Explanatory notes for the Biostatistics Centre's key policies

1. All requests for collaboration, including one-off meetings, must be entered into our IRIS database.

Staff and Masters and Doctoral thesis students are welcome to directly contact biostatisticians who they know. In such cases, the staff or student is still responsible for ensuring that details of the project are recorded in the IRIS system. The biostatistician might require this to be done before meeting.

Staff and Masters and Doctoral thesis students who do not have an existing relationship with a biostatistician can use the IRIS system. In such cases, the Centre administrator will endeavour to arrange a meeting within two working weeks. While a specific biostatistician can be requested, this cannot be guaranteed.

The administrator of the Biostatistics Centre might request additional information before passing the request on to the biostatisticians or they might determine that the request falls out of scope.

If a situation arises that requires urgent contact with a biostatistician for any reason, this request should be sent to the Director of the Biostatistics Centre and not entered into the IRIS system until they have advised that this happen.

There is a strong preference on our part for collaborative relationships that begin as early as possible (preferably during conceptualisation). This allows the biostatistician time to become familiar with the subject matter and minimises risks that decisions made will limit statistical analyses.

This does not mean that you cannot approach us at any stage in your research, we're always happy to meet with you for projects within scope, but the value of our contributions may be less the later this occurs.

2. Biostatisticians do not provide one-on-one teaching of any kind. There are courses and other resources available to cover this.

See our pages here for dates of upcoming workshops and here for details of biostatistics papers.

3. Biostatisticians will neither provide code that they have written nor perform analyses to order.

Biostatisticians are not required to provide code that they have written. This is their secondary intellectual property and is highly unlikely to be useful for future research projects.

They will use the statistical software that they see as most appropriate for a particular project and will provide results of their statistical analyses in the format(s) that they feel are most appropriate. This might include any combination of output directly from statistical software, spreadsheets or tables, or written text.

Biostatisticians will make decisions around what statistical analyses are appropriate and cannot perform analyses 'to order'. If the biostatistician feels that certain research questions cannot be addressed in a satisfactory way and/or that analysis plans that they were not involved with are not appropriate, they may take alternative approaches. These could include purely descriptive presentations and/or using only some part(s) of the data (variables or observations).

4. Masters and Doctoral thesis students can have up to two hours of our time per calendar year for general advice. They must bring at least one supervisor to their first meeting.

It is presumed that the supervisory team for a research student's project possesses sufficient knowledge to support that student throughout their project. However, we fully understand that unexpected biostatistical issues can arise that we can help with.

These two hours of advice (more than this would suggest that a biostatistician should be a supervisor, see Policy 5) is usually spent in meetings and is often general in nature as the biostatistician will not have a full understanding of the research.

The two hours do not need to be used in a single block and can be broken up into shorter meetings of at least 30 minutes each.

This advice will be most useful when the student has taken our two-day workshop on Introductory Biostatistics for Health Researchers (or has completed alternative training in biostatistics) prior to the first meeting. If attending the workshop is not practical before the first meeting, we ***strongly recommend*** *taking it as soon as possible afterwards.*

At least one of the student's supervisors must attend the first meeting with the biostatistician and the Masters or Doctoral thesis student needs to have their supervisor(s)'s approval to contact the Centre.

The decision to invite a biostatistician to become a supervisor may be made after initially seeking advice. In some cases, the biostatistician you initially talk to might recommend another biostatistician as more appropriate as a supervisor.

5. When part of the supervision team for Masters and Doctoral thesis students, a minimum of 20% supervision (and the same for EFTS) is expected.

Where more than two hours of advice per year is needed by a student, a biostatistician should be invited to join as a co-supervisor. We have a minimum of 20% for supervision and expect the same figure to be used for EFTS splits. Higher supervision percentages (and EFTS) may be required in some instances, including if the biostatistical components are complex or the biostatistician would be the only other supervisor.

Any exceptions to the above 20% minimum (supervision and EFTS) must be discussed directly with the Director of the Biostatistics Centre.

We note that the standard workload model of 120 hours for supervising a thesis student means that 20% supervision is nominally equivalent to a one-hour meeting each fortnight. In general, the biostatistician should not have a lower supervision percentage or EFTS than other non-primary supervisor(s).

The biostatistician will likely need to be involved in all aspects of the quantitative research and to develop a good understanding of the subject matter. A biostatistician cannot 'dip in' and 'dip out' of a project and still feel confident that they are providing high-quality advice.

We strongly recommend involving a biostatistician at the start of a student's research project, but we accept that the need for a specialist biostatistician might not be apparent at that stage. A biostatistician joining a project later may need higher supervision and EFTS percentages as they work to gain familiarity with the subject matter and other aspects of the project.

If a biostatistician is invited to supervise a Masters thesis with less than six months or a Doctoral thesis with less than one year until intended submission, this must be discussed with and approved by the Director of the Biostatistics Centre.

Biostatisticians can be invited to co-supervise in other situations, such as honours projects and summer studentships, and will accept these invitations at their discretion.

6. Irrespective of their role, biostatisticians will not carry out any statistical analyses for any student (including sample size calculations or checking/confirming results from statistical analyses). This policy is consistent with those of the University of Otago.

Checking or confirming results, including checking model diagnostics, often requires independently performing the analyses in their entirety.

As noted in Policy 5, we can be supervisors and provide supervision of statistical analyses, but we still cannot perform the analyses ourselves.

7. Masters and Doctoral thesis students supervised by a biostatistician in the Centre, can attend any workshop provided by the Centre at no cost.

We are enthusiastic supporters of anyone who wishes to develop or enhance their understanding of biostatistics.

Our students can attend as many workshops as they wish without cost providing the EFTS split is at least 20% to the Centre. In some cases, our students might want to attend a workshop a second time to solidify their understanding.

See our individual course pages linked to from here for dates of upcoming workshops.

8. We expect our contributions to collaborative research to be recognised appropriately, including through being named investigators on funding applications and authorship when justified.

There are no direct financial costs to working with any of the biostatisticians in the Biostatistics Centre. After biostatisticians become involved with a project in a collaborative role, they should be named investigators on all funding applications. In these instances, biostatisticians should be included at a realistic FTE and, where appropriate, overheads.

For guidance, in general:

a. *The mean FTE over the life of the grant should be at least 0.10 FTE where the biostatistician will be leading biostatistical aspects of the project and more may be required for complex study designs and/or sophisticated analyses.*
b. *An FTE of 0.05 in any given year would normally indicate an advice-only level of involvement during that period. This can still be an important contribution to the research.*
c. ***Any exceptions to the above must be discussed directly with the Director of the Biostatistics Centre.***

Biostatisticians should be given full opportunity to be involved with and named on all documents including, but not limited to, those regarding funding, supervision, ethics and locality, Māori consultation, and any work submitted for publication. A biostatistician's name should not appear in any document without their knowledge, an opportunity to comment on the document, and having provided approval of the version submitted.

Collaborative involvement of a biostatistician should generally lead to co-authorship opportunities for that biostatistician. We use ICMJE authorship criteria by default. The principal author should be able to identify and explain the contributions of all listed authors if asked.

As suggested by the ICMJE, potential authors who meet the initial criteria for authorship ("Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work") should be provided with opportunities to meet the other three criteria whenever possible. This includes literature reviews and qualitative manuscripts. Biostatisticians will decline authorship if they feel unable to meet authorship criteria.

We follow the University's Responsible Practice in Research—Code of Conduct, including the section on Publication and Authorship.

Authorship, specifically who is included and the order, should be discussed early in a project. This should be revised by mutual agreement if the work changes.

For guidance, in general:

a. *For projects involving complex study designs and/or sophisticated biostatistical analyses, we generally find second authorship to appropriately reflect the biostatistical leadership needed.*
b. *Fourth authorship and below would generally indicate an advice level of involvement, possibly alongside some simple biostatistical analyses.*

All drafts should be provided to the biostatistician with a reasonable amount of time for feedback. Emails from journals containing editor decisions and/or reviewer comments may be automatically sent by the journal to all authors. In all other cases, these emails should be shared with the biostatistician in a timely manner.

If a biostatistician ceases to be an author on a manuscript for any reason, it is expected that all their contributions will be removed and not used in the manuscript.

While biostatisticians can sometimes create graphs presenting the results from their analyses, this should involve their explicit agreement to take responsibility for each specific graph.

While we appreciate the sentiment behind including biostatisticians in acknowledgement sections when they have provided advice, this should only be done with the explicit consent of the biostatistician (as per ICMJE guidelines). Some biostatisticians have a personal rule of not being included in acknowledgements at all.