**2014 annual update**

**Improving obesity-related outcomes in old age**

**The iStep social innovation**

**The iStep concept**

At the heart of the iStep concept is the creation of partnerships between a younger and an older person to encourage both partners to increase their levels of physical activity. Each partner will be given a pedometer to track how much physical activity they do. Each day, both participants will report to a website to record the number of steps they have taken. A combined score will be calculated taking into account the activities of both partners. Users of the system can then see how much activity they have done, compare their progress with other dyads teams, or work towards collective goals.

An example activity for individual dyads (i.e. an older person & a younger person together) could be: the round Sheffield walk (see figure A1).

![Figure A1: Round Sheffield Walk route on iStep](image)

In this exercise, the dyad log their steps each day, and this is mapped against the walking route. As the dyad progress around the route, they will pass key landmarks which could be represented by images or multimedia content that allow the young person to learn about their home city, and give the older person an opportunity to share their knowledge.

Some other activities that might be supported the iStep system are listed below:

- A challenge for a whole class of school children to walk sufficient steps to get from Lands End (Great Britain’s most South Western point), to John O’Groats (Great Britain’s most northerly point). In this type of challenge, the school children’s individual steps are combined with their classmates to calculate progress.
- A challenge to walk the Tour de France 2014 route (or another grand tour).
- A competition or race between pupils in a single class.
Each of these group challenges could be conducted purely by a group of individuals, or could be conducted by a group of intergenerational dyads. The approach is not limited to use in school settings, but could also be used by other social and community organizations.

**iStep scenarios**

**Part 1 - awareness and engagement**

Following a ‘briefing’ from a children’s class leader / teacher, that will include two principal aspects (registration and pedometer use), children will be issued two pedometer units.

![Figure A2](image)

**Figure A2** Following an introduction of the iStep initiative by the class lead, children register (including paper based clearances) and are issued two pedometer units.

At the next / nearest opportunity, the children will approach grandparents with the idea that they could help the child to live more healthier lifestyles by using a pedometer during *their* everyday lives, and, that by doing a little more physical activity themselves would help them at school. If in agreement, the older person also signs up, with the child taking relevant details and giving the older person the second pedometer.

![Figure A3](image)

**Figure A3**: Children introduce and sign up an older relative 'dyad' partner and give them the second pedometer.

Where IT (home computing, mobiles and tablets) are available to the family, the child then registers the partnership at the iStep web portal. In one situation, the older dyad partner may wish to manage registration themselves.
Figure A4: Both younger and older dyad partners register at the iStep portal, together or separately.

Further to this scenario, the school lead (teacher) may enter the partnership details at a later date, back at school.

Figure A5. School lead / teacher enter dyads and/or individual child's details in the school setting.

Following registration a pedometer and web portal home page is shown.

Figure A14: The iStep (version 1) Dashboard
Part 2 - undertaking physical activity

Once a child and an older participant have partnered and registered and understand how to use the pedometer and the iStep portal, they both conduct their usual physical activity. In addition, physical activity suggestions are given on the iStep website.

We also propose to provide a number of ways to review each persons, and dyads, progress against physical activity tasks. More details of this are given in Part 3, below.

![Figure A7. Physical activity is undertaken by the dyad, either together and/or separately.](image1)

At regular intervals (once per week / day), the child and older dyad partners review the step count on their pedometers, log on to the iStep portal and enter their step count information.

![Figure A8: Periodically (e.g. at one week intervals) pedometer step counts are recorded on the dyads user account at / on the iStep portal.](image2)

A number of different formulae can be used to combine the step count values for each dyad pairing. In conducting pilot testing and developing our implementation strategy (WP4 Task 3), we will investigate how different formulae may affect motivation of participants.

Part 3 - user 'output' measures and feedback

A number of ways for user to review their progress and to see how their activity levels compare with others are possible. We are currently implementing the following techniques.

1. Step by step

In this approach, the feedback is provided in the form of graphs or tables, but could also include opportunities for the dyad pairing to compare their progress with those of other classmates (see figure A9).
2. Specific (localised) challenge

In this model, the steps taken by the dyad are used to calculate progress around a particular walking route. This feedback technique could be combined with other educational content. For example, passing waypoints on the route could lead to presentation of content about interesting waypoints. Using a route that was relevant to the local area might also offer opportunities for intergenerational conversations about local history and culture (see figure A10).

3. Shared challenge

In this model a large group combine all their steps to tackle a major challenge, such as walking from one end to the other of a country. In the UK there is a traditional route from Lands End in the South West of England to John O’Groats in the North East of Scotland, however, it may be possible to expand the scale as far as walking to the moon! (see figure A11)

Further user outcome measures and progress feedback vehicles are being developed however the key aim will be the development of the physical activity inter-relationships between the older and younger participants in a team.
Figure A12: Older and younger participants working together to achieve aims.