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MOBILE<sub>4</sub>IMPACT SERIES



## The Electronic Backpack Supplement

Produced by ZeroDivide | March 2015

This supplement has been included as part of ZeroDivide's **Mobile4Impact** Series, which explores key issues in the design, funding, deployment and evaluation of nonprofit and public sector projects that use mobile technology to achieve social impact.



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# The Electronic Backpack

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### About the Mobile4Impact Series

In 2011 ZeroDivide conducted research that explored the ways in which funders can support their grantees in implementing mobile projects in order to achieve greater social impact. It also identified common barriers to mobile deployment in the U.S., which included cost and mobile carrier regulations. Lastly, this research provided recommendations for successful mobile projects with underserved communities and identified ways in which funders can support mobile strategies. The full research report, *Funding Mobile Strategies for Social Impact* can be downloaded at [bit.ly/1rsUpNY](http://bit.ly/1rsUpNY).

The *Mobile4Impact Series* builds upon our previous research and captures new insights from the field and ZeroDivide's ongoing work to leverage mobile interventions in underserved and vulnerable communities. The Series explores key issues in the design, funding, deployment and evaluation of nonprofit and public sector projects and focuses on three promising mobile technology areas for these communities: *SMS (Short Message Services)*, *Geolocation and Mobile App Development*. The Series also highlights how these mobile technologies are being deployed to address one of the most critical issues in underserved and vulnerable communities—health and wellness. The Vodafone Americas Foundation provided support for the *Mobile4Impact Series*. This supplemental guide, *The Electronic Backpack*, was supported by Sierra Health Foundation. The views presented in the Series are those of the authors and contributors and not those of the Vodafone Americas Foundation or Sierra Health Foundation, their directors, officers or staff.

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### About ZeroDivide

ZeroDivide is a non-profit consulting organization focused on the design, development and implementation of technology solutions to increase digital equity and accelerate social change in underserved and vulnerable communities. ZeroDivide possesses 15 years of design, implementation and advocacy of technology solutions for underserved and vulnerable communities. Our work involves diverse and dynamic partnerships with thought leaders, decision-makers, practitioners and community members. ZeroDivide's principal methods include innovative field practice and field building activities.

### About the Vodafone Americas Foundation

The Vodafone Americas Foundation believes in the power of wireless and mobile technology to transform global development, improve people's lives, and advance healthy and sustainable communities. The Foundation's mission is to make a difference by harnessing the power of technology in innovative ways that develop and advance wireless and mobile solutions to serve the world.

### About Sierra Health Foundation

Sierra Health Foundation is a private philanthropy with a mission to invest in and serve as a catalyst for ideas, partnerships and programs that improve health and quality of life in Northern California. The foundation is committed to improving health outcomes and reducing health disparities in the region through convening, educating and strategic grant making.

## Introduction

In 2011 ZeroDivide conducted original research that explored the ways in which funders can support their grantees in implementing mobile projects, and the report included a substantial collection of case studies on the successful use of mobile by domestic and international nonprofits. It also identified common barriers to mobile deployment in the U.S., which include cost and mobile carrier regulations. Lastly, this research provided recommendations for successful mobile projects with underserved communities and identified ways in which funders can support mobile strategies. You can download the full report, *Funding Mobile Strategies for Social Impact* at [bit.ly/1rsUpNY](http://bit.ly/1rsUpNY).

Over the past year, ZeroDivide has collaborated with Sierra Health Foundation (SHF) to serve as a thought partner in the integration of technology into the Positive Youth Justice Initiative (PYJI). The PYJI aims to create a major shift in California's juvenile justice practice and policy at the county level. The initiative focuses on crossover youth—young people with histories of neglect, abuse and trauma who currently are involved with their juvenile justice systems. ZeroDivide's chief role centered on the integration of technology solutions into the program delivery, communication and data exchange activities of the PYJI county probation agency grantees and their stakeholders (i.e. community-based organizations, schools and health and wellness centers).



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### Introduction (Cont'd)

As part of this effort, ZeroDivide produced a white paper in Spring 2014 exploring the best and promising practices in the use of technology in the juvenile justice and child welfare systems. We anticipate that this work will inform juvenile system redesign efforts at the county level to produce better health and social outcomes for crossover youth.<sup>1</sup> Among the promising practices surfaced through the paper was the “electronic backpack.” For crossover youth, the design, deployment and adoption of the electronic backpack concept can potentially lead to better coordinated services and outcomes by providing a greater level of access to critical intervention and service records for these youth, their families and their allies through mobile technology.

In this Mobile4Impact Guide Supplement, we provide a distillation of our deeper dive into the electronic backpack and the distinct opportunities, challenges and successes this innovation may present for crossover youth and their providers when coupled with mobile technologies.

### The Opportunity for Impact

The “electronic backpack” has been deployed for several years by a number of school districts as a means to connect youth, parents and teachers to critical information and records about student progress and development.<sup>2</sup> While many of these deployments rely on computer-based access through web portal, our research on mobile technologies surfaces four factors that have implications for the electronic backpack and its deployment among crossover youth populations:

**1) Smartphone adoption among American youth and young adults has increased substantially and mobile access to the Internet is pervasive:** One in four teens are “cell-mostly” Internet users, who say they mostly go online using their phone and not using some other device such as a desktop or laptop computer. These are among the new findings from a nationally representative survey (<http://www.pewinternet.org/Reports/2013/Teens-and-Tech.aspx> accessed Sept 26, 2014) of 802 teens ages 12-17 and their parents that shows that:

- 78% of teens now have a cell phone and almost half (47%) of those own smartphones. That translates into 37% of all teens that have smartphones, up from just 23% in 2011.
- One in four teens (23%) have a tablet computer, a level comparable to the general adult population.

**2) Mobile access to the Internet is common among American youth, and the cell phone has become an especially important access point for certain groups:** About three in four (74%) teens ages 12-17 say they access the Internet on cell phones, tablets, and other mobile devices at least occasionally.

- One in four youth are “cell-mostly” Internet users — far more than the 15% of adults who are cell-mostly. Among youth smartphone owners, half are cell-mostly.
- Older girls are especially likely to be cell-mostly Internet users; 34% of teen girls ages 14-17 say they mostly go online using their cell phone, compared with 24% of teen boys ages 14-17. This is notable since boys and girls are equally likely to be smartphone owners.
- Among older teen girls who are smartphone owners, 55% say they use the Internet mostly from their phone.

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### The Opportunity for Impact (Cont'd)

Moreover, in overall Internet use, youth ages 12-17 who are living in lower-income and lower-education households are still somewhat less likely to use the Internet in any capacity—mobile or wired. However, those who fall into lower socioeconomic groups are just as likely and in some cases more likely than those living in higher income and more highly educated households to use their cell phone as a primary point of access.

**3) Current evidence shows that there are distinct opportunities for mobile phones and, especially, SMS to have unprecedented effects on interactive sharing, learning and engagement:** Nowhere is this potential more evident than in texting programs designed to address social determinants of health in vulnerable communities. In those communities, it has been established that SMS technologies have bridged knowledge gaps and connected users to supportive services and, in some cases, has shifted harmful behaviors.

The expanding availability and adoption of phones in vulnerable populations has created opportunities to increase access to sensitive information, educate youth about sexual and reproductive health, improve the quality of provider care, increase medication adherence for people living with HIV, and allow for the monitoring of violence against women.

**4) The use of new digital media is a rapidly evolving, promising strategy for improving adolescent sexual health:** A recent systematic review by Guse, Levine et al. of the use of new digital media (i.e. the Internet, text messaging/mobile, and social networking sites) as a tool for engaging youth in sexual health promotion and risk reduction found that these strategies were effective in delaying initiation of sex, positively influencing psychosocial outcomes such as condom self-efficacy, and increasing knowledge of HIV, STIs, or pregnancy.<sup>3</sup>

As a result of this and similar work, it is becoming more and more common for public health professionals who work with adolescents to use new media to educate, raise awareness, increase knowledge, access services and encourage behavioral change.

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### The Electronic Backpack and Crossover Youth

In regards to mobile technology opportunities to serve crossover youth, a heavily explored idea is the “electronic backpack.” The central idea behind it is that a youth’s important life documents, medical records, and/or program reports would live on an easily accessible yet secure cloud system. Crossover youth are in particular need of it because of their activity within two systems, and the delay and withholding of services they experience without specific documents. For example, a youth who just arrives to a new group home placement may have difficulty registering at her new school the next day without physical vaccination history records. With an electronic backpack, a worker at a group home could have access to all of the youth’s medical records and eliminate this issue.

There are many pilot programs and organizations currently searching for positive impact on youth within the child welfare system as well as the juvenile justice system. Some of the proposed methods and solutions involve assessing the youth upon entering one or both systems, and then deploying interventions from there (i.e. CJJR in Florida, QUEST in NY, Adolescent Diversion Program in NY). An electronic record of these assessments, confidentially accessed and shared, could be helpful for youth outcomes and gathering of data for these programs.

The electronic backpack could also relieve the lack of access to important information that families and crossover youth traditionally face. The electronic backpack potentially provides greater access to intervention and service records for these families and youth while making processes much more transparent and navigable, depending on what the systems share. In addition, government systems often experience a lack of data about crossover youth. The electronic backpack would allow them to gather and organize helpful data in order to make necessary modifications that would improve the efficiency of the system, effectiveness of interventions and, ultimately, successful transitions to adulthood for crossover youth.

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## Use Cases

While there is a dearth of mobile applications developed specifically for crossover youth, there are several innovative attempts at the “electronic backpack”, or aligned technology solutions to assist foster youth and their allies with accessing critical information and resources.

### Health Shack

HealthShack was implemented in 2009 in Sacramento County through their designated “Youth Ambassadors,” a group of homeless youth testing the viability of their electronic backpack. The pilot program was funded by the California Wellness Foundation and created through a partnership with Aspiranet, Wind Youth Services, UC Davis Adolescent Medicine, Linkage to Education, Community Health Resource and Development, FollowMe.com and Sierra Health Foundation. The overall project aims to impact the 17,000 foster youth that are transitioning out of care and are typically between the ages of 18 and 20. The app was built and is now owned and operated by AltruIT 2.0, a subsidiary of Aspiranet that specializes in technology for human services.

The project, entitled “Empowering Transition-Aged Youth Through Technology,” has implemented an online database where foster youth can safely store and share their records while empowering them to take control of their own information. While the health records are initially populated by a public health nurse, a foster youth can make edits and add educational records, resumes, references, housing information and other essential documents to their online profile. Important documents can also be scanned and stored, such as birth certificates, social security cards and diplomas. The online application will also provide them with the ability to store information to tackle the responsibilities that come with transitioning from foster care, including applications for jobs, colleges and housing. While the necessary agencies and caregivers will have access to the information, the youth can also choose with whom to share their information. Data from the pilot program will also be used to identify best practices that can inform a statewide implementation effort in California.

The usage of HealthShack has been successful among Sacramento County youth and recently has been expanded to serve youth in San Joaquin and Stanislaus Counties. Some of the issues faced include the interoperability amongst healthcare providers as well as online interface and funding constraints. Other challenges involve the foster youth as they lack ready access to the necessary technology, and the digital literacy to navigate the technology. For more, [www.healthshack.info](http://www.healthshack.info)

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### Use Cases (Cont'd)

#### Communication Station

Designed specifically for the city of Philadelphia, Communication Station was an electronic backpack project model that did not make it past the funding stage. The project was created by a group of parents from AboutOne.com, a group with expertise in cloud and mobile technology that had previously created a consumer-directed information storage app. AboutOne had already established an online application for users to store and manage personal information and the project simply sought to transform that original consumer platform into a specialized platform for foster youth. In addition to similar features of the HealthShack platform, Communication Station would also have the capability to serve as a “scrapbook,” storing memories and important life events that youth amongst the child welfare systems often lose track of when moving from home to home.

While the pilot program was intended for the city of Philadelphia, AboutOne hoped the Communication Station would spread to the target population of 600,000 foster youth across the U.S. Unlike the HealthShack, it did not specifically target transition-aged youth. Because the project never launched past the crowd-funding stage, little data was gathered from the Communication Station. However, perhaps the reason it was not met with success in its launch was due to the vastly broad target audience of 600,000 foster youth, rather than targeting transition-aged or homeless youth. Another contributing factor may have been a lack of supportive partnerships with organizations and government agencies that support foster youth. For more, [www.indiegogo.com/projects/please-help-the-over-600-000-children-in-foster-care](http://www.indiegogo.com/projects/please-help-the-over-600-000-children-in-foster-care)

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### Use Cases (Cont'd)

#### Ventura County Foster Health Link

The Ventura County Foster Health Link is the result of a partnership between The Children's Partnership, Ventura County Human Services Agency, Ventura Health Care Agency, Believe Health, California Health eQuality, Ventura County Medical Resource Foundation, Verizon Foundation and Sierra Health Foundation. While the HealthShack was initiated in 2009, this project just launched a pilot program in June 2014, so there is little conclusive data thus far. Much more widespread than the HealthShack, the pilot targets more than just transition-aged youth or homeless youth and hopes to reach over 1,000 children and youth in the foster care system in Ventura County.

The secure electronic system offered by Foster Health Link will combine health provider and caseworker databases to create a consistent online file of information for each child. Social workers, healthcare providers, foster parents and foster youth will have access to the appropriate files. In the future, they are planning to further the exchange of information between schools and juvenile courts. The online application will also provide a resource called "Network of Care," which links users to information, services and tools they may find helpful. Data will be gathered through the pilot program to gain insights on best practices and measure outcomes as they expand the use of the electronic backpack in other counties throughout California. For more, [www.californiahealthline.org/insight/2014/electronic-backpack-for-foster-kids-launched-in-ventura-county](http://www.californiahealthline.org/insight/2014/electronic-backpack-for-foster-kids-launched-in-ventura-county)

#### Know Before You Go

Developed by Apptology ([www.apptology.com](http://www.apptology.com)) in partnership with the Alliance for Children's Rights and Children's Law Center of California, Know Before You Go is a mobile application specifically designed for transition age youth in Los Angeles County. Available for iPhone, Android and Blackberry phones, the app allows youth and their allies to access a wealth of information and tools related their physical and mental health, housing advocacy and legal services in the County. GPS and WiFi capabilities ensure that youth connected to the service receive the most current and geographic specific information. Further, it allows allies to access and post alerts for information of partnering organizations and agencies. For more, <http://kids-alliance.org/app>

**“And despite all best intentions, when youth leave the foster care system as adults, they are typically only given a sheaf of papers that detail their complicated histories. These records are easily lost and usually incomplete, which often creates burdens these young adults must carry for life”**

Wendy Lazarus  
Founder and Co-President  
The Children’s Partnership

## Conclusion

In 2008 Congress passed Fostering Connections Act in an effort to improve life outcomes for foster youth. Among the Congress’ aim to extend foster care services to transition age youth (18-21), it also recognized the limitations for these youth to engage with innovative efforts in services and program designed to increase their health, education and employment success. Digital technologies and especially mobile technologies represent a significant step forward in providing support for these youth as they prepare to leave the system and enter adulthood.

As mentioned previously, mobile apps holds great promise for crossover youth in the delivery of critical information and services due in large part to the device availability, decreasing costs and adoption rates of young people. However for crossover youth seeking information, resources and connections through mobile technologies closing the broadband and data access gap may be critical to adopting these tools.

For example, ZeroDivide has found that the cost of data and SMS plans often necessary for effective eHealth tools and apps may be prohibitive for individuals who do not have unlimited data or SMS plans. A promising practice has been deployed by the text4baby ([text4baby.org](http://text4baby.org)) program where a unique agreement with telecommunications providers to make their health and wellness text messages free of charge to the mothers who participate. Generally speaking, the cost barriers can be addressed and decrease the costs of accessing tools for crossover youth. As in eHealth adoption, success will require effective partnerships between institutions, agencies, and the telecommunications firms serving this population.

## Appendix A: Citations

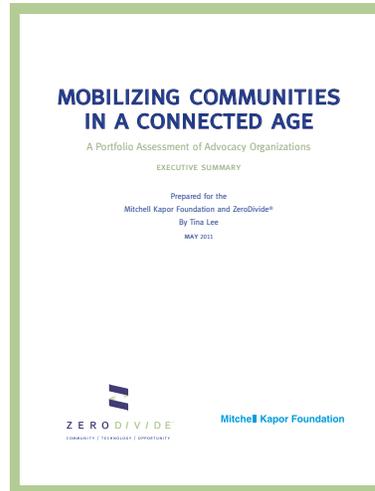
1. Crossover youth, defined by the Department of Health and Human Services as “youth involved with juvenile justice and child welfare,” often get caught in the bureaucracy of the two systems, which can lead to gaps in their care (mental, educational, and placement). The two systems have different ways of viewing the youth and handling them, making cross-communication painfully difficult for the youth, families, and workers involved.
2. i.e. PowerSchool which support 13 million students in the US and internationally.
3. [Guse K, Levine D, Martins S, et al. Interventions Using New Digital Media to Improve Adolescent Sexual Health: A Systematic Review. *J Adolesc Health*. 2012; 51(6): 535-43. [PMID: 23174462]. Ms. Levine and Dr. Santelli, recently conducted a cluster randomized controlled trial on Facebook with Dr. Bull, called Just/Us, that had short term positive results for condom use and proportion of sex acts protected by condoms.[ Bull S, Levine D, Black S, Schmiede S, Santelli J. Social Media-Delivered Sexual Health Intervention: A Cluster Randomized Controlled Trial. *Am J of Prev Med*. 2012; 43(5): 467-474. [PMCID: PMC3479665]
4. Lazarus, W. (2014). *An Electronic Backpack: Helping Foster Youth Lighten a Heavy Load*. Available at: [http://www.huffingtonpost.com/wendy-lazarus/an-electronic-backpack-foster-youth\\_b\\_5334124.html](http://www.huffingtonpost.com/wendy-lazarus/an-electronic-backpack-foster-youth_b_5334124.html)

## Appendix B: Resources

### Previous ZeroDivide Research on Mobile4Impact



Read the full report  
here: [http://bit.ly/  
17C3bpz](http://bit.ly/17C3bpz)



Read the full report  
here: [http://bit.ly/  
1FZKwT6](http://bit.ly/1FZKwT6)



Read the full report  
here: [http://bit.ly/  
1rsUpNY](http://bit.ly/1rsUpNY)

### ZeroDivide Blogs on Mobile4Impact

Mobile4Impact Project Announcement (6/19/2014): <http://bit.ly/1o2OMDe>

Strengthening Community Engagement with a Texting Program (7/2/2014): [http://bit.ly/  
1ClpAVx](http://bit.ly/1ClpAVx)

Mobile and the Connected Service Provider (7/30/2014): <http://bit.ly/1qsWg5o>

Mobile Tech, the Unbanked and the American Dream (9/26/2014): <http://bit.ly/1wR6NLG>

#Mobile4Impact Twitter Chat Storify Archive (9/30/2014): <http://bit.ly/1DyAZwn>

Convenience Retail: ubiquitous mobile could hold either promise or peril for urban development (10/29/2014): <http://bit.ly/1F2Dn0R>



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*[www.vodafone-us.com](http://www.vodafone-us.com)*

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*[www.sierrahealth.org](http://www.sierrahealth.org)*