The Crick’s relationship with its partner universities

The following paper was written in June 2016 by Professor Malcolm Irving, Associate Research Director for Partner University Liaison at the Francis Crick Institute, and Professor of Biophysics at King’s College London.

This paper seeks to provide a background to the Crick’s relationship with Imperial College London, King’s College London and UCL (the partner universities). It not only summarises the mechanisms through which the partnership will bring benefit to the different partners (including access to a wider range of expertise beyond their often complementary strengths in the life sciences), but also provides certain operational and practical details about those mechanisms.

As such, this is a very helpful summary paper and we are grateful to Professor Irving for his thoughtful work.

It is noteworthy that certain operational matters and practicalities are yet to be finalised, particularly in respect of the funding model for the staff ‘attachments’ programme and the recruitment process for the core PhD programme. This is perhaps inevitable in such a large and complex endeavour, and we are confident that these issues will be resolved shortly.

We are equally confident that as groups move into the Crick Lab and research takes place on site, collaborations will flourish and the full benefits of the partnership will be realised.

The Crick partnership is itself a work in progress, and any comments about how to make it more successful would be gratefully received. Comments can be sent to Anthony Wilkinson (crick@imperial.ac.uk), who will be happy to provide an introduction to Professor Irving.

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1. Background, scope and definitions

The Crick was conceived and developed as a partnership. Six partners contributed to the capital funding of ca £650m for construction and set-up of the Crick Laboratory on Midland Road. The majority of this funding was from the MRC, Cancer Research UK and the Wellcome Trust, and the three partner universities (the ‘PUs’: Imperial, King’s and UCL) contributed £40m each. The PUs are also partners in the delivery of the Crick’s research mission; each will embed ca 80 research staff (out of a total of ca 1250) in the Crick Lab, and Crick staff will work on PU sites. The Crick will continue to develop other partnerships, including with industry, the Sanger Institute and other UK universities and research institutes. However the Crick’s relationship with its PUs is unique because they are also funders, because about 20% of researchers working in the Crick Lab will be PU employees, and because the PUs are integrated within the Crick’s management and governance. The Crick-PU relationship has been formalised within a Joint Venture Agreement (JVA), although significant variations to that agreement have been agreed and implemented de facto.

For the purposes of this document ‘the Crick’ is defined functionally, to include all work undertaken in the Crick Lab, whether it be by staff employed directly by the Francis Crick Institute or by partners, plus any research-related activities undertaken outside the Crick Lab by Crick-employed staff. Thus ‘the Crick’ is not limited to either the Crick Lab or to the activities of Crick-employed staff. Staff employed by the Crick will collaborate with staff employed by the PUs and other partners, and will share facilities and expertise with them; all these activities are considered under the Crick umbrella. This broad functional definition of the Crick plus its wider national and community roles is fundamental to the Crick’s strategy, and has been referred to as the ‘Greater Crick’. The present document addresses only the components of the Greater Crick that involve the PUs, reflecting the unique features of the Crick-PU relationship summarised above. The paper is intended as an inclusive scoping of partnership issues to stimulate discussion leading towards a set of agreed high-level principles, which in turn should lead to a roadmap for implementation.

2. The rationale for the partnership

The mission of the Crick-PU partnership is set out in the Crick strategy document ‘Discovery without Boundaries’ (DWB). Crick- and PU-funded staff, each with their associated research support structures, bring complementary strengths to the Crick, and enable it to deliver research that could not have been delivered as effectively or
efficiently by a single partner. The Crick side brings, *inter alia*, the strengths of the institute research model, with a biomedical research-focused mission underpinned by long-term core funding for staff and facilities that allows it to operate at arm’s length from its funders. The PU side brings access to a wider range of expertise: in the physical sciences, engineering, maths and computer science; in clinical sciences through the PU-embedded Biomedical Research Centres (BRCs), Academic Health Science Centres (AHSCs) and associated NHS Trusts; in the social sciences, arts and humanities; in public engagement and policy; and in technology transfer. The Crick-PU partnership provides an excellent environment for PhD programmes and other training and career development opportunities. The Crick employment model, with a majority of 6+6 year group leader (GL) posts in the steady state, complements that in the PUs based largely on a combination of established posts and grant-funded research assistants. Building on the high reputations of the Crick parent institutes and the PUs, the partnership should provide a strong reputational magnet for recruitment of the best researchers, in particular for those working at discipline boundaries.

3. Differences in scale and structure

In round numbers, the Crick employs about 1,000 research staff and each PU employs between 7,000 and 11,000. The PU-linked AHSCs employ many more health service staff with PU affiliations or connections. The largest, UCL Health Partners, has about 100,000 staff. Thus, using total staff numbers as a metric, the PUs are about 25 times bigger than the Crick, even without including their AHSC staff. This high scale factor allows Crick GLs to select research partnerships from a large and diverse pool of PU PIs. On the other hand, the great majority of PU PIs will not be directly involved with the Crick, and the Crick partnership represents a very small if high-profile fraction of PU activity. The scale of the PUs and their education mission are associated with organizational structures are also significantly different from that of the Crick. The Crick has no academic departments, but the PUs have strong substructures with significantly devolved budgets organized by discipline boundaries plus partly centralized professional services departments. The scale and more complex organization of the PUs create operational challenges for the partnership.

4. Partnership mechanisms

a) *Secondments, satellites and sabbaticals*. Temporary transfer of research staff between partners is perhaps the most powerful available mechanism to promote partnership working. A steady-state complement of 80 staff per PU will work in the Crick Lab; no target has been set for transfer of Crick staff to the PUs. It has been agreed that the transferring staff will remain employees of their home institution. Three types of staff attachment have been defined. ‘Secondment’ or more clearly ‘group secondment’ means transfer of a whole research group with its PI; ‘satellite’ means transfer of a small number of group members without the PI; and ‘sabbatical’ means transfer of the PI without their research group. Group
seconds are expected to have tenure of 3-6 years; satellites from 3 to 36 months, and sabbaticals for up to one year. A selection process for attachments was piloted in 2015 and 20 applications were approved. A second selection round closed in March 2016 with decisions in summer 2016. The first group of attachments will move to the Crick Lab later this year, and includes five group secondments, mainly of early-career staff bringing complementary biology expertise, 12 satellites, mainly at the physical sciences interface, and three sabbaticals. There were relatively few clinical attachments or transfers from the Crick to the PUs. Significant financial and operational issues around the attachments remain to be resolved, some of which are addressed below. More generally, it is not clear that the current response-mode process will deliver an optimal complement of attachments without further consideration and manipulation of the incentives and disincentives for the transferring staff, in particular those working at discipline boundaries.

b) Joint appointments. These complement the attachments described in the previous section, providing longer-term and more strategic links, probably for more senior staff or staff with a leadership role. They may be particularly appropriate at the boundaries between disciplines, especially for clinician scientists who need to retain a formal link with their PU/AHSC/NHS trusts in addition to running a research group in the Crick Lab. Significant operational issues remain to be resolved around these substantive joint appointments. Less substantive forms of joint appointment have been used to formalize links at GL level between the Crick and the PUs, either as Honorary PU appointments (see g below), or as 0.2FTE PU supplements to Crick appointments. The latter will be considered in a separate paper.

c) PhD and joint training programmes. Involvement of the partners in PhD supervision and training helps to build research collaborations between the partners, as well as improving the quality and breadth of the training itself. The PUs have very large and diverse PhD programmes, they have extensive expertise in delivering generic as well as discipline-specific training, and they have a quality assurance role as the degree-awarding institutions. The core Crick PhD programme combines a strong Crick identity with PU contributions to supervision and mentoring, and opportunities to work between the partners. This programme has been in place for two years and now seems to be working very well for the benefit of the students and all the partners. The PUs and Crick jointly fund a smaller number of collaborative PhD studentships. Issues around PhD studentship support for group secondees remain to be resolved (see below). The partnership allows the Crick to engage with clinical PhD training, including the CRUK Cancer PhD programme and Wellcome Trust clinical PhD schemes (existing and in application). A core Crick clinical PhD programme has been proposed. The partnership offers analogous opportunities for training at post-doctoral and junior group leader level. A clinical post-doctoral programme has been discussed. More generally Crick post-docs might benefit from training opportunities available in the PUs, for example to gain experience in teaching undergraduates. 6+6 GLs could take advantage of PU-based
training and experience to facilitate a transition into a university-based appointment.

d) *Project-focused collaboration and joint grant applications.* In general Crick GLs and PU PIs will make joint external funding applications to support their collaborative research. Such grants could fund attachments as described in (a), but in addition they could fund collaborative research in partner labs without staff secondment. Such arrangements may be simpler to set up than satellites, but raise some common operational and financial issues re resource, space, access to facilities etc (see below).

e) *Sharing infrastructure, facilities and associated expertise.* The PUs have some infrastructure and facilities that overlap with Crick STPs, and others that extend the range, in particular at the physical sciences and clinical interfaces. A PU contact network has been established for each Crick STP, and this could be further developed in a ‘greater STP’ model that allowed some sharing of access, exchange of expertise, and joint training, recognizing that access sharing will not be appropriate for all types of facility. The partnership could make joint proposals and funding applications for major new facilities in appropriate areas, exploiting the potential efficiency gains from economies of scale and avoidance of duplication. Such initiatives would need careful consideration of the balance between core and external funding and of access and charging arrangements to maximise and spread the benefits. Shared facilities need not all be located in the Crick Lab, and distributed models might be considered in which the partners develop and share complementary facilities (e.g. different specialized light microscopy platforms).

f) *Internal communications, symposia and workshops.* The delivery mechanisms discussed in (a) to (d) are predicated on the identification of opportunities for new added-value collaborations. Such identifications are arguably best made at GL-PI level, although symposia, Crick clubs, interest groups etc provide opportunities for more strategic direction. The existing symposium group has representation across the PUs. The Crick Interest Group and Seminar Programme is currently not integrated with PU activity in cognate areas, and such links could be further developed, involving meetings at PU sites as well as at the Crick Lab. There is probably potential for Crick GLs to be more involved with existing cross-London collaborative networks (which in some cases extend beyond the PUs) after they move to the Crick Lab at Midland Road. Communications channels within the partnership could be enhanced to improve cross-partner visibility of research activity.

g) *Membership.* Whilst Crick employees and staff working in the Crick Lab will closely identify themselves with the Crick, most PU staff are unlikely to identify closely with the Crick or the partnership because of the large scale factor described in 3 above. This is probably unavoidable, but ownership of the partnership could be extended in the PUs by promotion and hosting of Crick events that are open to PU communities outside immediate science collaboration areas. These might for example bring together groups of support staff with common interests, or clinicians in a particular speciality. Such events would need to be highly focused for logistical
reasons. Mechanisms already exist for some Crick staff and students to identify with the PUs, through honorary appointments in the case of GLs, and through PU registration in the case of PhD students. Other Crick staff could benefit from a PU affiliation, e.g. postdoctoral fellows gaining experience in undergraduate education or other generic training, or Crick support staff might be seconded to a cognate PU department to develop their professional experience.

5. Funding the partnership: operating budget

The work of Crick staff is supported by block allocations from the MRC and CRUK and augmented by a core award from the Wellcome Trust. The latter includes a component for support of some joint Crick-PU activity, and some of this budget has been committed to support new joint appointments (e.g. clinician scientist joint appointment) and some of the first round of PU satellites working at the physical science interface.

In general partnership research activity is expected to be supported by external project or programme grants, potentially supplemented by more strategic external funding targeted at discipline interfaces. However such grants will not cover the full costs of the research. UK Research Council grants do not pay the full economic cost, and other funders make a contribution to overhead costs that is significantly less than the actual costs. Moreover overhead costs for research at the Crick, although not yet accurately quantified, are likely to be higher than those of the PUs.

According to the JVA, research of PU staff working in the Crick Lab would be funded by transfer of the full external grant to the Crick, who would be responsible for all of the costs associated with the research including salary and salary-related costs and overheads. Each PU committed to best efforts to generate £5m of annual grant turnover to support such work. However it was subsequently agreed that it was preferable for the grant to be awarded to the PU, who would be responsible for salary and salary-related costs; the PU would assign directly incurred costs and any surplus grant income to the Crick, recognizing that this transfer would almost certainly not cover the full overhead costs. The PUs and Crick agreed an interim financial arrangement to address the likely shortfall for the financial years 2016-17 and 2017-18, deferring a longer-term arrangement until Crick operating costs become clearer.

A funding model for the core and joint PhD programmes has been agreed, although the status of Group Secondees (GS) in these programmes needs clarification. The issue reflects a tension between two conflicting principles: that GS research be externally funded, and that GS are treated like Crick GLs. It will be important to resolve this issue in a way that ensures that GS are able to retain an appropriate complement of PhD students during their secondment. Other financial issues related to PU attachments remain to be fully worked out, including responsibility for lab move and refurbishment costs, equipment procurement and maintenance costs, the ‘institutional contribution’ to equipment grants, and some details of Crick costings for facilities and services that can be charged to
external grants. A related issue around IP during attachments is also outstanding. Some of these issues also apply to joint appointments, which may be agreed *ad personem*.

6. Managing the partnership: governance and accountability

The complexity of the partnership is reflected in its governance. A governance review is planned, but as of May 2016 partnership governance includes explicit representation of the PUs (one representative per PU) on the Crick Board and Executive Committee (EC). This is complemented at a less formal level by the Founder’s Group, consisting of the heads of the six partners and the Crick CEO, and by the HEI Co-ordination Committee (HEICC), an advisory group focused on the partnership between the Crick and the PUs. The future of the HEICC is also under active consideration and at its April 2016 meeting this group agreed changes in its own constitution, terms of reference and membership. It may subsequently be called the ‘Greater Crick Committee’ (GCC), although its remit is quite focused on the Crick-PU relationship, and ‘University Partnership Committee’ might be considered as an alternative. HEICC has been perceived as a useful discussion forum that is limited in its impact by isolation from Crick science policy development and operational practice. Partly in response to this perception, a joint appointment post of Associate Research Director for Partner University Liaison (ARDPUL) was created, with the intention of bringing a PU perspective to the Crick Science Management Committee, the main forum for science policy and strategy development. The ARDPUL post links to all three PUs through their internal Crick-focused governance structures (Imperial’s Crick Advisory Group; King’s Crick Partnership Committee; UCL@Crick Board) and to the EC.

Relatively little attention has been devoted to performance metrics for the partnership at this early stage of its operation, but data on attachments, studentships, joint grants and publications will provide readily available outcome measures. Each partner will probably make its own assessment of these outcome data in the context of its internal governance. These data may also be considered jointly at the HEICC and its successor, and at the Founder’s Review Committee. Partnership development and performance will also be considered by the Crick’s DWB group.

7. Perspective

The Crick-PU partnership is probably unique worldwide in terms of its scale, diversity and complexity. The partners have different missions, cultures and priorities, and this perhaps inevitably leads to differences of opinion and emphasis about how the partnership should develop and about how it should be funded. Those tensions are counterbalanced by a shared perception, at least at management level, that the partnership can deliver a net gain for all the participants. That positive view may not extend to all local constituencies however. Although some significant challenges for the partnership have been noted above, good progress seems to have been made in building partnership mechanisms, including staff attachments, joint appointments, PhD programmes, joint symposia and joint
governance and advisory structures. Those mechanisms will need optimization in the light of experience as the partnership develops.