which objects would feel most comfortable to use during a routine office visit, as well as where within the exam room they should be located. The design team also asked the doctors how and when they would counsel their patients during an office visit.

Repurposing games

Participants formed small groups and each chose six cards from the Fitwits games, which explain portion, nutrition, weight, and exercise in terms understandable by children. They then used these cards to create stories and to invent new games (Figure 3). Some used the cards in explanations, some had patients pick out a day of foods and identify "good" or "bad" foods. Participants conveyed their messages much more easily using these simple tools.

Figure 3

Results

These sessions revealed that the doctors had difficulty initiating conversations about obesity with their patients. However, when provided with content and tools repurposed from the Fitwits School Program, they were able to freely explore new ways of talking about obesity-related topics.

Based on the feedback and observations gained during the workshops, we created Fitwits MD, a set of flash cards that doctors can flip through within three minutes with a patient to cover the most important topics: an understanding of obesity and the importance of physical activity, healthy food choices, and portion (Figure 4). The cards utilize the Fitwits characters and simple, clear language to explain basic health concepts to children and families.

Figure 4

FITWITS MD IN PRACTICE

Fitwits MD was designed in accordance with the information gained from the workshops as well as with current evidenced-based recommendations for obesity-prevention counseling. The colorful and approachable Fitwits characters provide a means to understand BMI and then plot and discuss BMI measurements for each child while remaining non-judgmental and objective. This progresses to a discussion of obesity and its associated health concerns. This is traditionally a difficult subject for physicians, but Fitwits MD keeps the discussion simple and focuses on patient health. Following this, several cards prompt questions about food choices and allow the doctor to present daily requirements for physical activity. The remaining cards describe a hand guide to portions that provides a concrete tool patients can use to make important lifestyle changes at home (Figure 5).

A resident physician, also a core member of the Fitwits team, used many of our participatory hands-on activities to train other family medicine doctors to use the Fitwits MD tool. The design process helped inform and teach the resident ways to teach other physicians how to use the tool effectively and in a fun, engaging way. Other residents have since used the same methods to teach new residents, growing the tool's use in unanticipated ways.

There have now been 90 Fitwits MD sessions with patients. Children, parents, and physicians completed open-ended comment cards and surveys after each one, focusing on usefulness and comfort levels. Willing parents were invited to comment on persistent household effects of the sessions in a structured phone interview two weeks afterward. Comparative pre-intervention and post-intervention physician surveys have been administered, but results are not yet ready. Responses to surveys are overwhelmingly positive. A sample of physicians (low, moderate, and frequent intervention use) has been videotaped to capture comments and plans for future use of the Fitwits MD tool. Office champions (individuals responsible for getting the tool into the hands of the physicians) also have been interviewed for this feasibility study.

Of the first 90 child/parent pairs, 93% of parents said they talked about Fitwits at home after the office visit, 80% said their child had played the Fitwits games at home, and 50% noted a change in types of foods prepared at home. ¹⁷ Children were uniformly positive: "I think it is cool that I just learned how much fat and sugar is in lollipops and French fries." "I liked it very much because it helps me eat healthy." "I eat a lot of junk foods and I'd like to get better." ¹⁸

Figure 5

CONCLUSION

There are two fundamental themes underlying obesity prevention programs: health education and behavior change. Clearly, changing behavior is the main goal but this is possible only through accessible, understandable health education and services. Increased health literacy and an understanding of nutrition provide the most basic foundation needed to learn new skills that will help individuals identify and change bad habits, making them proactive participants in their own families' health.

The Fitwits MD tools provide a framework for conversations during check-ups that were not occurring before the tool was introduced. Fitwits functions not only as an easy-to-use educational tool, but also bridges the gaps in health literacy, education, and awareness. It aims to be multi-use and reflects recent thinking within obesity education, echoing calls for an "ecological model," wherein a strong emphasis is placed on the confluence of family, community, and society in approaching public health interventions. ¹⁰

We are most heartened by the stories we hear from parents and children who have experienced the program. One mother tells of her son and his friends insisting they walk every night for an hour. "We're supposed to – for Fitwits!" ¹⁹

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