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Pilot Test of Information Uptake among Post-Incarcerated Adults

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This exploratory study sought to understand the challenges of navigating the health care system from the perspectives of post-incarcerated individuals; and, to develop dissemination strategies to support these individuals in their efforts to provide self-care management following incarceration. Phase 2 provided a pilot test of the effectiveness of an informational CD and flyer intervention and the outcome of self-care. Sixty-two individuals with an incarceration history participated in this pretest-posttest with a 1-month follow up study. A significant change in knowledge and utilization of services (χ^2 =12.571, df =1, p =.001) was found immediately after the intervention; and was maintained at the 1-month measure (χ^2 = 5.12, p < 0.024); with men reporting greater difficulty navigating the healthcare system post-incarceration (χ^2=7.272, df =1, p =.016). Participants who had received materials expressed a greater interest in learning about: medications, side effects, and drug interactions (χ^2 = 5.024, df=1, p < 0.027), health insurance (χ^2 = 9.953, df=1, p < .002), crisis hotlines (χ^2 = 7.488, df=1, p < .007), and health clinics (χ^2=11.063, df =1, p < 0.001). Based upon Phase 1 qualitative findings, further exploration of these variables reveal that participants who were interested in learning about health insurance (pretest) improved in knowledge specifically regarding medications, side effects, and drug interactions at $posttest_2$ (χ^2=5.720, df=1, p=.017). Those who were interested in learning about community health clinics (pretest) were most interested in transportation (χ^2 =8.619, df =1, p =.003) and reproductive health information (χ^2 =4.350, df=1, p=.037) at $posttest_2$. This information is needed by participants who now transitioning to community systems of care, could go to the community clinic and not be fearful of losing their bed in the DOC managed halfway house.

Keywords: healthcare; post-incarceration; dissemination; barriers; recidivism

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Background

Healthcare vendors, both private and public provide limited transitional health care upon release from jail or prison. Health care that is provided to individuals upon release is usually associated with transitional housing provided by state departments of correction and lasting 1-6 months post-incarceration (Flanagan, 2004). Like other citizens, the post-incarcerated population must assume control of their own wellness and health care once in community settings. Dealing with these challenges in an under-resourced community is daunting for individuals unaccustomed to managing the complexities of the fragmented community health system.

Wagner and colleagues (2001), authors of the Chronic Care Model (CCM) sought to promote interactions between an informed and engaged client and his or her health care provider(s) in the ongoing management of the individual's chronic illness. Within this model, a comprehensive approach includes the essential elements of: community, health and delivery system, self-management and decision support, along with clinical information systems. Some combination of these elements enhances health literacy and fosters productive interactions between the informed clients who takes an active part in care with providers who offer services.

Among the key elements of the CCM is self-management, or self-care support. Effective self-care implies individual responsibility for health and healthcare (RWJF, 2003). Productive interactions between client and health care provider require that the individual and her/his family have the knowledge, skills, attitudes and abilities to manage his/her health. It should be stressed that effective self-management is not focused on telling individuals what to do; instead, they are assisted to assume responsibility for their health (RWJF, 2003). Post-incarcerated persons

require support from their peer networks, providers, family and community for self-care and to transition successfully.

Weinert, Cudney & Kinion (2010) note that individuals need be informed so that they can take an active role in managing their health. They must be able to obtain information as well as read, understand, and act on that information; or, in other words, be 'health literate'. In their work, Weinert and colleagues found health literacy to be a strong predictor of an individual's health status- influencing a person's ability to monitor their health, understand their health providers' recommendations, and to engage with the health care system.

With the recent proliferation of health messaging strategies in the United States, emphasis should be placed on addressing gaps in knowledge about the effectiveness and acceptance of health messaging programs (HRSA, 2013). A recent meta-analysis of tailored communication studies utilizing print messages concluded that tailored interventions are more effective than non-tailored ones (Noar, Benac, & Harris, 2007). Kreuter, Strecher and Glassman (1999) note that 'tailored communication' produces a message matched to the needs and preferences of individuals, and is most effective when greater degrees of segmentation (the degree to which the audience is divided into increasingly more defined, homogenous groups), and customization (the degree to which the messages the audience receive a reflect relevant individual characteristics) occur (Hawkins et al; 2008). Hawkins et al (2008) explains that in principle, the tailoring ideal would be fully individualized messages; get the right message or messages for each individual in the population to move them toward an individually appropriate goal for a particular health behavior.

Using this framework, the segment of the criminal justice-involved population, as noted earlier (Shelton & Goodrich 2016, this issue) are individuals who are transitioning from jails and

prisons to the community. The tailored message needed to be responsive to their reported barriers to health care access which included: lack of computer access and/or computer literacy; poor health instruction and limited health system comprehension; lack of navigation skills; memory difficulties; homelessness and poverty; poor insurance and perceived bias of providers. Further, the authors observed that individuals lacked the ability to problem-solve and blamed others for their difficulties. While participants expressed an interest in providing self-care- they simply lacked the knowledge and skills to do so.

This pilot study sought to test use of participatory methods, use of a $25 incentive and assistance of a new community agency as a partner, and study location that gave easy access to the population. Development of a tailored message to communicate information was to be tested to determine if knowledge could be improved, preparing for future study on self-care behaviors. The final goal going forward will be to disseminate these materials and examine their uptake and effect upon self-care management in the community for end-of-sentence (EOS) populations.

Methods

This pilot study was the second of a 2-phase participatory process which sought to engage persons who had an incarceration experience to understand how to successfully disseminate findings from health research in a manner that would be acceptable to the population. The goal was to enhance and support uptake of health related research findings to support self-care efforts in the community. Common strategies such as phone applications, flyers, and websites are often tailored for target populations (Kreuter & Wray, 2003), however, given literacy challenges, computer access limitations (M. Goodrich, personal interview, May 20 & 28, 2014) and other questions, the strategies that work best are unclear. Clear health communication is essential to successful public health practice. Careful deliberation concerning

the appropriate channel for messages is needed to best reach the target audience and messages must consider the variant levels of health literacy and education of their audience, as well social and cultural contexts in which health communication occurs (Freimuth & Quinn, 2004).

Intervention

As noted in the description of Phase 1 of this study (Shelton & Goodrich, 2016, this issue), authors in collaboration with participants created CD's highlighting two bilingual volunteer participants as spokespersons- one EOS African American male and one EOS Hispanic female. The flyers and CDs were provided in both English and Spanish languages. These communication vehicles told transitioning inmates about how to access the free services available in the community. These services included a crisis line; community health centers; transportation; medication information/assistance; insurance information/assistance; and reproductive services/counseling.

Administrative personnel evaluative survey. Seven administrative personnel from the re-entry facilities participated in an evaluation of the flyer and CD before the pilot test of the CD and flyer were administered to the post-incarcerated population. The administrative personnel volunteered and attended if they were available and willing at the time designated. The administrative session lasted an hour and included reading the flyer, watching the CD and subsequently completing an evaluative survey for the CD comprised of five closed-ended items as well as an open-ended question asking for any additional feedback. The closed-ended questions included: Do you feel as though the video is a good length? Do you find this video appealing? Do you think this video could be used in halfway houses, DOC facilities, etc? Would you show this CD at your organization? Overall, do you think this CD will assist men and women who have been release from prison or jail to access health care? At the end of this

evaluative survey the administrative personnel were encouraged to write any additional comments, questions, or concerns that would help make the CD or flyer more effective in helping the post-incarcerated population navigate the healthcare system.

Administrative Feedback. Overall, the administrative personnel agreed that the CD had good content but that it might be worthwhile shortening it so that it could be played on a loop. They thought that it was appealing and could be used in halfway houses, DOC facilities, and other locations where releasees met. They felt that they would show it at their organization and overall the CD would assist men and women who have been released from prison or jail to access health care. Their one recommendation was to obtain additional funding to have the CD professionally produced. No revisions were made to the flyer.

Phase Two Sample and Data Sources

Recruitment and Consent Procedures. Recruitment procedures similar to Phase 1 were repeated. A total of 26 men and 13 women participated. No identifying demographic information (gender, age, race and time since incarceration) was collected in Phase 2. Of these 39 men and women, 26 had an incarceration experience. Ten individuals were excluded from the study because they did not report an incarceration experience; and, three were excluded because they did not see the CD and or read the flyer before taking $posttest_2$. An information sheet was approved by the IRB (UCONN IRB approval #H14-103) which explained to the participants that their voluntary participation would take around 30 minutes and that it would require them to return in one month. The information sheet was distributed to participants and read out loud with an opportunity for questions provided. Participants were then provided a pre-test to complete, followed by distribution of the flyer and shown the CD. Copies of the flyer and CD were

provided to participants for their personal use. Those individuals who completed all three tests received a $25 Walmart card.

Survey Development. A 10-item pencil and paper survey was designed to test knowledge gained and service utilization before and immediately after observing the CD and reading the flyer, and again in 1-month. Three EOS releasees volunteered to read over the survey to ensure ease of reading and use. The pre-test survey included nine closed-ended items as well as an open-ended question asking for any other feedback the participants may have. The nine closed-ended items included demographic questions such as: gender, age, and race. The closed-ended questions also included: Have you ever been to prison or jail? [Yes/No] How long have you been out of prison/jail? [< 1 month; 1-6 mos; 7-12 mos; 1-3 yrs; 4-6 yrs; >6yrs; never] Is it difficult to find answers to health related questions after being released from incarceration? [Yes/No] Are you aware of free health resources such as free health clinics? [Yes/No] Do you know how to find a free health clinic? [Yes/No] The last closed-ended question asked the participants: Which of the following would you be interested in learning more about? Participants were able to choose from the list of free services and could check all that applied: medication/side effects/drug interactions, health insurance, crisis hotlines, health clinics, reproductive health needs, and transportation. One open-ended item was added to encourage participants to write any additional comments, questions, or concerns. The posttest survey was designed with similar questions noted in the pretest, but included an additional question: "Did you watch the CD, read the flyer, do both, or neither" [Yes/No responses].

The survey was checked to assure a low reading level and three bilingual volunteers reviewed the survey for ease of reading and use. Minor formatting adjustments were made. Two

recommendations were made: to provide pencils to assure people could respond to the surveys; and to provide copies of the materials for personal use. Both recommendations were adopted.

The survey was administered as a pretest, $posttest_1$ immediately following the distribution of the flyer and showing of the CD, and again one month later ($posttest_2$). Reminders regarding the $posttest_2$ were provided through flyers posted at the re-entry agencies and by word of mouth. As a result, $posttest_2$ participants were greater than pretest participants (pretest total = 26; $posttest_{1,2}$ total = 39). Thirteen cases were eliminated from the posttest data: those who did not read the flyer and/or see the CD (n =3); and those who did not have a previous incarceration experience (n=10). Total remaining in the data for analysis were pre-$posttest_1$=26 and $posttest_2$=25.

Phase Two Sample. The demographic information collected from Phase 2 is presented in Table 1. The 26 individuals who participated in the immediate pre-$posttest_1$ survey sessions had an age range from 21 years old to 84 or older with a median age falling in the 42 – 62 year category. Six (23%) of the respondents were women and 20 (77%) were men. In response to race, most respondents were Black (n=10, 40%) followed by White/Caucasian (n=8, 32%) and finally by Latino/Hispanics (n=7, 28%). Of the 25 individuals who participated in the 1-month post-test survey sessions, their ages followed a similar distribution pattern; but the distribution on gender was reversed- 16 (65%) of the respondents were women and nine (36%) were men. The race

Table 1:
Pre-Posttest Demographic Information

Demographics	Pre-$Posttest_1$ (N=26)	$Posttest_2$ (N=25)
Gender		
Male	20	9
Female	6	16
Age		
21-41	7	8
42-62	13	12
63-84+	5	5
Race		
White/Caucasian	8	13
Black	10	7
Latino/Hispanic	7	5
Time since incarceration		
< 1 month	0	3
<12 months	10	18
1-5 years	9	7
6+ years	7	6

distribution shifted slightly as well, with more White/Caucasian (n=19, 51%) persons participating, followed by Blacks (n=10, 27%), and Latino/Hispanics (n=8, 22%).

Findings

Phase Two Pre-Posttest Findings

Descriptive analysis of data was performed examining changes in reported knowledge of services from 26 pretest-posttest$_1$ and 25 posttest$_2$ at 1-month. Some improvement was seen from pre to posttest$_1$ with significant positive differences reported in general knowledge and awareness of free services following the viewing of the CD and reading of the flyer (χ^2=12.751, df=1, p=.001). We found this knowledge improvement was maintained at the 1-month posttest$_2$ (χ2 = 5.12, p < 0.024). We did note, however a gender difference with men reporting greater difficulty navigating the healthcare system post-incarceration (posttest$_2$; χ2 =7.272, df =1, p=.016). Further exploration revealed that participants who had received and reviewed materials expressed a greater interest in learning about: medications, side effects, and drug interactions (χ2 = 5.024, df=1, p < 0.027), health insurance (χ2 = 9.953, df=1, p < .002), crisis hotlines (χ2 = 7.488, p < .007), and health clinics (χ2 = 11.063, df=1, p < 0.001). No significant change from pre to posttest$_{1,2}$ was observed respecting interest in transportation or reproductive health clinics.

Reflecting upon the focus group comments in Phase 1 (see Shelton & Goodrich, 2016, this issue), we recalled that participants stressed the importance of health insurance, and that they felt locked into returning to the jails and prisons to access care. We explored this with the limited variables available to us and note that participants who were interested in learning about health insurance (pretest) improved in knowledge specifically regarding medications, side effects, and drug interactions at posttest$_2$ (χ^2=5.720, df=1, p=.017), suggesting possibly that those persons in need of medication were aware of a need for insurance as well. Further exploring

what seemed important to those who were interested in learning about community health clinics at pretest, we noted that they were most interested in transportation (χ^2=8.619, df=1, *p*=.003) and reproductive health needs (χ^2 =4.350, df=1, *p*=.037) at $posttest_2$. This seemed to make sense, as participants could go to the community health clinics (CHCs) and not be fearful of losing their bed in the halfway house; and they would need information on how to get to (transportation) the CHCs.

Limitations

A limitation of this exploratory study was in the design. We did not link people from pre to posttests. This pilot explored use of participatory methods, use of a $25 incentive and assistance of a new community agency as a partner that provided a location for this pilot that placed us in a location that gave easy access to the population. We now know that this was sufficient to recruit individuals back for longitudinal design and use of repeated measure testing. Additionally, as a result of the participatory approach, we do not know how much of the success in learning is attributed to the effect of the peer leaders that emerged from the group. Further exploration of this variable in a more rigorously designed study is needed. The timeline of the small grant (1-year) was difficult, and made the process stressful for researchers given the limited resources (specifically personnel to follow-up with emerging peer leaders). Even with these limitations, we did achieve our goal of determining what tailored dissemination strategies would be useful for this population in this community. To conduct a more rigorous study, modifications in methods can be made with the now tailored intervention designed.

Conclusion and Future Study

The purpose of this pilot study (Phase 2) was to test a tailored communication strategy (CD and flyer) for dissemination of future evidence-based health related information to assist the

post-incarcerated population access health care services and improve their self-care outcomes. This pilot explored use of participatory approaches, working with a new community partner in a new community location and testing recruitment and retention strategies.

We found that natural leaders emerged, who through the participatory process assisted in the data collection. Even with training, we found that these peer leaders reached more individuals in the community than those we were specifically targeting (non-incarcerated persons). It brought to mind the many underserved populations that are at a disproportionate risk of managing chronic illnesses and also challenged to access quality health care live in the same under resourced communities. Co-locating with our community partner in the community gave us access to those served by the safety net community agency structure.

Our pilot found knowledge improvements immediately following viewing of the CD and flyer and at the 1-month follow-up. Knowledge improvement is a component of self-care management and likely to improve self-efficacy (Albikawi, Petro-Nustas & Abuadas, 2016). Navigating the healthcare system after being released is clearly a significant issue for individuals. Even if releasees learn to navigate the health care system, the fragmentation and limited number of self-care support and services needs to be addressed.

The number of individuals being served by the safety net is growing, (Safety Net Funders Network, 2012) as the needs of individuals who face unique challenges given their socio-economic situation and often medically complex conditions get shifted from Departments of Corrections by early release and diversion programming back to broken community systems. Alternate delivery models need be tested and can be implemented within safety net settings to improve access, continuity and quality of care. Self-care adapted to address the unique needs of persons with criminal justice involvement seems a reasonable option for future study.

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